WOOD BUFFALO
ENVIRONMENTAL ASSOCIATION

Unit 3 - 805 Memorial Drive
Fort McMurray, AB T9K 0K4
P: 780.799.4420 E: info@wbea.org
wbea.org

Wood Buffalo Environmental Association

ANNUAL REPORT – VOLUME 2

2020 INTEGRATED DATA

March 2021

Operations, Data Collection,
QA/QC, Data Validation and Reporting by:
Wood Buffalo Environmental Association

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

DATA SUMMARY
2020

Prepared
March 2021

SAMPLE COLLECTION AND DATA COMPILATION BY:

Wood Buffalo Environmental Association
Fort McMurray, Alberta

LABORATORY ANALYSIS

Passive Measurements:	Bureau Veritas Laboratories Edmonton, Alberta
Volatile Organic Compounds:	InnoTech Alberta, Inc. Vegreville, Alberta
Particulate Matter:	Desert Research Institute Reno, NV
Elemental Carbon and Organic Carbon:	Desert Research Institute Reno, NV
Polycyclic Aromatic Hydrocarbons:	Air Zone One Incorporated Mississauga, Ontario
Precipitation:	Wisconsin State Laboratory of Hygiene Madison, WI

Table of Contents

Integrated Monitoring Summaries

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

HNO_3, NH_3, NO_2, O_3 AND SO_2 PASSIVE MEASUREMENTS DATA SUMMARY 2020

Prepared
March 2021

SAMPLE COLLECTIONAND DATA COMPILATION BY:

Wood Buffalo Environmental Association
Fort McMurray, Alberta

LABORATORY ANALYSIS

Passive Measurements: Bureau Veritas Laboratories
Edmonton, Alberta

CONTENTS DESCRIPTION	Summary of Passive Measurements of SO_2, NO_2, O_3, NH_3 and HNO_3	
SAMPLE PERIOD	Monthly	
SAMPLING INTERVAL	Monthly	
UNITS	ppbv	
OBSERVATION TYPE	Gas	
FIELD SAMPLING OR MEASUREMENT PRINCIPLE	Diffusion	
MEDIUM	Filter	
ANALYTICALMETHODS	IONS by Ion Chromatography (IC)	
SAMPLE PREPARATION	DI water extraction	
ANALYTICAL LABORATORY	Bureau Veritas Laboratories	
USER NOTE 1	Data are blank corrected for SO_2, NO_2 and O_3. Data are not blank corrected for NH_3 and HNO_3.	
USER NOTE 2	Concentrations are calculated by equations developed by lab except HNO3.	
USER NOTE 3	HNO3 is calculated from ug/m3 to ppbv ppbv = (ug/m3 * T) / (R * M) M = 63.01 R = 12.187 T = Average temp in K	
USER NOTE 4	<MDL values are taken as ½ MDL for calculation purposes. (Averaging of replicates)	
USER NOTE 5	Data was computed on a monthly dataset.	
USER NOTE 6	Summary statistics include flags beginning with V.	
SAMPLING INSTRUMENT TYPE	SO_2	all-season SO_2 passive sampling system
	NO_2	all-season NO_2 passive sampling system
	O_3	all-season O_3 passive sampling system
	NH_3	Ogawa passive sampler
	HNO_3	Ogawa passive sampler
FLAGS USED		
V0	Valid value	
V1	Valid value but comprised wholly or partially of below detection limit data	
V6	Valid value but qualified due to non-standard sampling conditions (Duration > 34 days or Duration < 26 days)	
M1	Missing value because no value is available	
M2	Missing value because invalidated by Data Originator	

In the case of a data point qualifying for both V1 and V6. V6 is displayed.

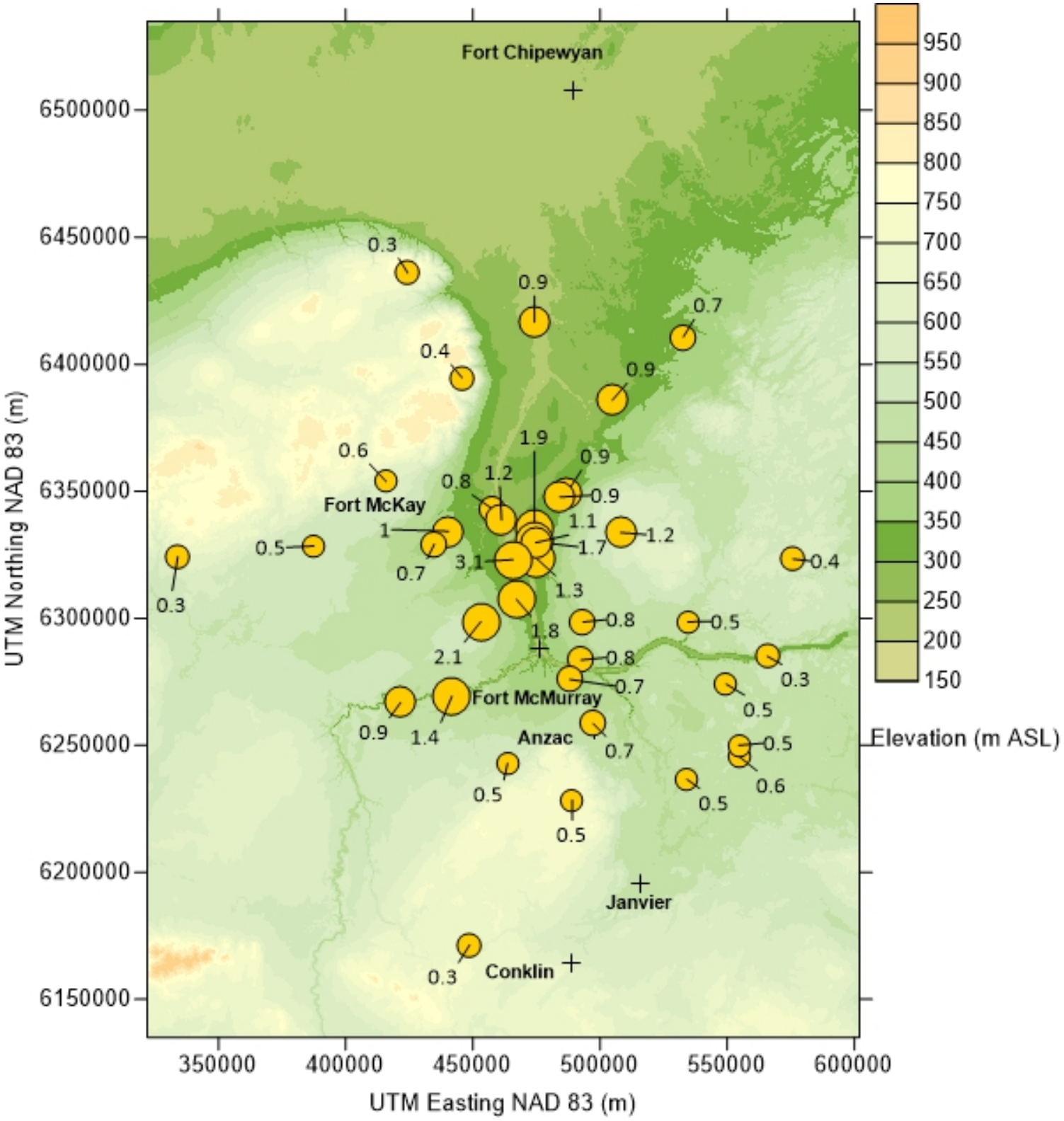
Wood Buffalo Environmental Association

Time Weighted Annual Passive Averages 2020

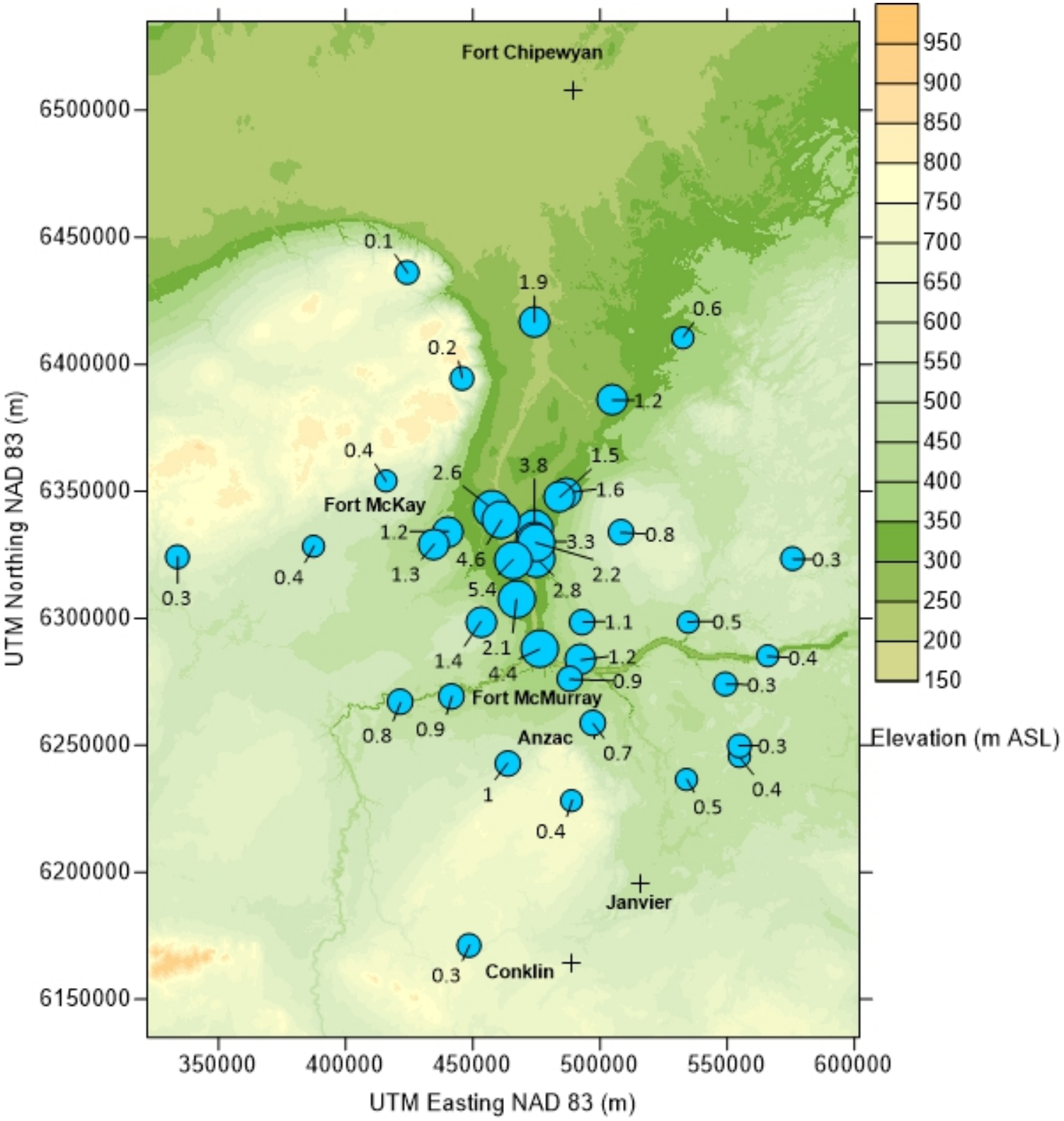
Species Column Contains:
Concentration,SC = Samples Collected, VP = Valid Periods

					Ammonia			Nitric Acid			Nitrogen Dioxide			Ozone			Sulfur Dioxide		
Site ID	Start Date	End Date	Lat.	Long.	ppb	SC	VP	ppb	SC	VP	ppb	SC	VP	ppb	SC	VP	ppb	SC	VP
1001	2020-01-09	2021-01-05	56.539867	-112.276583	0.9	24	12	0.2	24	12	0.8	24	12	30.3	24	12	0.9	24	12
1002	2020-01-03	2021-01-04	56.910317	-111.538267	1.0	24	12	0.2	24	12	2.1	24	12	27.5	24	12	1.8	24	12
1004	2020-01-03	2021-01-07	57.120867	-111.424217	1.1	24	12	0.2	24	12	3.8	24	12	25.7	24	12	1.9	24	12
1007	2020-01-08	2021-01-04	57.889483	-111.433700	1.0	24	12	0.1	24	12	1.9	24	12	28.8	24	12	0.9	24	12
1008	2020-01-07	2021-01-05	56.709267	-109.927283	0.8	24	12	0.1	24	12	0.4	24	12	24.8	24	12	0.3	24	12
1023	2020-01-08	2021-01-05	56.696417	-111.122283	0.8	24	11	0.2	24	11	1.2	24	12	28.7	24	12	0.8	24	12
1027	2020-01-03	2021-01-04	56.829833	-111.768167	0.7	24	11	0.2	24	11	1.4	24	12	30.6	24	12	2.1	24	12
1947	2020-01-08	2021-01-04	57.146783	-110.866050	0.7	12	12	0.1	12	12	0.8	12	12	26.2	12	12	1.2	12	12
1991	2020-01-10	2021-01-04	58.058133	-112.281967	0.9	12	11	0.1	12	10	0.1	12	12	31.1	12	12	0.3	12	12
1992	2020-01-03	2021-01-04	57.320050	-112.396967	0.8	12	12	0.1	12	12	0.4	12	12	23.3	12	12	0.6	12	12
1993	2020-01-10	2021-01-04	57.691150	-111.909400	1.0	12	12	0.1	12	12	0.2	12	12	26.0	12	12	0.4	12	12
1994	2020-01-03	2021-01-04	57.147867	-111.984033	0.8	12	12	0.2	12	12	1.2	12	12	21.1	12	12	1.0	12	12
1995	2020-01-07	2021-01-05	56.608433	-110.192883	0.9	12	12	0.1	12	12	0.3	12	12	28.0	12	12	0.5	12	12
1996	2020-01-08	2021-01-04	57.288033	-111.216950	0.9	12	12	0.4	12	12	1.6	12	12	21.8	12	11	0.9	12	12
1997	2020-01-09	2021-01-08	55.685533	-111.815367	0.9	11	11	0.1	11	11	0.3	11	11	29.1	11	11	0.3	11	11
1998	2020-01-09	2021-01-05	56.201617	-111.175283	0.9	12	12	0.1	12	12	0.4	12	12	29.3	12	11	0.5	12	12
2001	2020-01-03	2021-01-04	57.032217	-113.733217	0.8	24	12	0.1	24	12	0.3	24	12	29.3	24	12	0.3	24	12
2005	2020-01-08	2021-01-04	57.840200	-110.446433	0.9	24	12	0.1	24	12	0.6	24	12	31.2	24	12	0.7	24	12
2010	2020-01-07	2021-01-05	56.276083	-110.452000	0.9	24	12	0.1	24	12	0.5	24	12	28.7	24	12	0.5	24	12
2013	2020-01-07	2021-01-05	57.046467	-109.748767	1.0	24	11	0.1	24	11	0.3	24	12	33.2	24	11	0.4	24	12
2054	2020-01-03	2021-01-07	57.114450	-111.428967	1.0	12	12	0.2	12	12	3.3	12	12	23.7	12	12	1.7	12	12
3009	2020-01-03	2021-01-04	57.101800	-112.072517	0.9	24	12	0.1	24	12	1.3	24	12	25.8	24	12	0.7	24	12
3011	2020-01-07	2021-01-05	56.565750	-111.947417	0.8	24	12	0.2	24	12	0.9	24	12	29.9	24	12	1.4	24	12
3016	2020-01-07	2021-01-05	56.353250	-110.118833	0.9	24	12	1.0	24	12	0.4	24	12	34.4	24	12	0.6	24	12
3083	2020-01-08	2021-01-05	56.833167	-111.109133	0.9	12	12	0.2	12	12	1.1	12	12	25.9	12	12	0.8	12	12
3086	2020-01-08	2021-01-04	57.618833	-110.918117	1.0	12	12	0.2	12	12	1.2	12	12	27.9	12	12	0.9	12	12
3088	2020-01-03	2021-01-04	57.085917	-112.855550	0.7	12	12	0.2	12	12	0.4	12	12	25.8	12	12	0.5	12	12
3092	2020-01-07	2021-01-05	56.829950	-110.434767	0.7	12	12	0.2	12	12	0.5	12	12	30.0	12	12	0.5	12	12
3096	2020-01-07	2021-01-05	56.353250	-110.118833	0.8	12	12	0.2	12	12	0.3	12	12	31.7	12	12	0.5	12	12
3212	2020-01-06	2021-01-04	57.053633	-111.406567	0.8	12	12	0.2	12	12	2.8	12	12	20.0	12	12	1.3	12	12
4000	2020-01-09	2021-01-05	56.329442	-111.588619	0.7	24	12	0.2	24	12	1.0	24	12				0.5	24	12
4001	2020-01-03	2021-01-06	57.228355	-111.699922	0.7	24	12	0.2	24	12	2.6	24	12				0.8	24	12
4002	2020-01-08	2021-01-04	57.272539	-111.261758	0.8	24	12	0.2	24	12	1.5	24	12				0.9	24	12
4003	2020-01-09	2021-01-05	56.627549	-111.194622	0.8	24	12	0.2	24	12	0.9	24	12				0.7	24	12
4004	2020-01-03	2021-01-07	57.110828	-111.417987	0.9	24	12	0.2	24	12	2.2	24	11				1.1	24	12
4014	2020-01-09	2021-01-05	56.471364	-111.044156	0.8	24	12	0.2	24	12	0.7	24	12				0.7	24	12
ATHV	2020-01-06	2021-01-05	56.733409	-111.390542							4.4	24	12						
BGFM	2020-01-03	2021-01-06	57.189428	-111.640583	0.9	36	12	0.2	36	12	4.6	36	12	21.2	36	12	1.2	36	12
MILD	2020-01-07	2021-01-06	57.050006	-111.564147	1.6	36	12	0.2	36	12	5.4	36	12	21.7	36	12	3.1	36	12
3011 - Blank	2020-01-07	2021-01-05	56.565750	-111.947417	1.7	12	12	0.1	12	12	0.2	12	12	0.5	12	12	0.1	12	12
3016 - Blank	2020-01-07	2021-01-05	56.353250	-110.118833	2.6	12	12	0.1	12	12	0.2	12	12	0.4	12	12	0.1	12	12
3083 - Blank	2020-01-08	2021-01-05	56.833167	-111.109133	1.7	12	12	0.1	12	12	0.2	12	12	0.8	12	12	0.1	12	12
3086 - Blank	2020-01-08	2021-01-04	57.618833	-110.918117	1.7	12	12	0.1	12	12	0.2	12	12	0.8	12	12	0.1	12	12
3088 - Blank	2020-01-03	2021-01-04	57.085917	-112.855550	2.0	12	12	0.1	12	12	0.3	12	12	0.9	12	12	0.1	12	11
4004 - Blank	2020-01-03	2021-01-07	57.110828	-111.417987	1.7	12	12	0.1	12	12	0.2	12	12				0.1	12	11
4014 - Blank	2020-01-09	2021-01-05	56.471364	-111.044156	1.5	12	12	0.1	12	12	0.1	12	12				0.1	12	12
ATHV - Blank	2020-01-06	2021-01-05	56.733409	-111.390542							0.2	12	12						

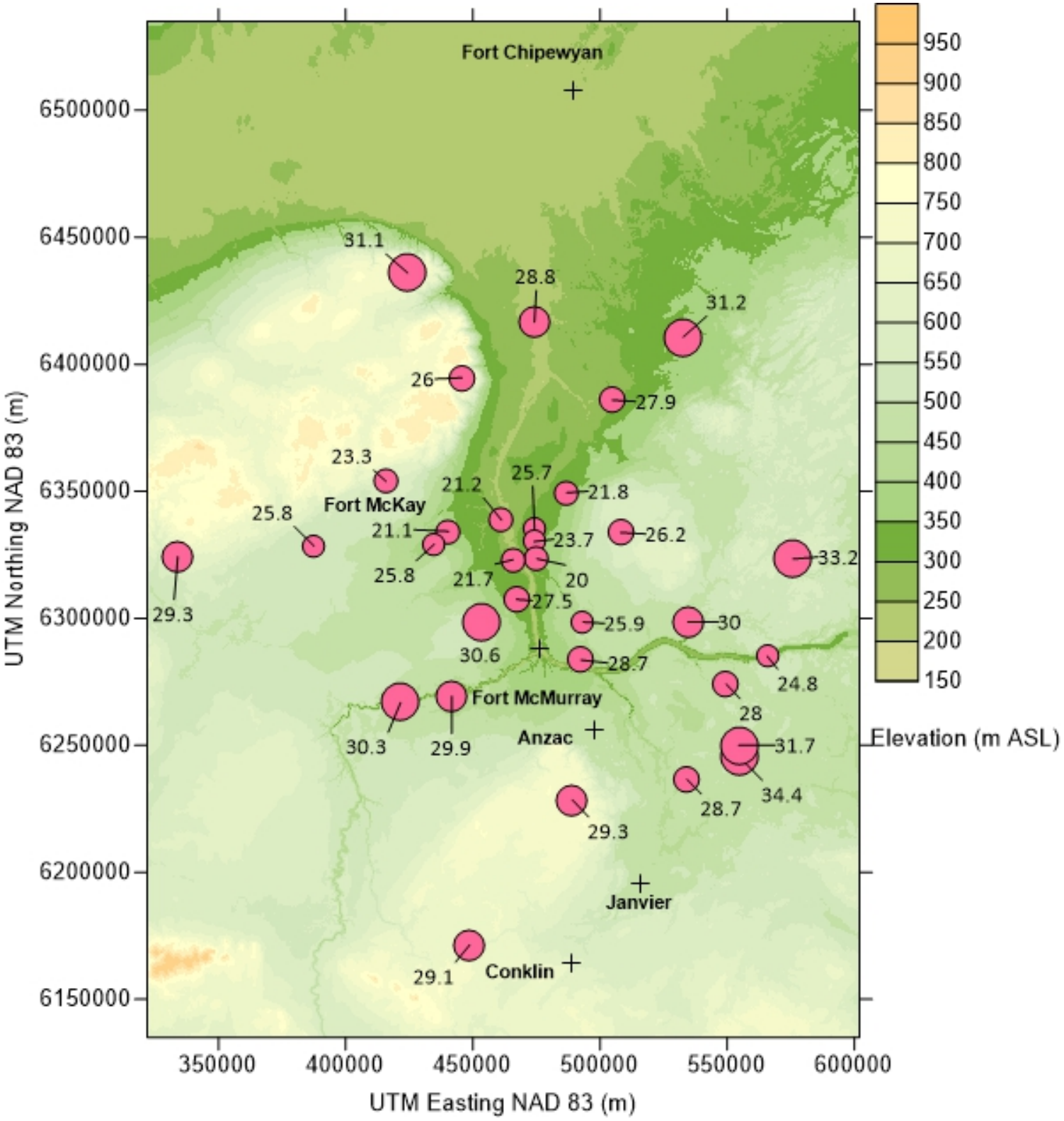
SPATIAL PLOT OF SO_2 CONCENTRATIONS



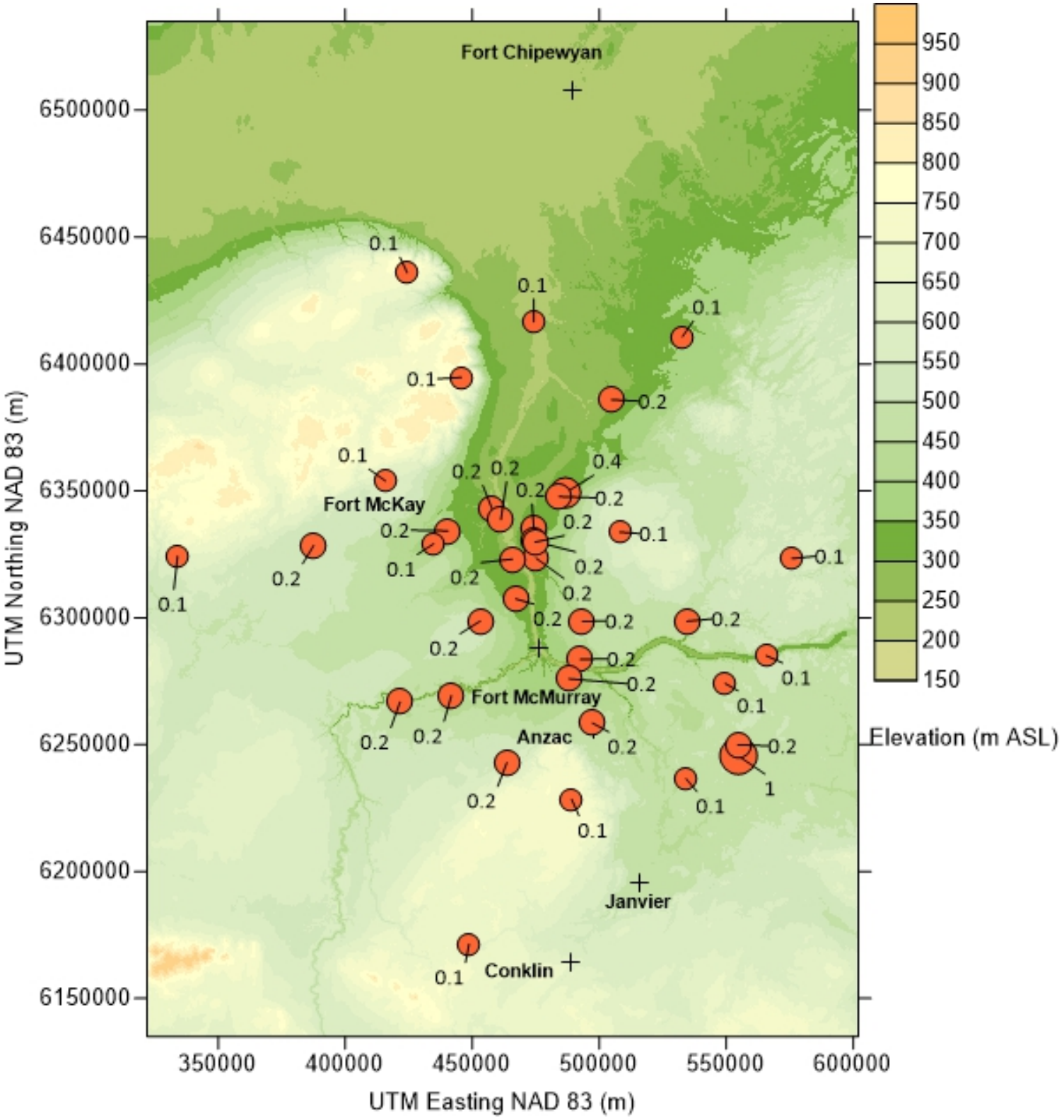
SPATIAL PLOT OF NO_2 CONCENTRATIONS



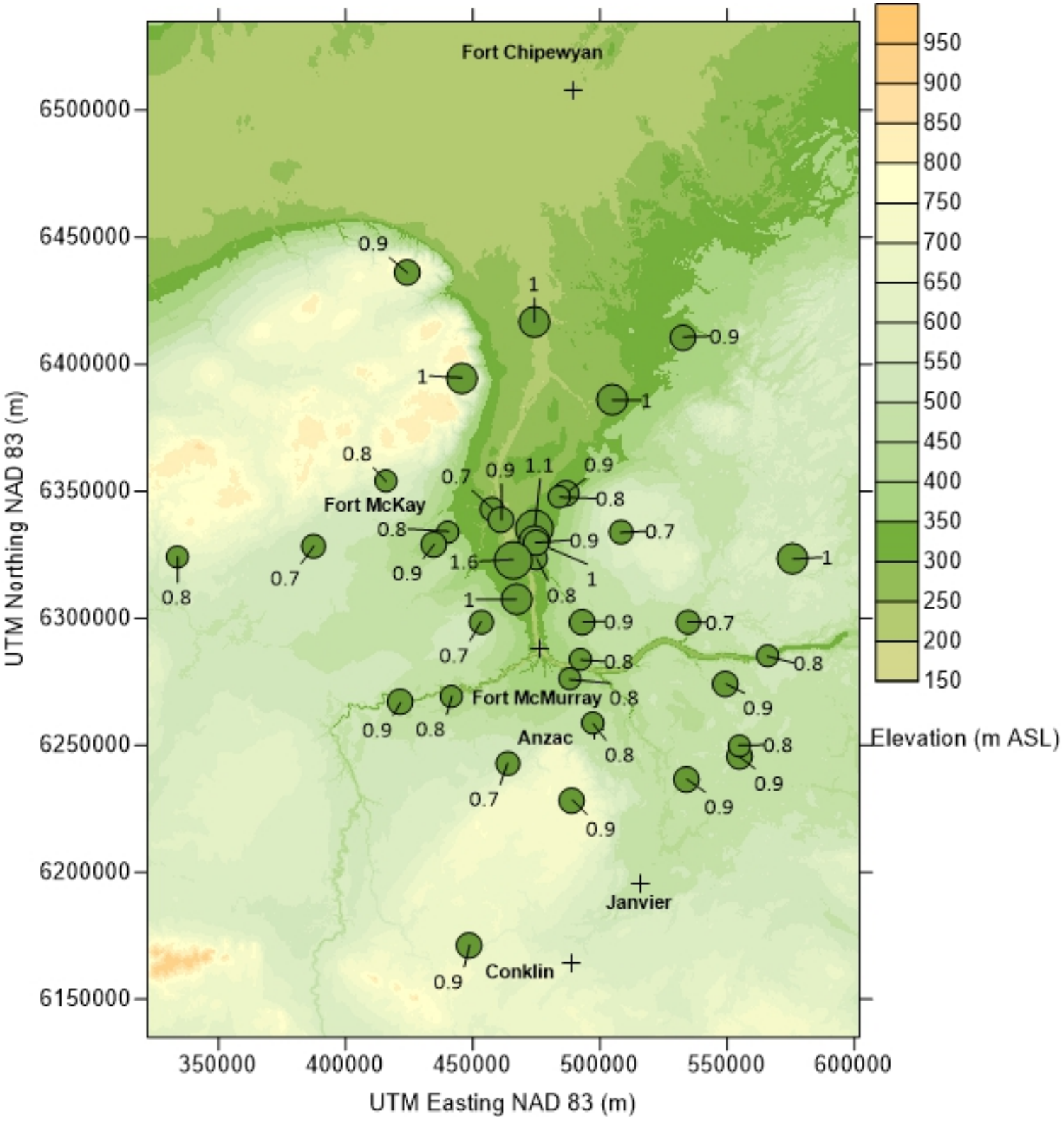
SPATIAL PLOT OF O_3 CONCENTRATIONS



SPATIAL PLOT OF HNO_3 CONCENTRATIONS



SPATIAL PLOT OF NH_3 CONCENTRATIONS



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

VOLATILE ORGANIC COMPOUNDS
DATA SUMMARY
2020

Prepared
March 2021

SAMPLE COLLECTION AND DATA COMPILATION BY:

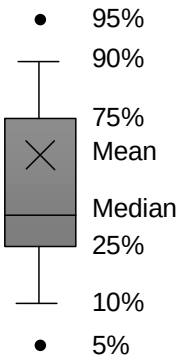
Wood Buffalo Environmental Association
Fort McMurray, Alberta

LABORATORY ANALYSIS BY:

VOCs: InnoTech Alberta, Inc.
Vegreville, Alberta

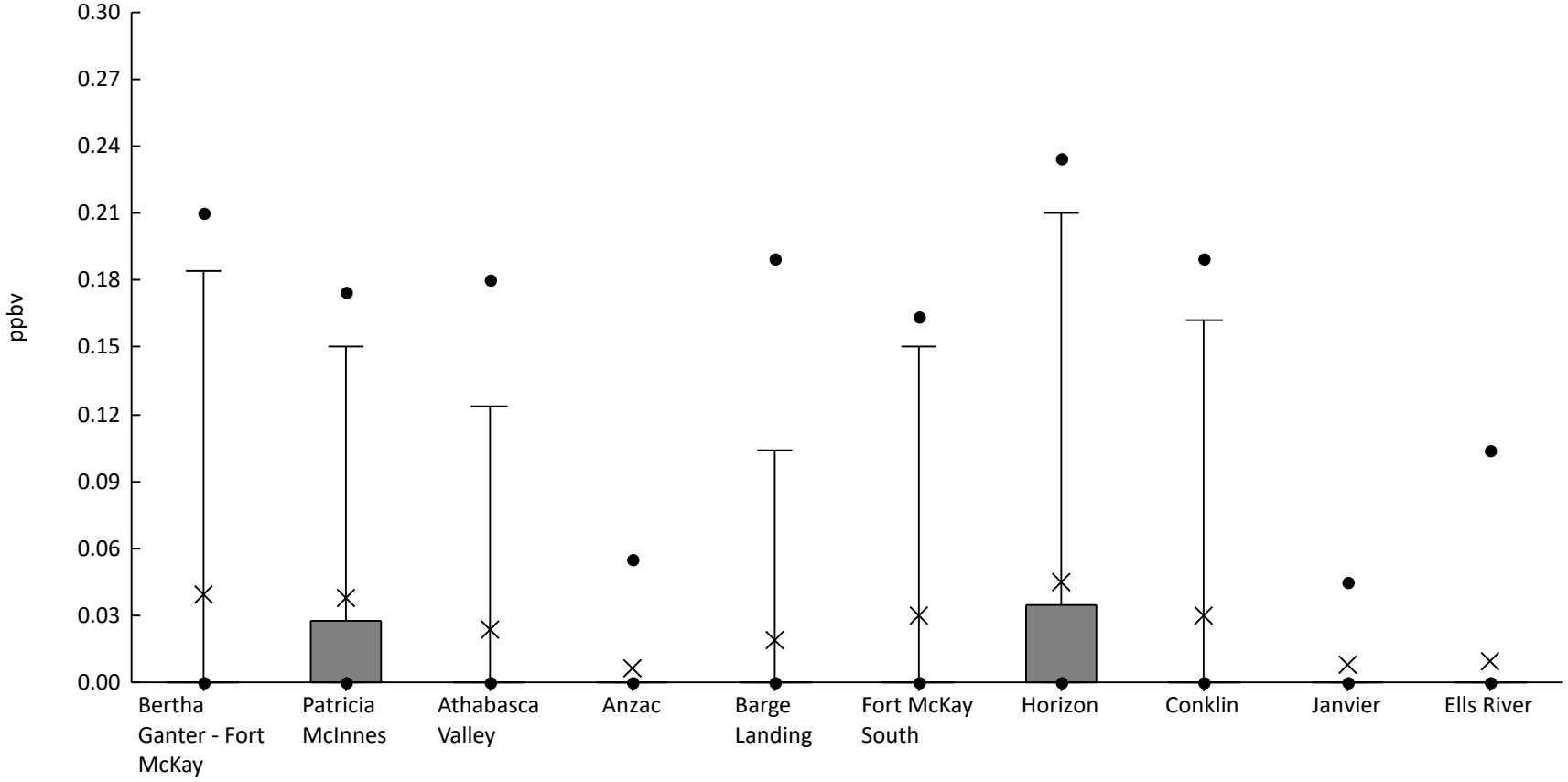
CONTENTS DESCRIPTION	Summary of VOC – Measurements of Speciated Volatile Organic Compounds
SAMPLE PERIOD	24 hour
SAMPLING INTERVAL	Once every 6 days
UNITS	ppbv (parts per billion volume)
OBSERVATION TYPE	Gas
FIELD SAMPLING OR MEASUREMENT PRINCIPLE	Evacuated canister
ANALYTICAL METHODS	GC/MS - Gas chromatography/mass spectrometer
ANALYTICAL LABORATORY	InnoTech Alberta Inc
USER NOTE 1	Data are not blank corrected MDLs for many parameters were updated on February 13.
USER NOTE 2	Data qualifies for V4 if greater than average + 5x Standard Dev with 5 passes. Computed on a monthly dataset.
USER NOTE 3	Summary statistics include flags beginning with V. Instances when the Lab did not report a value that was <MDL, 0 was used.
SAMPLING INSTRUMENT TYPE	Tisch TE123
FLOW RATE	10.0 cc/min (cubic centimeters per minute)
FLAGS USED	
V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination
V6	Valid value but qualified due to non-standard sampling conditions
M1	Missing value because no value is available
M2	Missing value because invalidated by Data Originator

Legend description



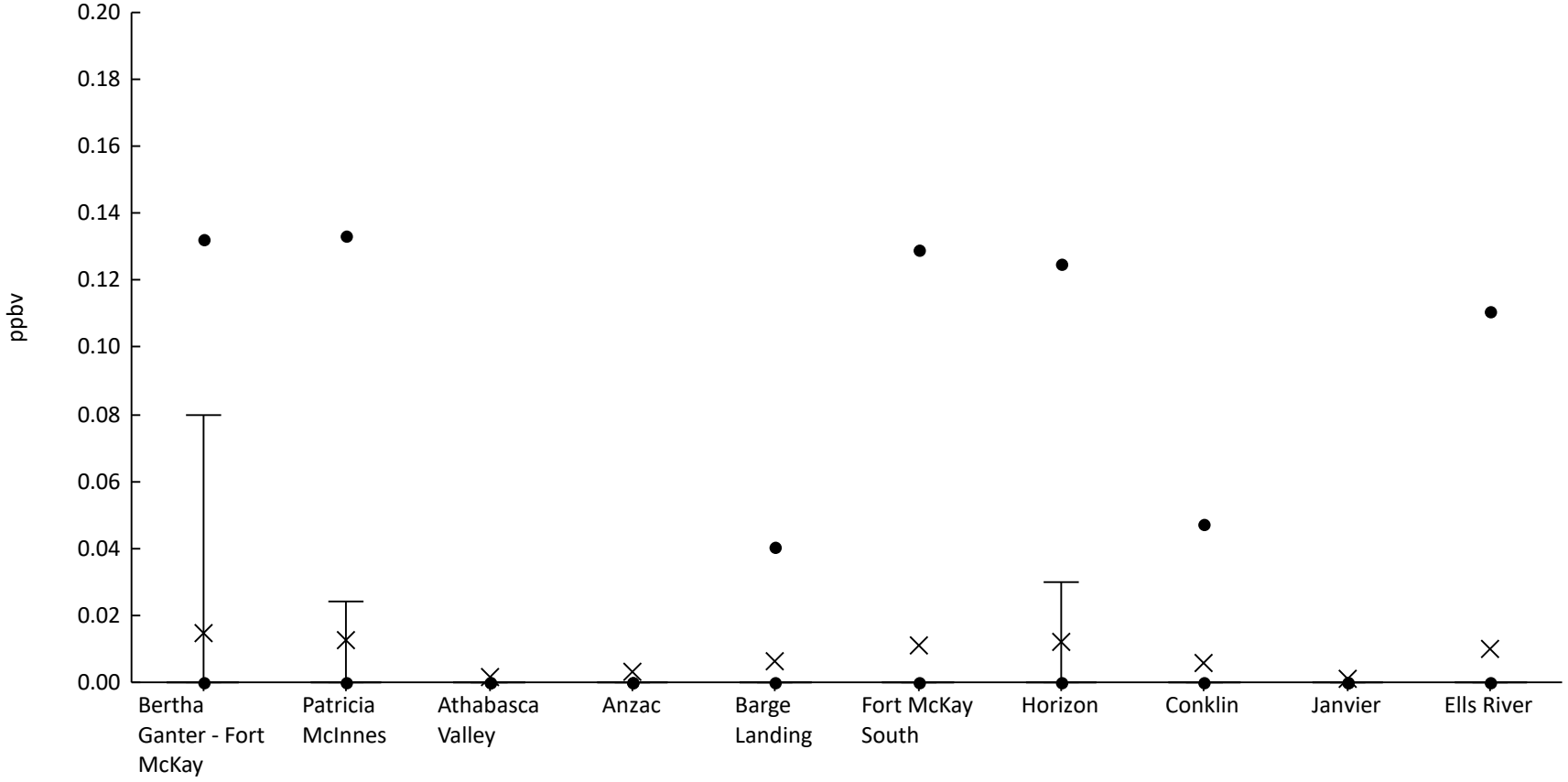
Volatile Organic Compound Canister - 1,2,4-Trimethylbenzene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	23%	0	0	0	0	0	0	0.18	0.21	0.23	0.039	0.076
AMS06	Patricia McInnes	61	25%	0	0	0	0	0	0.028	0.15	0.17	0.24	0.038	0.069
AMS07	Athabasca Valley	61	18%	0	0	0	0	0	0	0.12	0.18	0.18	0.024	0.054
AMS14	Anzac	60	5%	0	0	0	0	0	0	0	0.055	0.15	6.3E-3	0.028
AMS09	Barge Landing	61	11%	0	0	0	0	0	0	0.1	0.19	0.2	0.019	0.054
AMS13	Fort McKay South	61	18%	0	0	0	0	0	0	0.15	0.16	0.36	0.03	0.072
AMS15	Horizon	40	25%	0	0	0	0	0	0.035	0.21	0.24	0.27	0.045	0.085
AMS21	Conklin	31	19%	0	0	0	0	0	0	0.16	0.19	0.19	0.03	0.064
AMS22	Janvier	61	5%	0	0	0	0	0	0	0	0.045	0.22	8.2E-3	0.038
AMS30	Ells River	17	6%	0	0	0	0	0	0	0	0.1	0.16	9.4E-3	0.039



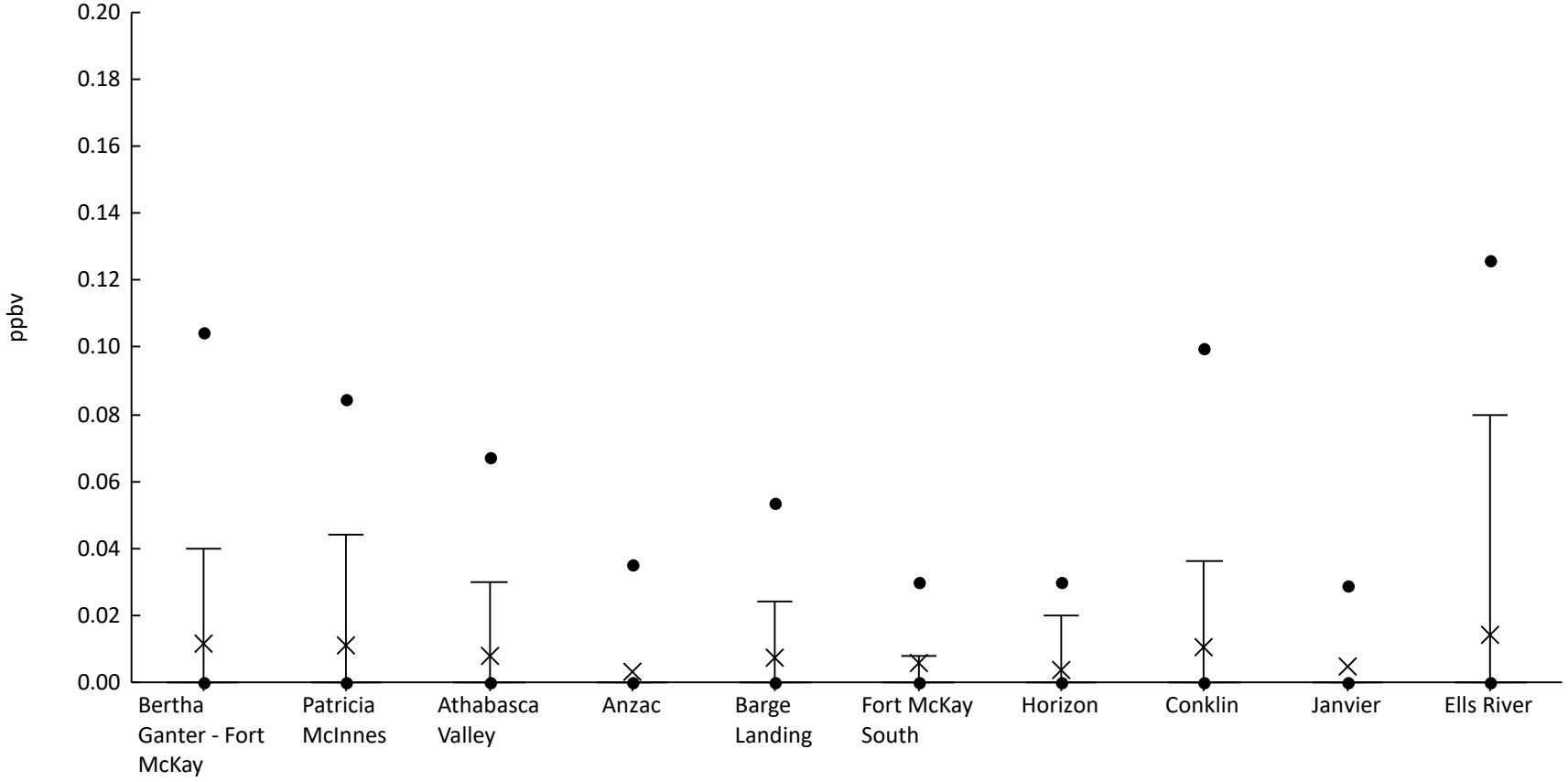
Volatile Organic Compound Canister - 1,3,5-Trimethylbenzene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	11%	0	0	0	0	0	0	0.08	0.13	0.19	0.015	0.044
AMS06	Patricia McInnes	61	10%	0	0	0	0	0	0	0.024	0.13	0.18	0.012	0.04
AMS07	Athabasca Valley	61	2%	0	0	0	0	0	0	0	0	0.09	1.5E-3	0.012
AMS14	Anzac	60	2%	0	0	0	0	0	0	0	0	0.18	3E-3	0.023
AMS09	Barge Landing	61	5%	0	0	0	0	0	0	0	0.04	0.18	6.2E-3	0.029
AMS13	Fort McKay South	61	8%	0	0	0	0	0	0	0	0.13	0.19	0.011	0.039
AMS15	Horizon	40	10%	0	0	0	0	0	0	0.03	0.13	0.18	0.012	0.04
AMS21	Conklin	31	6%	0	0	0	0	0	0	0	0.048	0.13	5.8E-3	0.025
AMS22	Janvier	61	2%	0	0	0	0	0	0	0	0	0.08	1.3E-3	0.01
AMS30	Ells River	17	6%	0	0	0	0	0	0	0	0.11	0.17	0.01	0.041



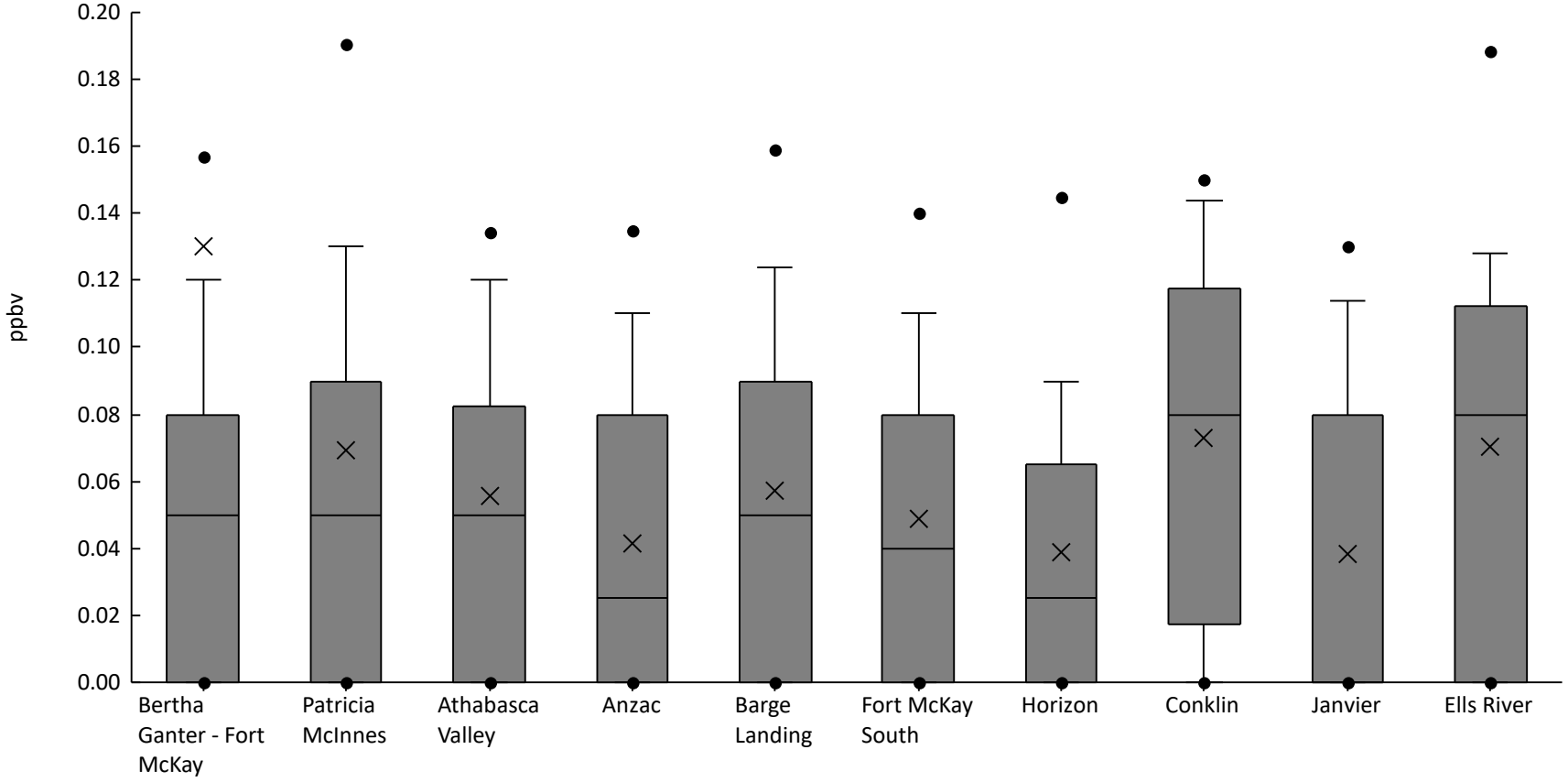
Volatile Organic Compound Canister - 1,3-Butadiene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	20%	0	0	0	0	0	0	0.04	0.1	0.14	0.012	0.03
AMS06	Patricia McInnes	61	16%	0	0	0	0	0	0	0.044	0.085	0.14	0.011	0.029
AMS07	Athabasca Valley	61	11%	0	0	0	0	0	0	0.03	0.067	0.14	8E-3	0.027
AMS14	Anzac	60	7%	0	0	0	0	0	0	0	0.035	0.09	3.3E-3	0.014
AMS09	Barge Landing	61	13%	0	0	0	0	0	0	0.024	0.053	0.14	7.4E-3	0.024
AMS13	Fort McKay South	61	10%	0	0	0	0	0	0	8E-3	0.03	0.14	5.6E-3	0.022
AMS15	Horizon	40	15%	0	0	0	0	0	0	0.02	0.03	0.03	3.8E-3	9.3E-3
AMS21	Conklin	31	10%	0	0	0	0	0	0	0.036	0.1	0.13	0.01	0.033
AMS22	Janvier	61	7%	0	0	0	0	0	0	0	0.029	0.13	4.6E-3	0.021
AMS30	Ells River	17	12%	0	0	0	0	0	0	0.08	0.13	0.14	0.014	0.04



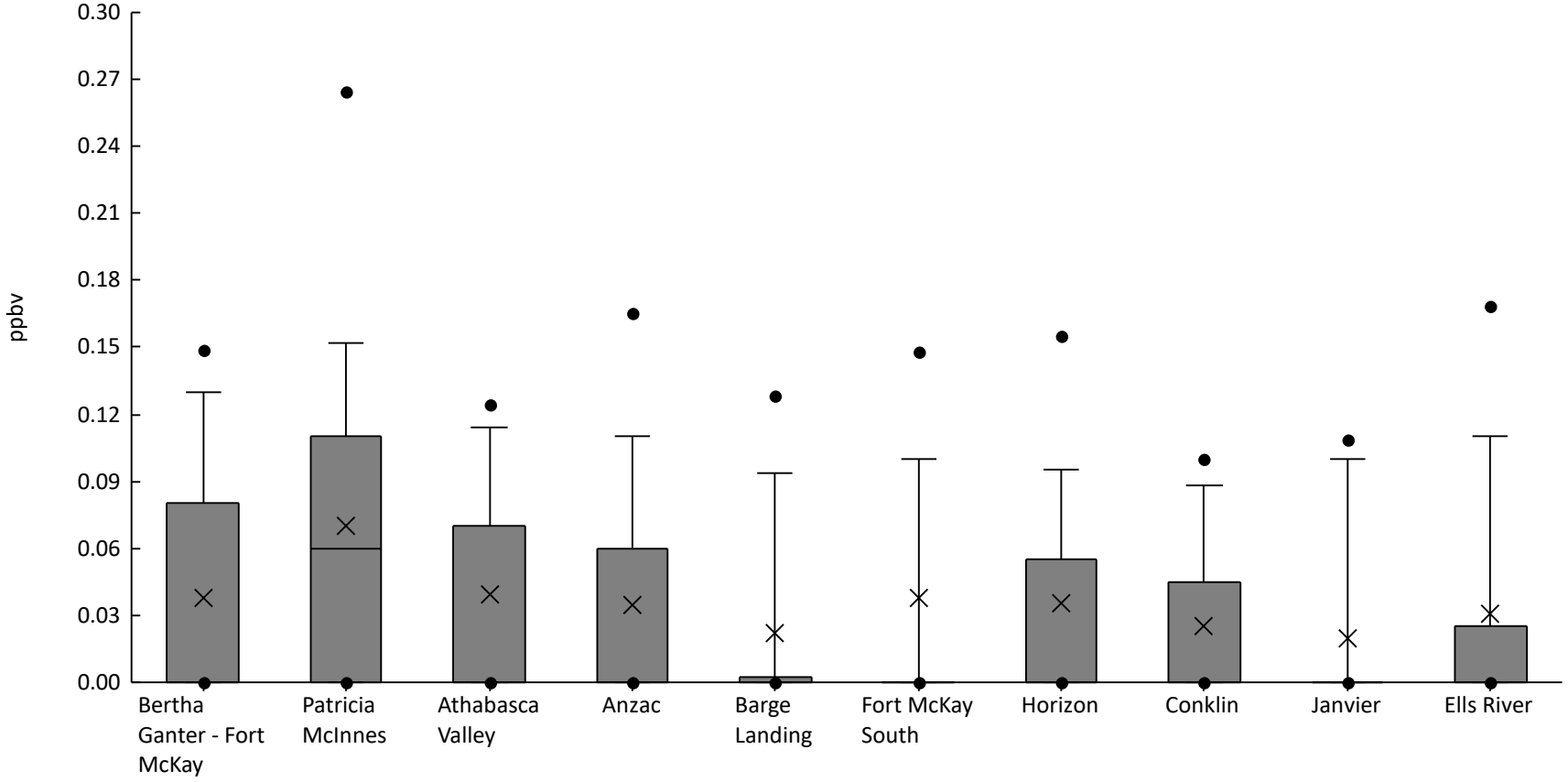
Volatile Organic Compound Canister - 1-Pentene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	61%	0	0	0	0	0.05	0.08	0.12	0.16	4.7	0.13	0.6
AMS06	Patricia McInnes	61	67%	0	0	0	0	0.05	0.09	0.13	0.19	0.91	0.07	0.13
AMS07	Athabasca Valley	61	64%	0	0	0	0	0.05	0.083	0.12	0.13	0.3	0.056	0.061
AMS14	Anzac	60	53%	0	0	0	0	0.025	0.08	0.11	0.14	0.17	0.042	0.049
AMS09	Barge Landing	61	61%	0	0	0	0	0.05	0.09	0.12	0.16	0.38	0.057	0.071
AMS13	Fort McKay South	61	61%	0	0	0	0	0.04	0.08	0.11	0.14	0.33	0.049	0.058
AMS15	Horizon	40	57%	0	0	0	0	0.025	0.065	0.09	0.15	0.22	0.039	0.051
AMS21	Conklin	31	77%	0	0	0	0.018	0.08	0.12	0.14	0.15	0.17	0.073	0.054
AMS22	Janvier	61	48%	0	0	0	0	0	0.08	0.11	0.13	0.14	0.038	0.047
AMS30	Ells River	17	65%	0	0	0	0	0.08	0.11	0.13	0.19	0.22	0.071	0.063



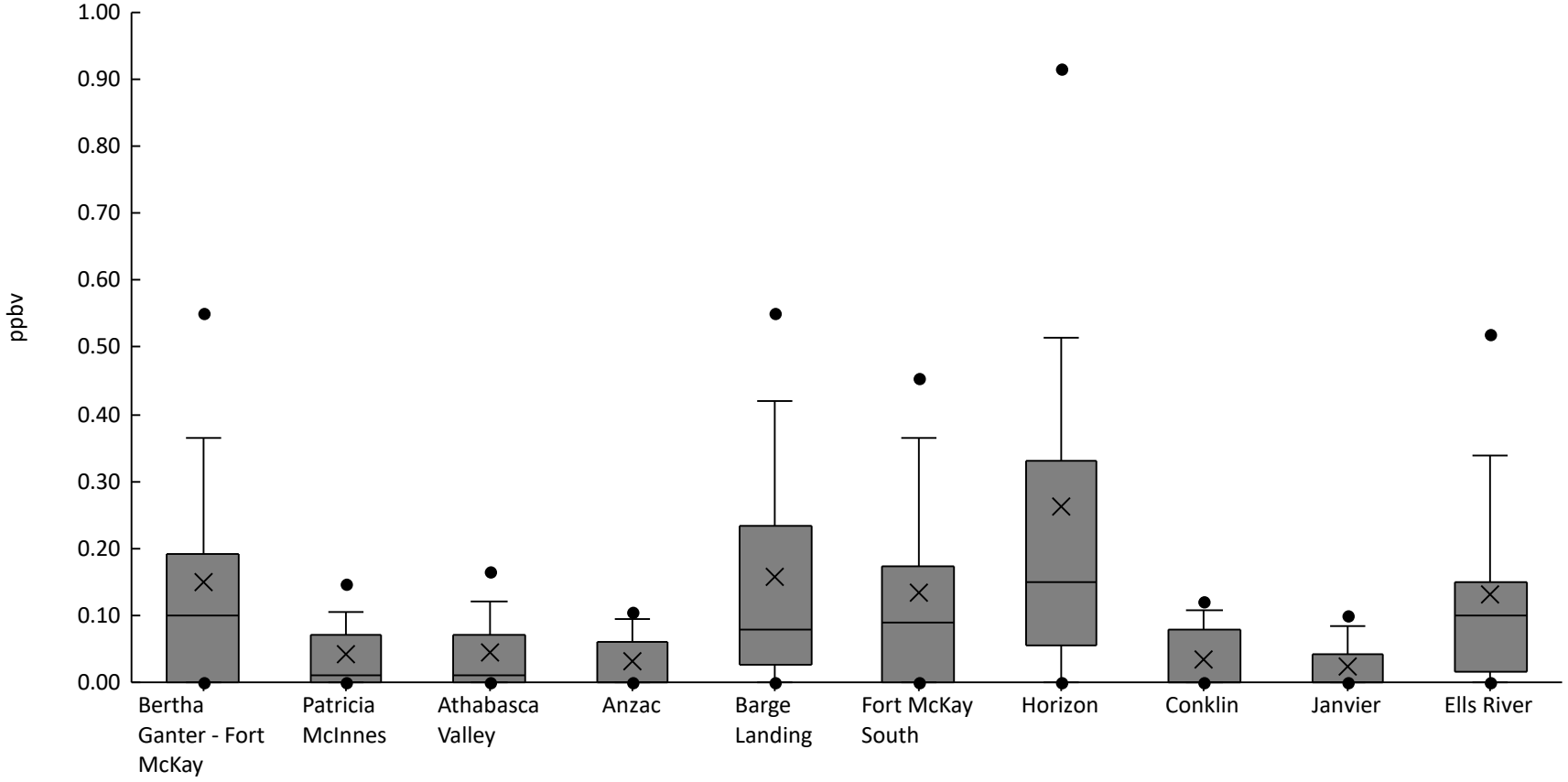
Volatile Organic Compound Canister - 2,2,4-Trimethylpentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	41%	0	0	0	0	0	0.08	0.13	0.15	0.24	0.038	0.055
AMS06	Patricia McInnes	61	59%	0	0	0	0	0.06	0.11	0.15	0.26	0.32	0.07	0.08
AMS07	Athabasca Valley	61	44%	0	0	0	0	0	0.07	0.11	0.12	0.36	0.039	0.061
AMS14	Anzac	60	35%	0	0	0	0	0	0.06	0.11	0.17	0.28	0.035	0.061
AMS09	Barge Landing	61	25%	0	0	0	0	0	2.5E-3	0.094	0.13	0.24	0.022	0.048
AMS13	Fort McKay South	61	18%	0	0	0	0	0	0	0.1	0.15	1.3	0.038	0.17
AMS15	Horizon	40	38%	0	0	0	0	0	0.055	0.095	0.16	0.3	0.036	0.062
AMS21	Conklin	31	29%	0	0	0	0	0	0.045	0.088	0.1	0.24	0.025	0.051
AMS22	Janvier	61	21%	0	0	0	0	0	0	0.1	0.11	0.22	0.019	0.044
AMS30	Ells River	17	24%	0	0	0	0	0	0.025	0.11	0.17	0.2	0.031	0.06



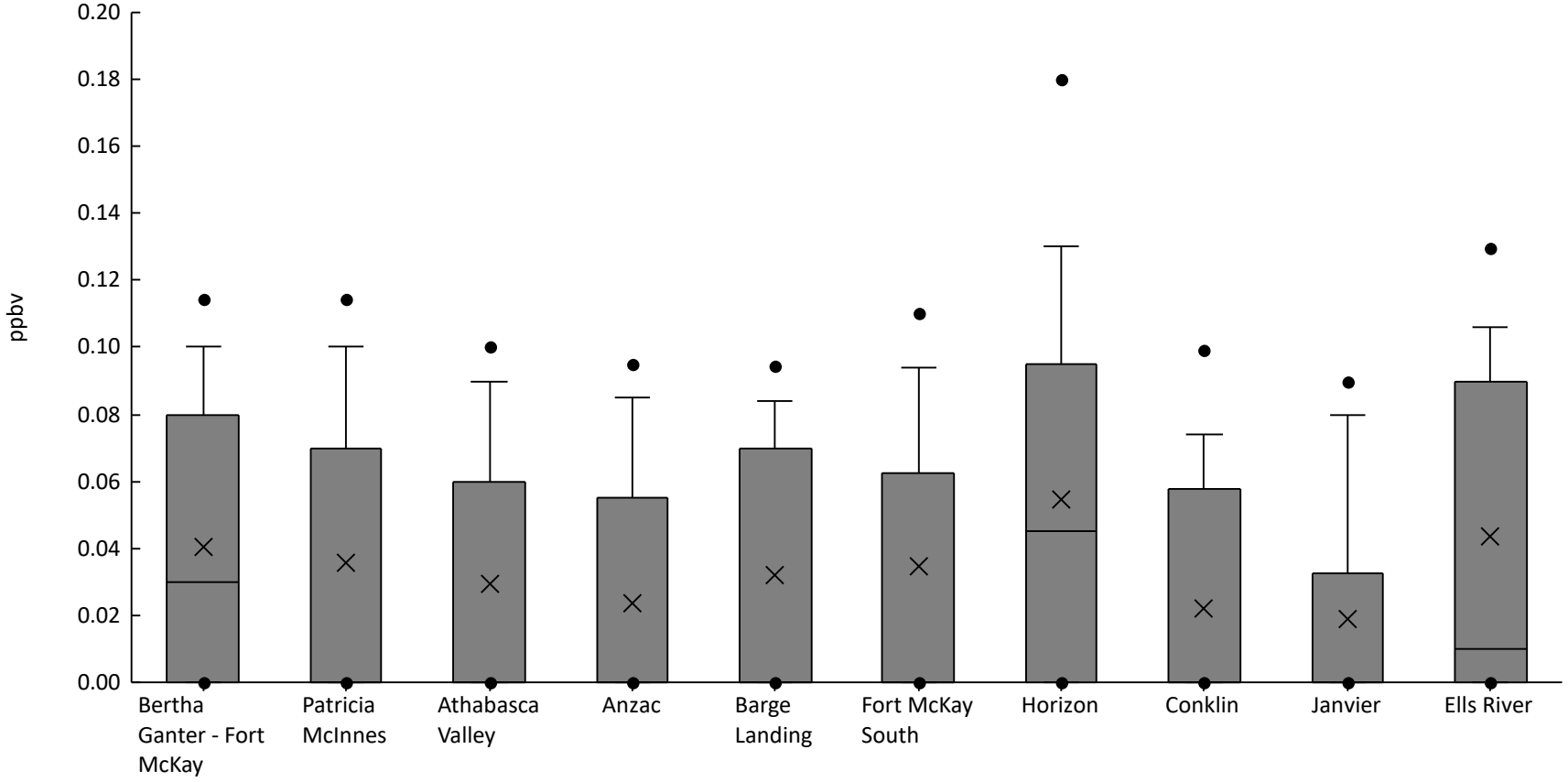
Volatile Organic Compound Canister - 2,2-Dimethylbutane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	74%	0	0	0	0	0.1	0.19	0.37	0.55	1.3	0.15	0.21
AMS06	Patricia McInnes	61	51%	0	0	0	0	0.01	0.07	0.1	0.15	0.26	0.041	0.057
AMS07	Athabasca Valley	61	51%	0	0	0	0	0.01	0.07	0.12	0.16	0.37	0.045	0.068
AMS14	Anzac	60	43%	0	0	0	0	0	0.06	0.095	0.11	0.17	0.031	0.043
AMS09	Barge Landing	61	77%	0	0	0	0.028	0.08	0.23	0.42	0.55	1.2	0.16	0.21
AMS13	Fort McKay South	61	74%	0	0	0	0	0.09	0.17	0.36	0.45	1.1	0.14	0.18
AMS15	Horizon	40	88%	0	0	0	0.055	0.15	0.33	0.52	0.92	2.2	0.26	0.38
AMS21	Conklin	31	39%	0	0	0	0	0	0.08	0.11	0.12	0.12	0.034	0.047
AMS22	Janvier	61	34%	0	0	0	0	0	0.043	0.084	0.1	0.12	0.023	0.035
AMS30	Ells River	17	76%	0	0	0	0.015	0.1	0.15	0.34	0.52	0.61	0.13	0.16



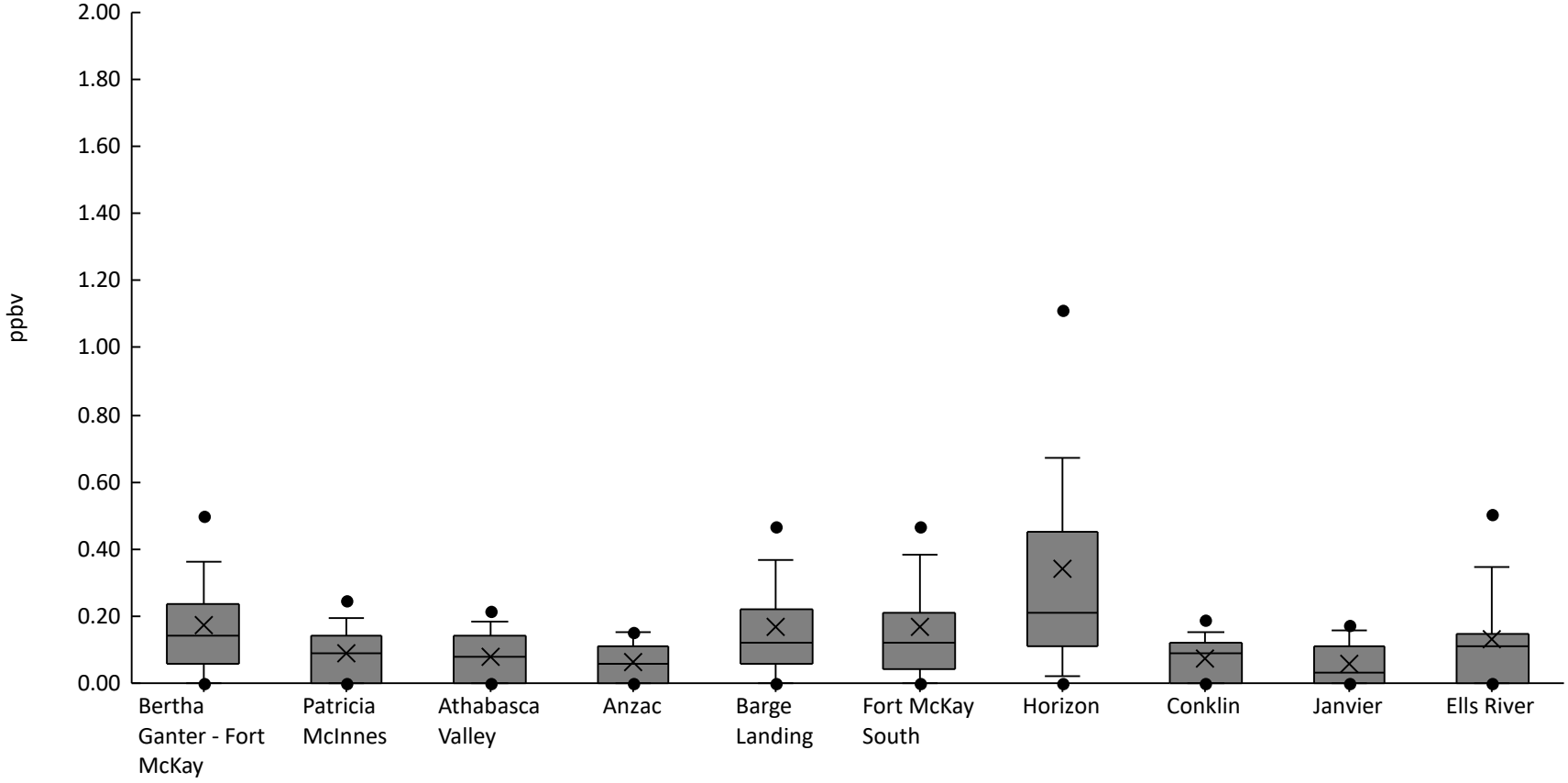
Volatile Organic Compound Canister - 2,3,4-Trimethylpentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	52%	0	0	0	0	0.03	0.08	0.1	0.11	0.14	0.041	0.043
AMS06	Patricia McInnes	61	49%	0	0	0	0	0	0.07	0.1	0.11	0.12	0.036	0.041
AMS07	Athabasca Valley	61	43%	0	0	0	0	0	0.06	0.09	0.1	0.13	0.029	0.038
AMS14	Anzac	60	35%	0	0	0	0	0	0.055	0.085	0.095	0.12	0.024	0.036
AMS09	Barge Landing	61	44%	0	0	0	0	0	0.07	0.084	0.095	0.13	0.032	0.039
AMS13	Fort McKay South	61	43%	0	0	0	0	0	0.063	0.094	0.11	0.37	0.035	0.058
AMS15	Horizon	40	57%	0	0	0	0	0.045	0.095	0.13	0.18	0.25	0.055	0.062
AMS21	Conklin	31	32%	0	0	0	0	0	0.058	0.074	0.099	0.11	0.022	0.035
AMS22	Janvier	61	28%	0	0	0	0	0	0.033	0.08	0.09	0.11	0.019	0.033
AMS30	Ells River	17	53%	0	0	0	0	0.01	0.09	0.11	0.13	0.14	0.044	0.049



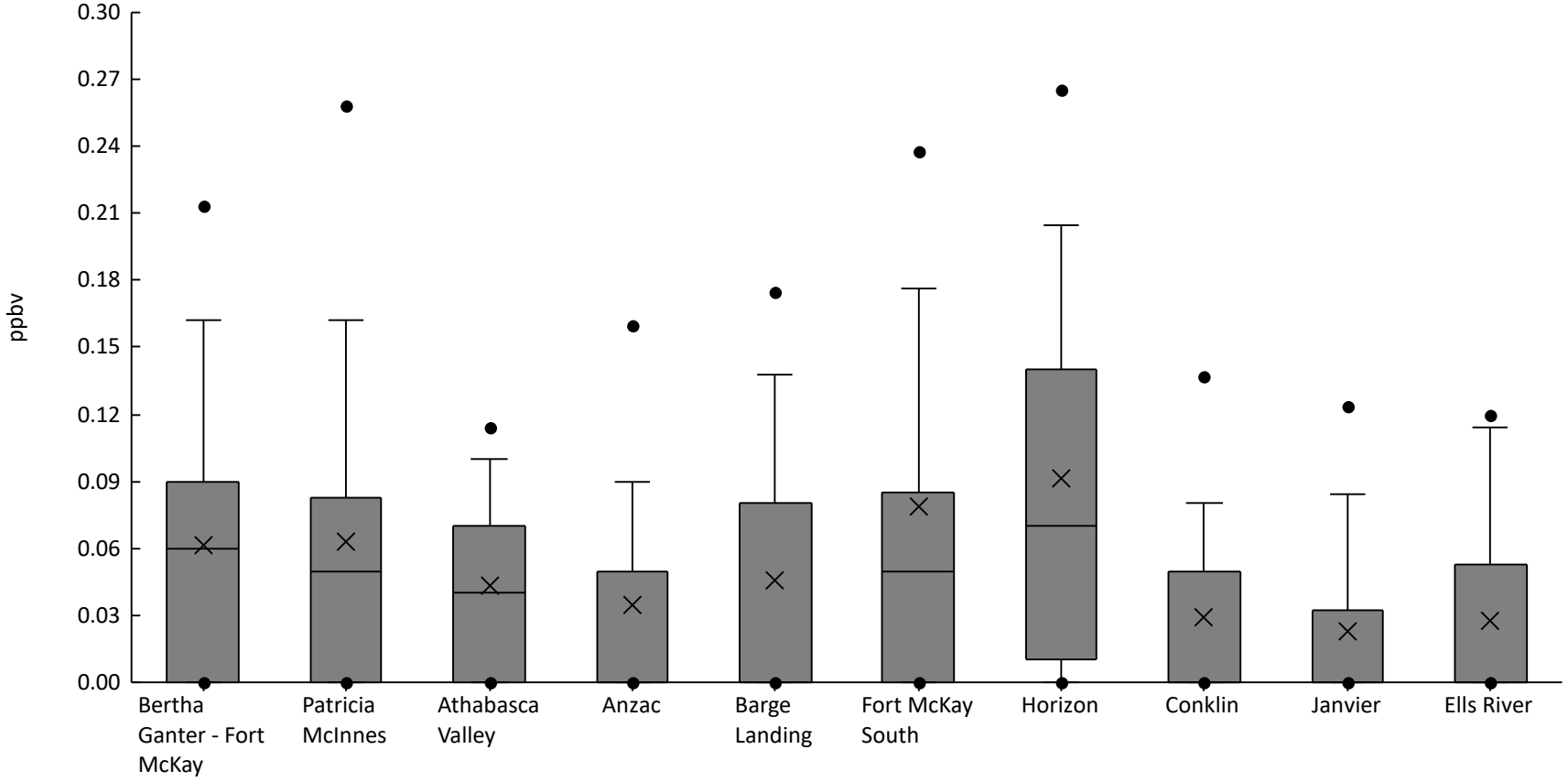
Volatile Organic Compound Canister - 2,3-Dimethylbutane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	80%	0	0	0	0.058	0.14	0.24	0.36	0.5	1.2	0.17	0.19
AMS06	Patricia McInnes	61	64%	0	0	0	0	0.09	0.14	0.19	0.25	0.34	0.089	0.084
AMS07	Athabasca Valley	61	59%	0	0	0	0	0.08	0.14	0.18	0.21	0.39	0.081	0.086
AMS14	Anzac	60	55%	0	0	0	0	0.06	0.11	0.15	0.15	0.4	0.064	0.074
AMS09	Barge Landing	61	79%	0	0	0	0.06	0.12	0.22	0.37	0.47	1.1	0.17	0.18
AMS13	Fort McKay South	61	79%	0	0	0	0.043	0.12	0.21	0.38	0.47	1.1	0.17	0.18
AMS15	Horizon	40	90%	0	0	0.02	0.11	0.21	0.45	0.67	1.1	2.3	0.34	0.42
AMS21	Conklin	31	58%	0	0	0	0	0.09	0.12	0.15	0.19	0.22	0.072	0.068
AMS22	Janvier	61	51%	0	0	0	0	0.03	0.11	0.16	0.17	0.23	0.058	0.067
AMS30	Ells River	17	71%	0	0	0	0	0.11	0.15	0.35	0.51	0.58	0.13	0.15



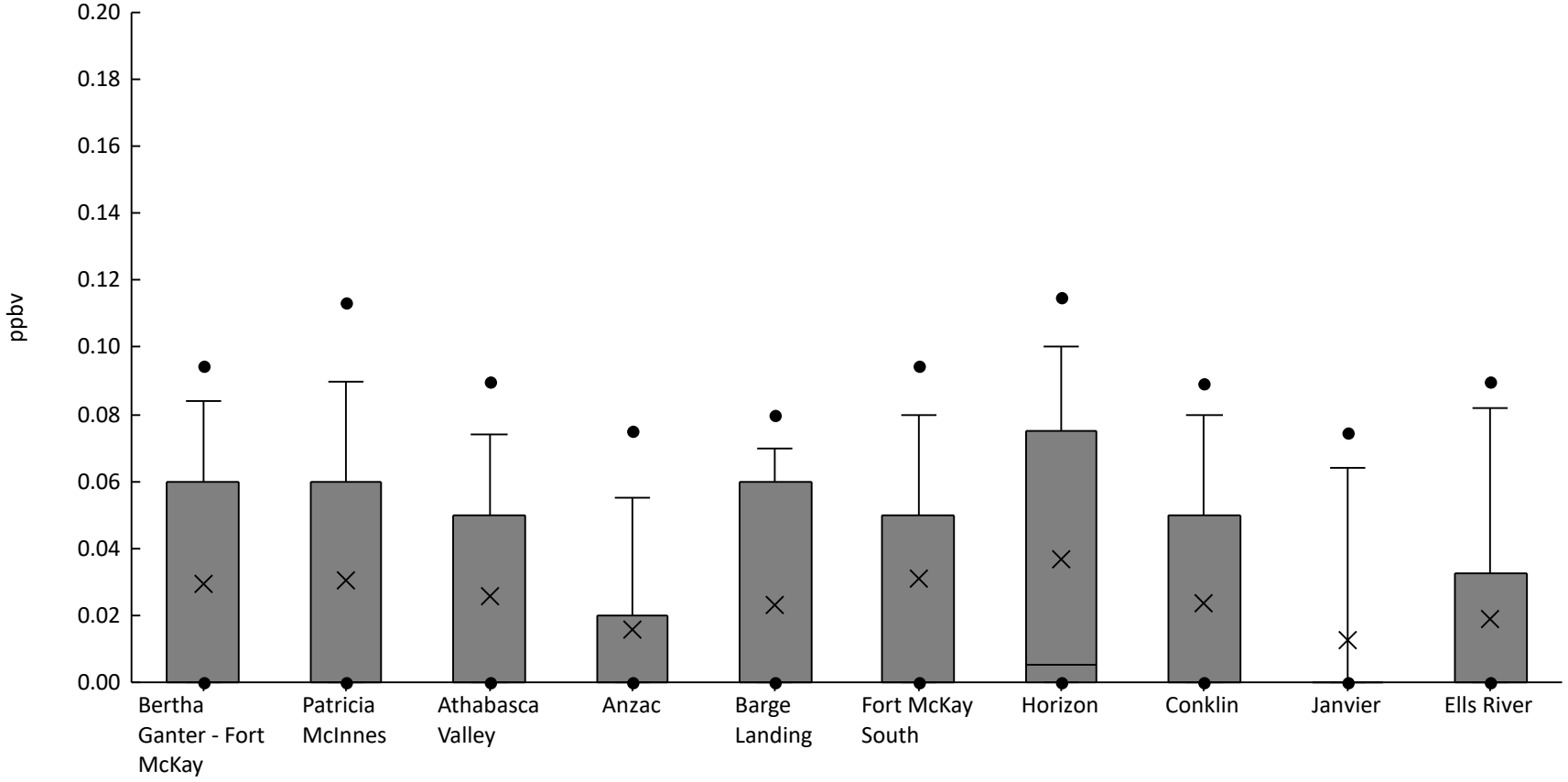
Volatile Organic Compound Canister - 2,3-Dimethylpentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	59%	0	0	0	0	0.06	0.09	0.16	0.21	0.29	0.061	0.07
AMS06	Patricia McInnes	61	56%	0	0	0	0	0.05	0.083	0.16	0.26	0.41	0.063	0.084
AMS07	Athabasca Valley	61	54%	0	0	0	0	0.04	0.07	0.1	0.11	0.39	0.043	0.06
AMS14	Anzac	60	42%	0	0	0	0	0	0.05	0.09	0.16	0.36	0.035	0.064
AMS09	Barge Landing	61	48%	0	0	0	0	0	0.08	0.14	0.17	0.27	0.045	0.062
AMS13	Fort McKay South	61	59%	0	0	0	0	0.05	0.085	0.18	0.24	1.3	0.078	0.18
AMS15	Horizon	40	75%	0	0	0	0.01	0.07	0.14	0.21	0.27	0.37	0.091	0.088
AMS21	Conklin	31	35%	0	0	0	0	0	0.05	0.08	0.14	0.26	0.029	0.055
AMS22	Janvier	61	30%	0	0	0	0	0	0.033	0.084	0.12	0.28	0.023	0.05
AMS30	Ells River	17	35%	0	0	0	0	0	0.053	0.11	0.12	0.12	0.028	0.044



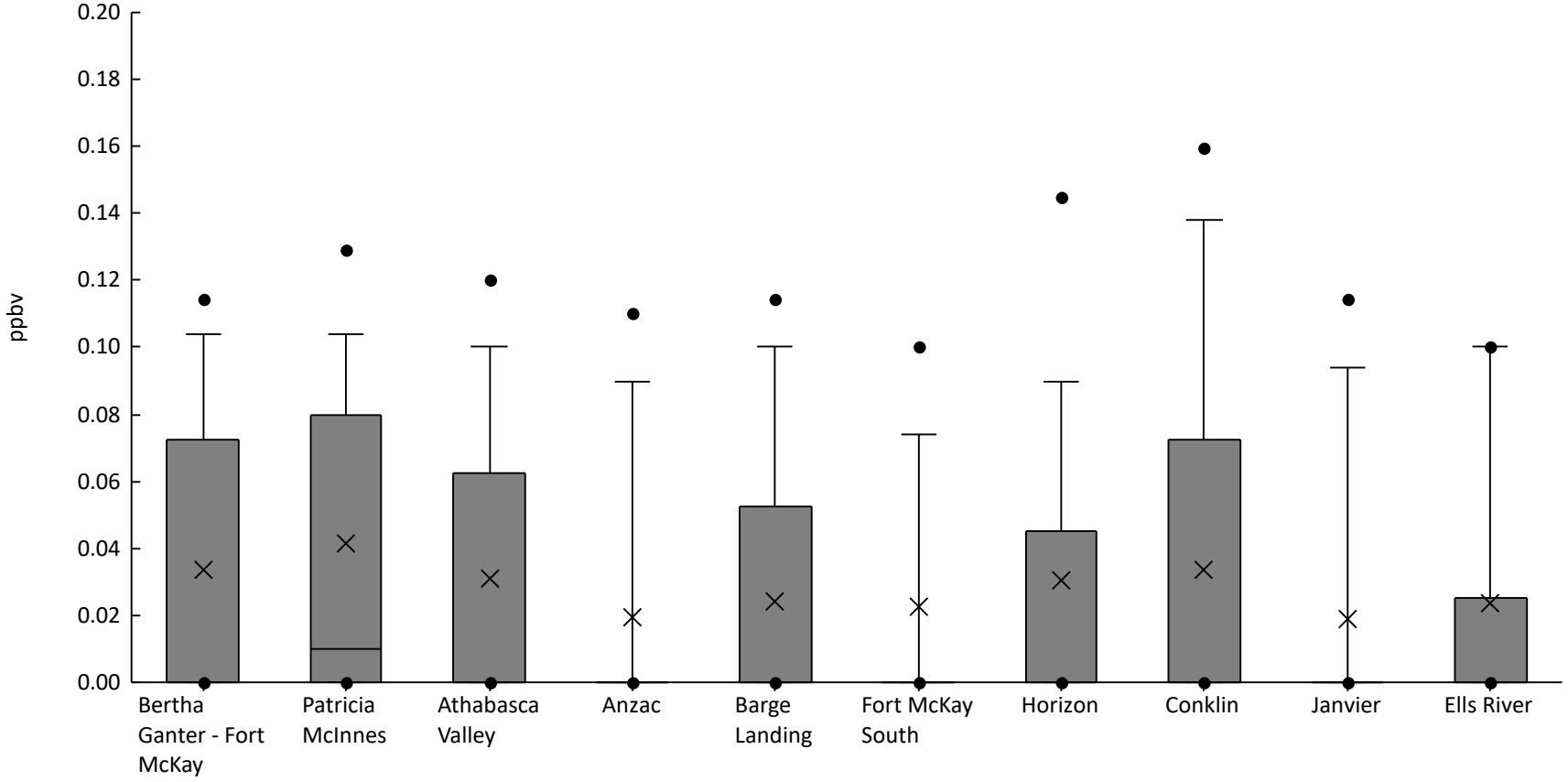
Volatile Organic Compound Canister - 2,4-Dimethylpentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	48%	0	0	0	0	0	0.06	0.084	0.095	0.11	0.029	0.036
AMS06	Patricia McInnes	61	48%	0	0	0	0	0	0.06	0.09	0.11	0.17	0.031	0.04
AMS07	Athabasca Valley	61	41%	0	0	0	0	0	0.05	0.074	0.09	0.21	0.026	0.039
AMS14	Anzac	60	27%	0	0	0	0	0	0.02	0.055	0.075	0.16	0.016	0.031
AMS09	Barge Landing	61	38%	0	0	0	0	0	0.06	0.07	0.08	0.11	0.023	0.033
AMS13	Fort McKay South	61	36%	0	0	0	0	0	0.05	0.08	0.095	0.61	0.031	0.082
AMS15	Horizon	40	50%	0	0	0	0	5E-3	0.075	0.1	0.12	0.19	0.037	0.047
AMS21	Conklin	31	35%	0	0	0	0	0	0.05	0.08	0.09	0.12	0.024	0.037
AMS22	Janvier	61	18%	0	0	0	0	0	0	0.064	0.075	0.15	0.013	0.031
AMS30	Ells River	17	35%	0	0	0	0	0	0.033	0.082	0.09	0.09	0.019	0.031



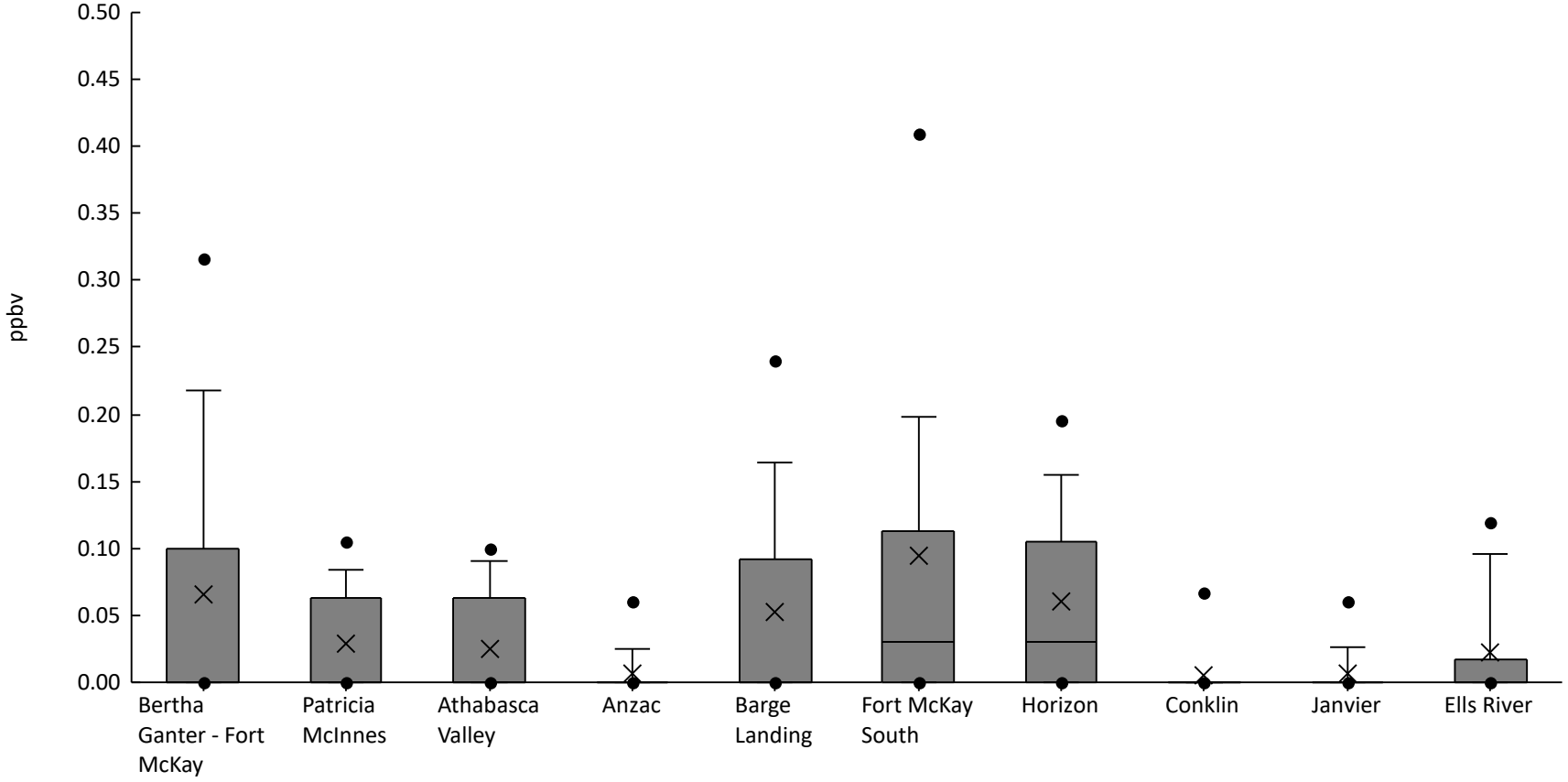
Volatile Organic Compound Canister - 2-Methyl-2-butene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	41%	0	0	0	0	0	0.073	0.1	0.11	0.14	0.033	0.045
AMS06	Patricia McInnes	61	51%	0	0	0	0	0.01	0.08	0.1	0.13	0.16	0.042	0.048
AMS07	Athabasca Valley	61	38%	0	0	0	0	0	0.063	0.1	0.12	0.23	0.031	0.048
AMS14	Anzac	60	20%	0	0	0	0	0	0	0.09	0.11	0.25	0.019	0.046
AMS09	Barge Landing	61	28%	0	0	0	0	0	0.053	0.1	0.11	0.15	0.024	0.042
AMS13	Fort McKay South	61	20%	0	0	0	0	0	0	0.074	0.1	0.63	0.023	0.085
AMS15	Horizon	40	35%	0	0	0	0	0	0.045	0.09	0.15	0.26	0.031	0.056
AMS21	Conklin	31	32%	0	0	0	0	0	0.073	0.14	0.16	0.17	0.034	0.056
AMS22	Janvier	61	20%	0	0	0	0	0	0	0.094	0.11	0.18	0.019	0.043
AMS30	Ells River	17	24%	0	0	0	0	0	0.025	0.1	0.1	0.1	0.024	0.044



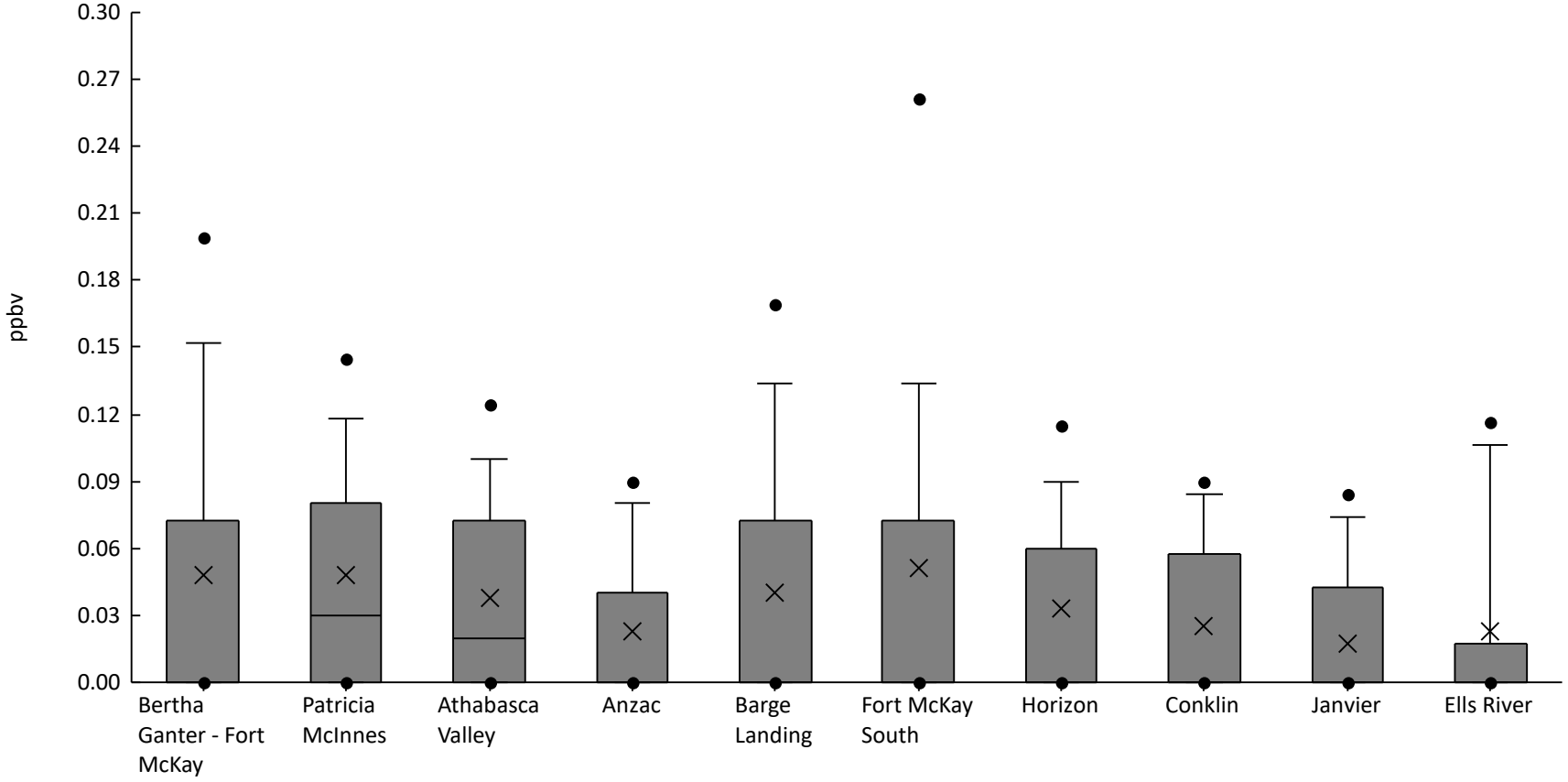
Volatile Organic Compound Canister - 2-Methylheptane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	43%	0	0	0	0	0	0.1	0.22	0.32	0.45	0.066	0.11
AMS06	Patricia McInnes	61	38%	0	0	0	0	0	0.063	0.084	0.1	0.2	0.029	0.044
AMS07	Athabasca Valley	61	34%	0	0	0	0	0	0.063	0.09	0.1	0.14	0.025	0.039
AMS14	Anzac	60	13%	0	0	0	0	0	0	0.025	0.06	0.08	6.5E-3	0.019
AMS09	Barge Landing	61	39%	0	0	0	0	0	0.093	0.16	0.24	0.34	0.053	0.082
AMS13	Fort McKay South	61	52%	0	0	0	0	0.03	0.11	0.2	0.41	1.1	0.095	0.18
AMS15	Horizon	40	52%	0	0	0	0	0.03	0.11	0.16	0.2	0.31	0.06	0.074
AMS21	Conklin	31	6%	0	0	0	0	0	0	0	0.067	0.1	5.5E-3	0.022
AMS22	Janvier	61	11%	0	0	0	0	0	0	0.026	0.06	0.09	6.2E-3	0.019
AMS30	Ells River	17	24%	0	0	0	0	0	0.018	0.096	0.12	0.13	0.022	0.043



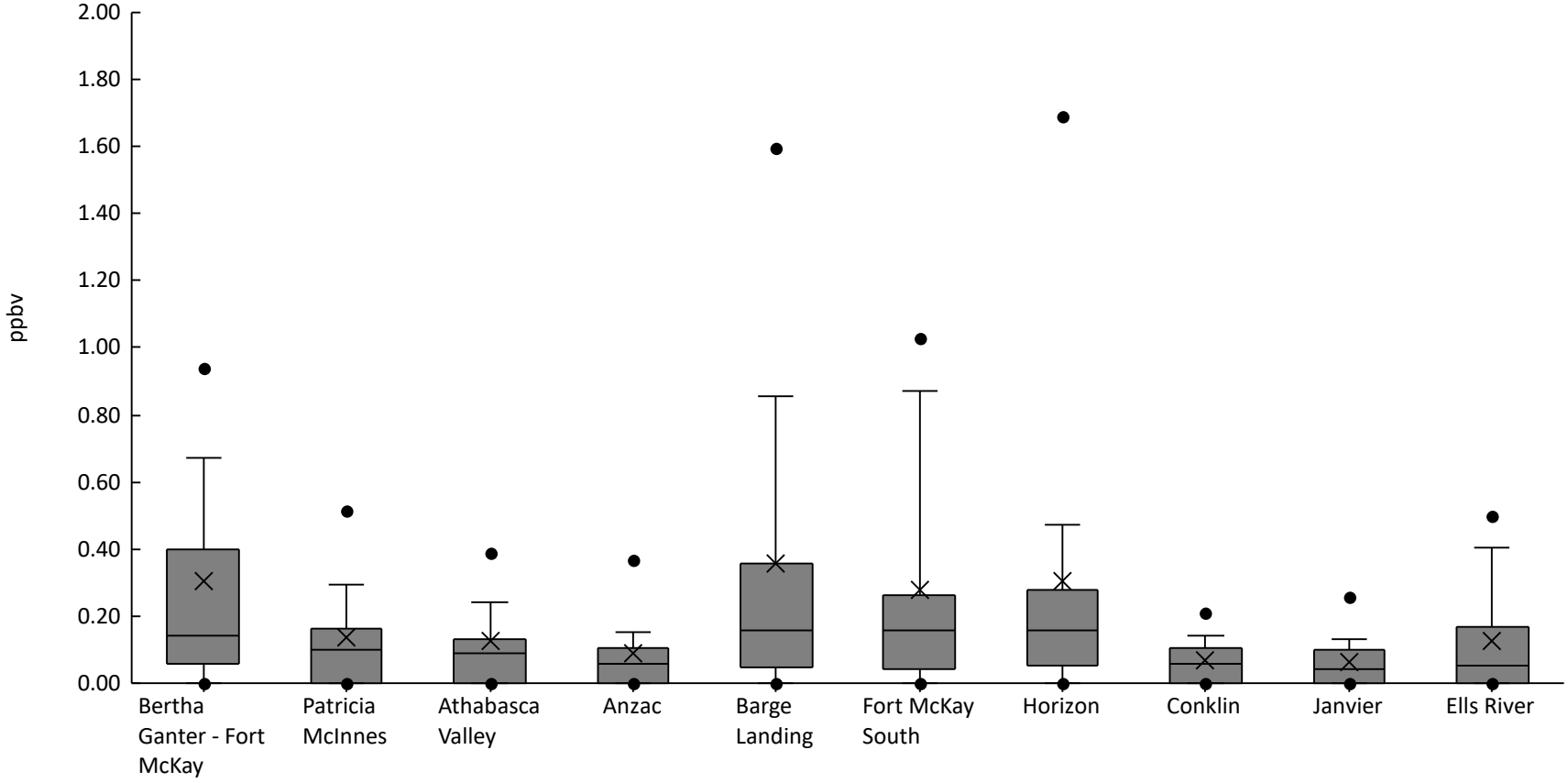
Volatile Organic Compound Canister - 2-Methylhexane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	49%	0	0	0	0	0	0.073	0.15	0.2	0.26	0.048	0.067
AMS06	Patricia McInnes	61	61%	0	0	0	0	0.03	0.08	0.12	0.14	0.3	0.048	0.058
AMS07	Athabasca Valley	61	52%	0	0	0	0	0.02	0.073	0.1	0.12	0.2	0.038	0.047
AMS14	Anzac	60	38%	0	0	0	0	0	0.04	0.08	0.09	0.16	0.023	0.037
AMS09	Barge Landing	61	39%	0	0	0	0	0	0.073	0.13	0.17	0.21	0.04	0.06
AMS13	Fort McKay South	61	49%	0	0	0	0	0	0.073	0.13	0.26	0.37	0.051	0.083
AMS15	Horizon	40	48%	0	0	0	0	0	0.06	0.09	0.12	0.14	0.033	0.041
AMS21	Conklin	31	39%	0	0	0	0	0	0.058	0.084	0.09	0.1	0.025	0.035
AMS22	Janvier	61	30%	0	0	0	0	0	0.043	0.074	0.085	0.1	0.018	0.03
AMS30	Ells River	17	24%	0	0	0	0	0	0.018	0.11	0.12	0.12	0.023	0.044



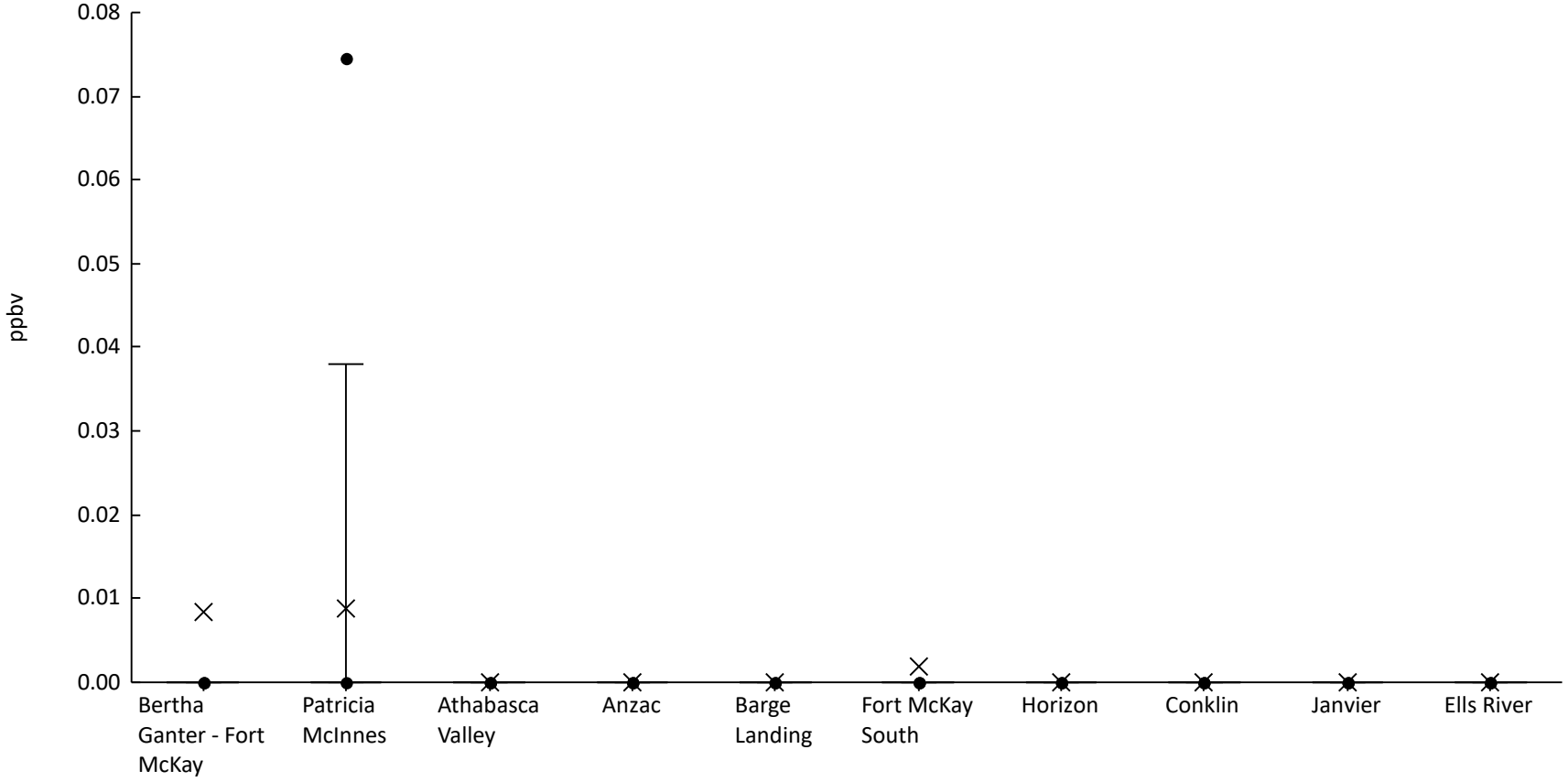
Volatile Organic Compound Canister - 2-Methylpentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	84%	0	0	0	0.06	0.14	0.4	0.67	0.94	3.4	0.31	0.5
AMS06	Patricia McInnes	61	72%	0	0	0	0	0.1	0.17	0.29	0.51	1.2	0.14	0.19
AMS07	Athabasca Valley	61	72%	0	0	0	0	0.09	0.13	0.24	0.39	1.5	0.13	0.22
AMS14	Anzac	60	68%	0	0	0	0	0.06	0.11	0.15	0.37	0.93	0.09	0.15
AMS09	Barge Landing	61	80%	0	0	0	0.048	0.16	0.36	0.86	1.6	4.1	0.36	0.64
AMS13	Fort McKay South	61	80%	0	0	0	0.04	0.16	0.26	0.87	1	2.4	0.28	0.42
AMS15	Horizon	40	80%	0	0	0	0.055	0.16	0.28	0.47	1.7	2.8	0.31	0.6
AMS21	Conklin	31	65%	0	0	0	0	0.06	0.11	0.14	0.21	0.28	0.066	0.069
AMS22	Janvier	61	59%	0	0	0	0	0.04	0.1	0.13	0.26	0.39	0.063	0.082
AMS30	Ells River	17	65%	0	0	0	0	0.05	0.17	0.4	0.5	0.55	0.12	0.17



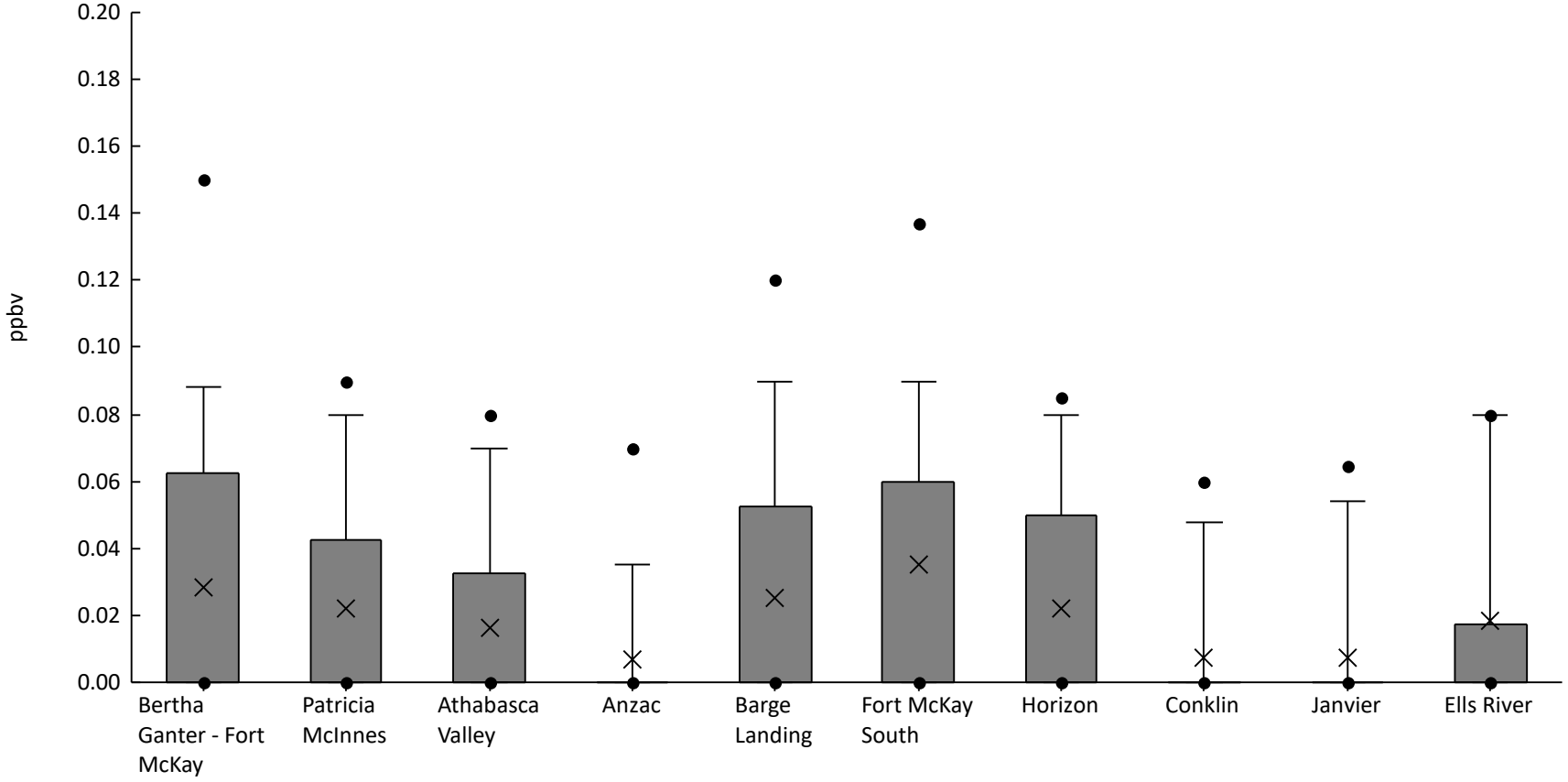
Volatile Organic Compound Canister - 3-Methyl-1-butene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	2%	0	0	0	0	0	0	0	0	0.51	8.4E-3	0.065
AMS06	Patricia McInnes	61	11%	0	0	0	0	0	0	0.038	0.075	0.16	8.9E-3	0.028
AMS07	Athabasca Valley	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS13	Fort McKay South	61	2%	0	0	0	0	0	0	0	0	0.11	1.8E-3	0.014
AMS15	Horizon	40	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



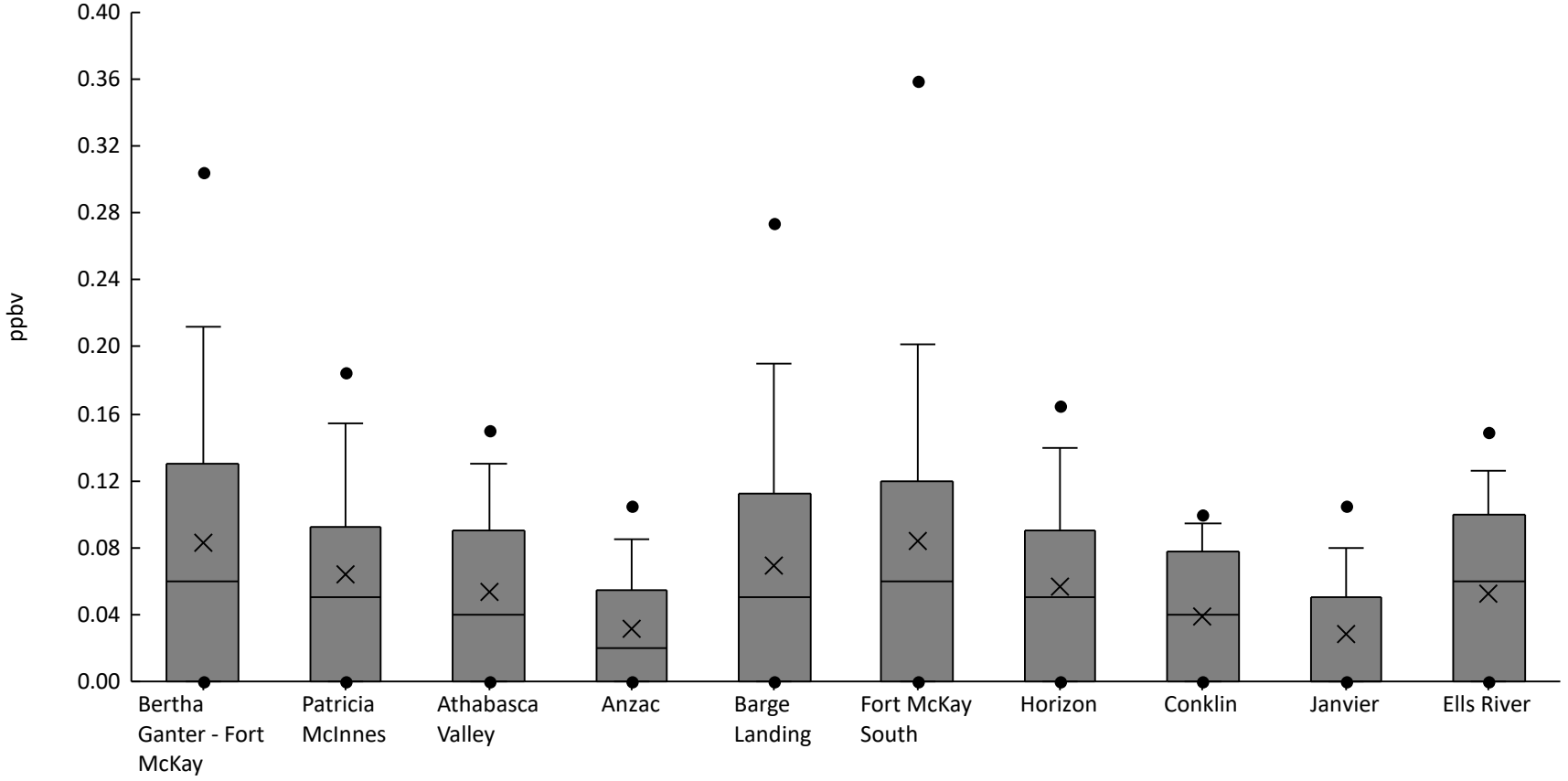
Volatile Organic Compound Canister - 3-Methylheptane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	31%	0	0	0	0	0	0.063	0.088	0.15	0.18	0.029	0.048
AMS06	Patricia McInnes	61	33%	0	0	0	0	0	0.043	0.08	0.09	0.11	0.022	0.034
AMS07	Athabasca Valley	61	26%	0	0	0	0	0	0.033	0.07	0.08	0.08	0.016	0.029
AMS14	Anzac	60	12%	0	0	0	0	0	0	0.035	0.07	0.08	6.8E-3	0.02
AMS09	Barge Landing	61	33%	0	0	0	0	0	0.053	0.09	0.12	0.14	0.025	0.041
AMS13	Fort McKay South	61	38%	0	0	0	0	0	0.06	0.09	0.14	0.33	0.035	0.061
AMS15	Horizon	40	35%	0	0	0	0	0	0.05	0.08	0.085	0.09	0.022	0.032
AMS21	Conklin	31	13%	0	0	0	0	0	0	0.048	0.06	0.06	7.1E-3	0.019
AMS22	Janvier	61	11%	0	0	0	0	0	0	0.054	0.064	0.08	7.5E-3	0.021
AMS30	Ells River	17	24%	0	0	0	0	0	0.018	0.08	0.08	0.08	0.018	0.034



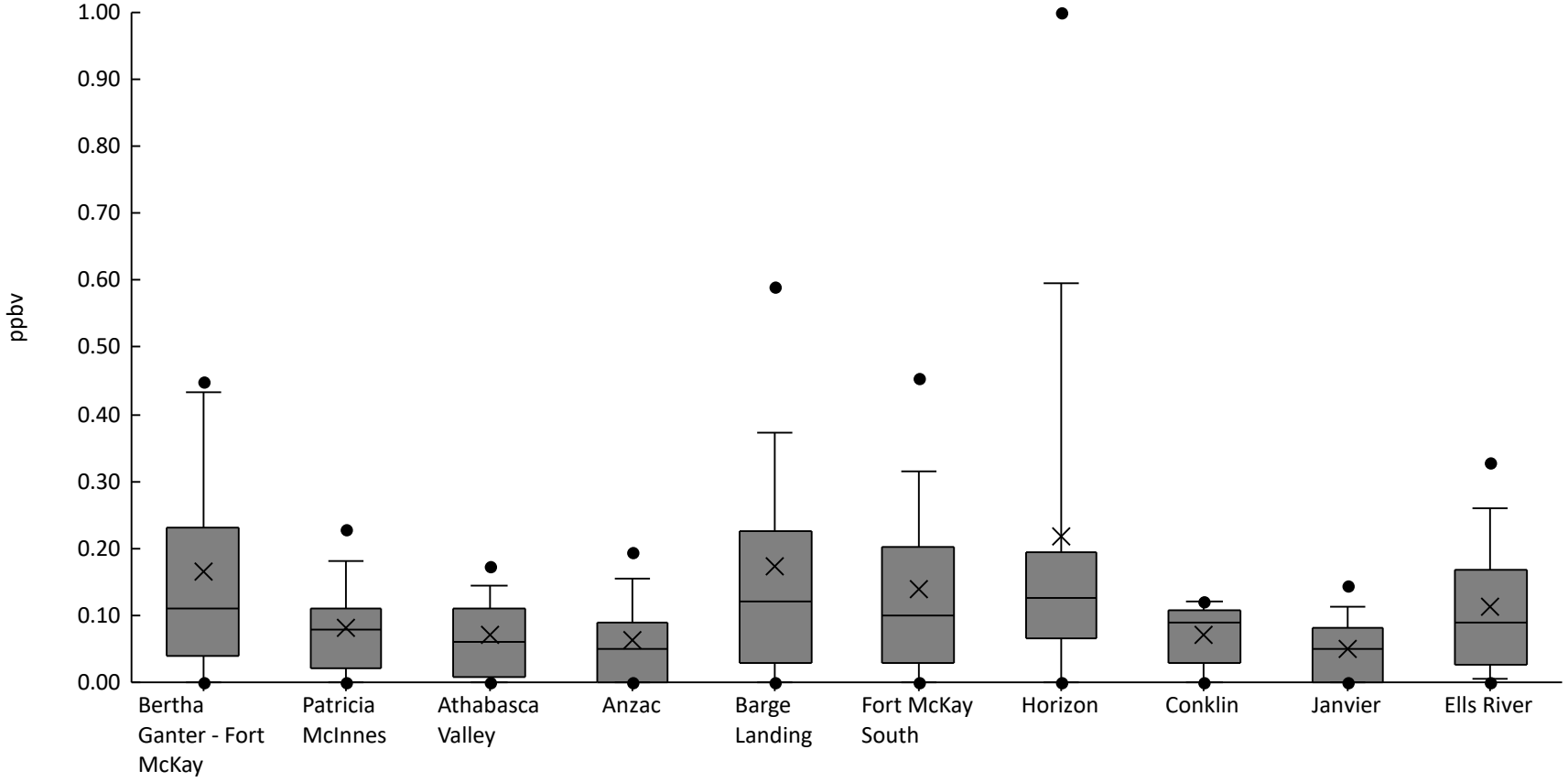
Volatile Organic Compound Canister - 3-Methylhexane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	67%	0	0	0	0	0.06	0.13	0.21	0.3	0.37	0.083	0.094
AMS06	Patricia McInnes	61	67%	0	0	0	0	0.05	0.093	0.15	0.18	0.37	0.064	0.069
AMS07	Athabasca Valley	61	67%	0	0	0	0	0.04	0.09	0.13	0.15	0.23	0.054	0.054
AMS14	Anzac	60	52%	0	0	0	0	0.02	0.055	0.085	0.11	0.19	0.032	0.041
AMS09	Barge Landing	61	61%	0	0	0	0	0.05	0.11	0.19	0.27	0.3	0.069	0.081
AMS13	Fort McKay South	61	67%	0	0	0	0	0.06	0.12	0.2	0.36	0.49	0.084	0.11
AMS15	Horizon	40	62%	0	0	0	0	0.05	0.09	0.14	0.17	0.19	0.056	0.056
AMS21	Conklin	31	55%	0	0	0	0	0.04	0.078	0.094	0.1	0.12	0.039	0.04
AMS22	Janvier	61	46%	0	0	0	0	0	0.05	0.08	0.1	0.14	0.028	0.037
AMS30	Ells River	17	59%	0	0	0	0	0.06	0.1	0.13	0.15	0.16	0.052	0.054



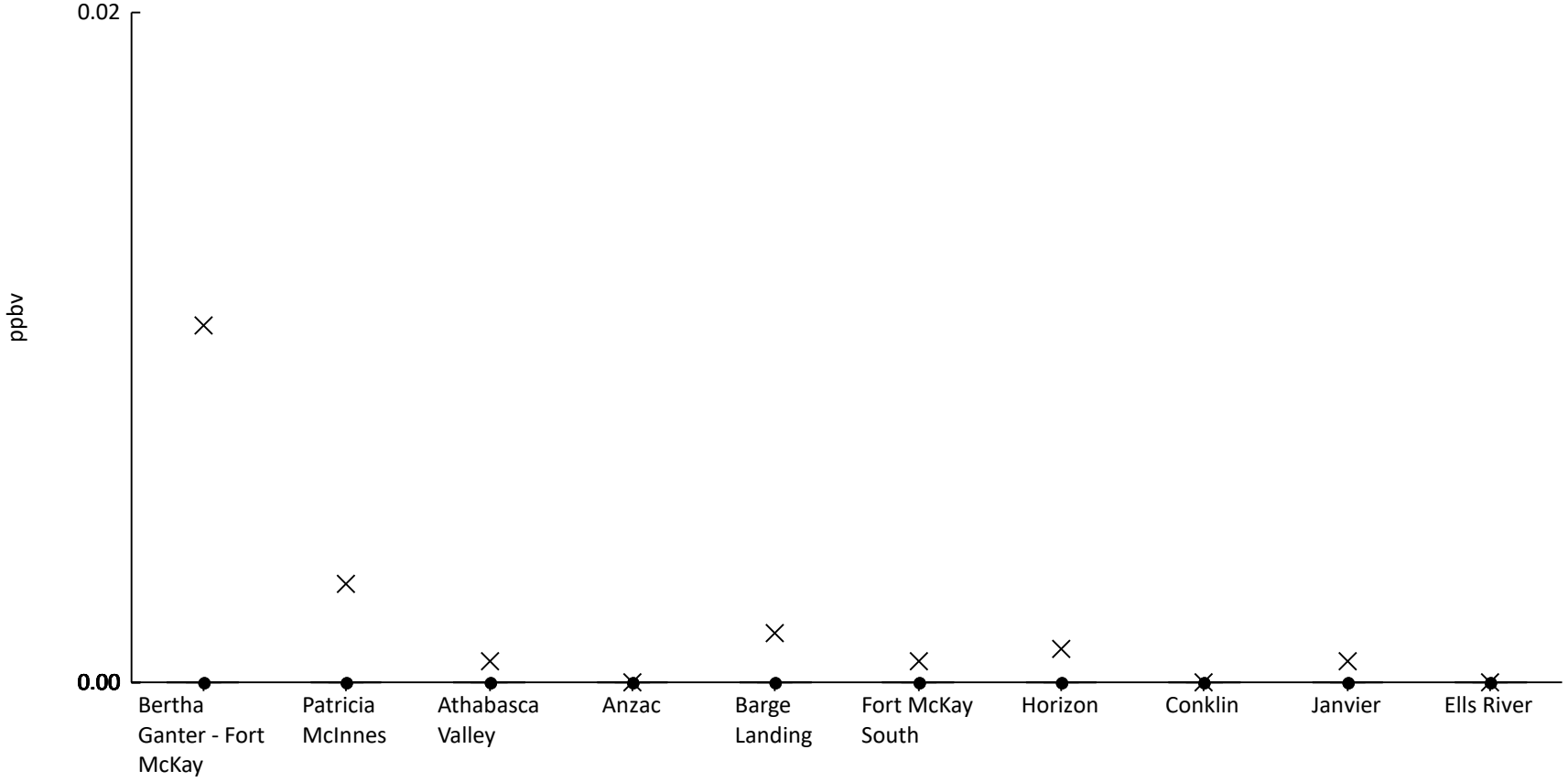
Volatile Organic Compound Canister - 3-Methylpentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	84%	0	0	0	0.04	0.11	0.23	0.43	0.45	1.1	0.16	0.19
AMS06	Patricia McInnes	61	77%	0	0	0	0.02	0.08	0.11	0.18	0.23	0.3	0.082	0.072
AMS07	Athabasca Valley	61	75%	0	0	0	7.5E-3	0.06	0.11	0.14	0.17	0.46	0.072	0.076
AMS14	Anzac	60	70%	0	0	0	0	0.05	0.09	0.16	0.2	0.32	0.064	0.069
AMS09	Barge Landing	61	87%	0	0	0	0.03	0.12	0.23	0.37	0.59	1.3	0.17	0.21
AMS13	Fort McKay South	61	82%	0	0	0	0.03	0.1	0.2	0.31	0.45	0.87	0.14	0.17
AMS15	Horizon	40	88%	0	0	0	0.065	0.13	0.2	0.6	1	1.4	0.22	0.3
AMS21	Conklin	31	84%	0	0	0	0.03	0.09	0.11	0.12	0.12	0.15	0.07	0.045
AMS22	Janvier	61	67%	0	0	0	0	0.05	0.083	0.11	0.14	0.22	0.051	0.051
AMS30	Ells River	17	88%	0	0	4E-3	0.028	0.09	0.17	0.26	0.33	0.36	0.11	0.1



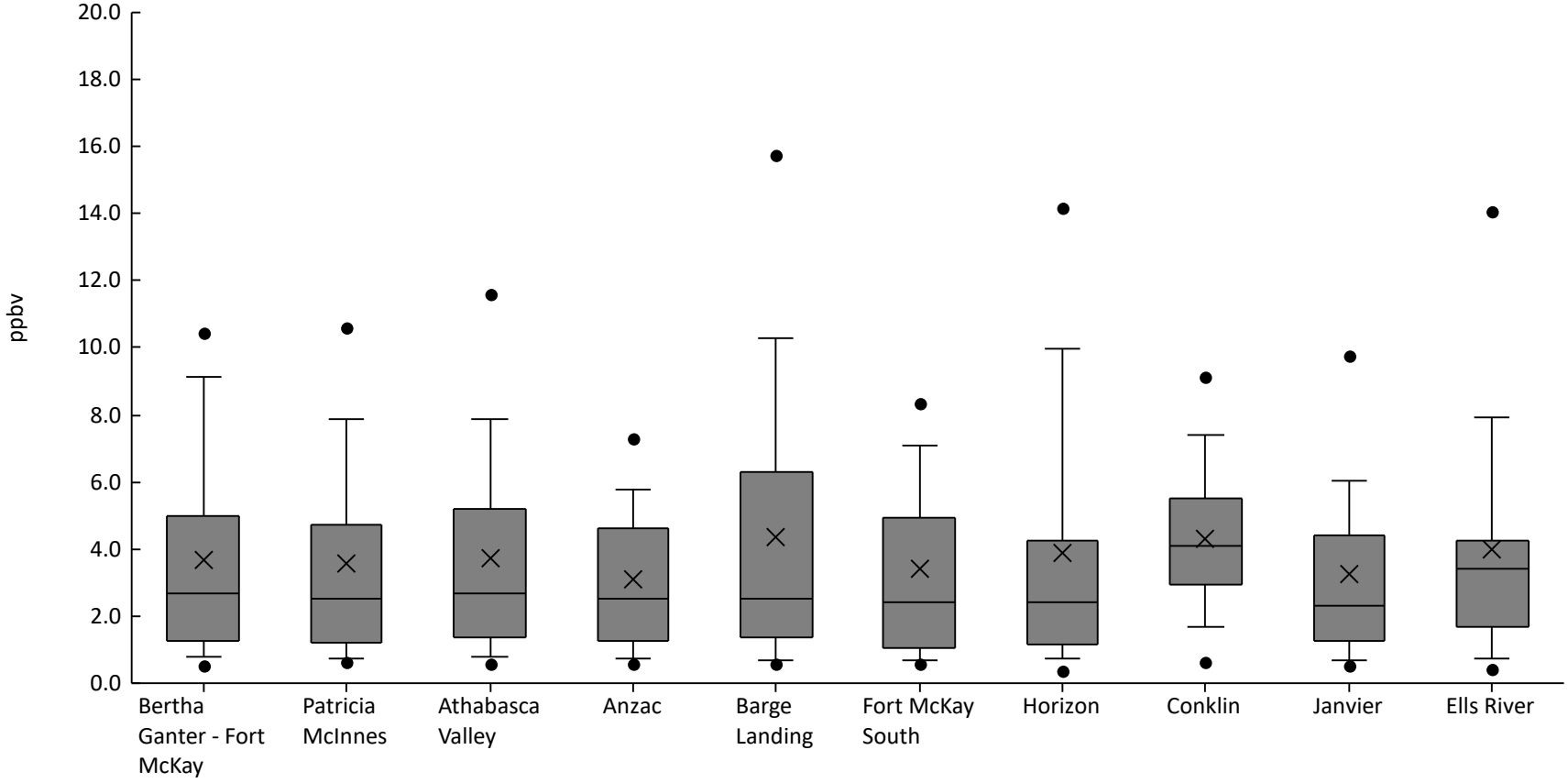
Volatile Organic Compound Canister - 4-Methyl-1-pentene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	3%	0	0	0	0	0	0	0	0	0.6	0.011	0.077
AMS06	Patricia McInnes	61	3%	0	0	0	0	0	0	0	0	0.14	3E-3	0.019
AMS07	Athabasca Valley	61	2%	0	0	0	0	0	0	0	0	0.04	6.6E-4	5.1E-3
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	3%	0	0	0	0	0	0	0	0	0.05	1.5E-3	8.1E-3
AMS13	Fort McKay South	61	2%	0	0	0	0	0	0	0	0	0.04	6.6E-4	5.1E-3
AMS15	Horizon	40	2%	0	0	0	0	0	0	0	0	0.04	1E-3	6.3E-3
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	61	2%	0	0	0	0	0	0	0	0	0.04	6.6E-4	5.1E-3
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



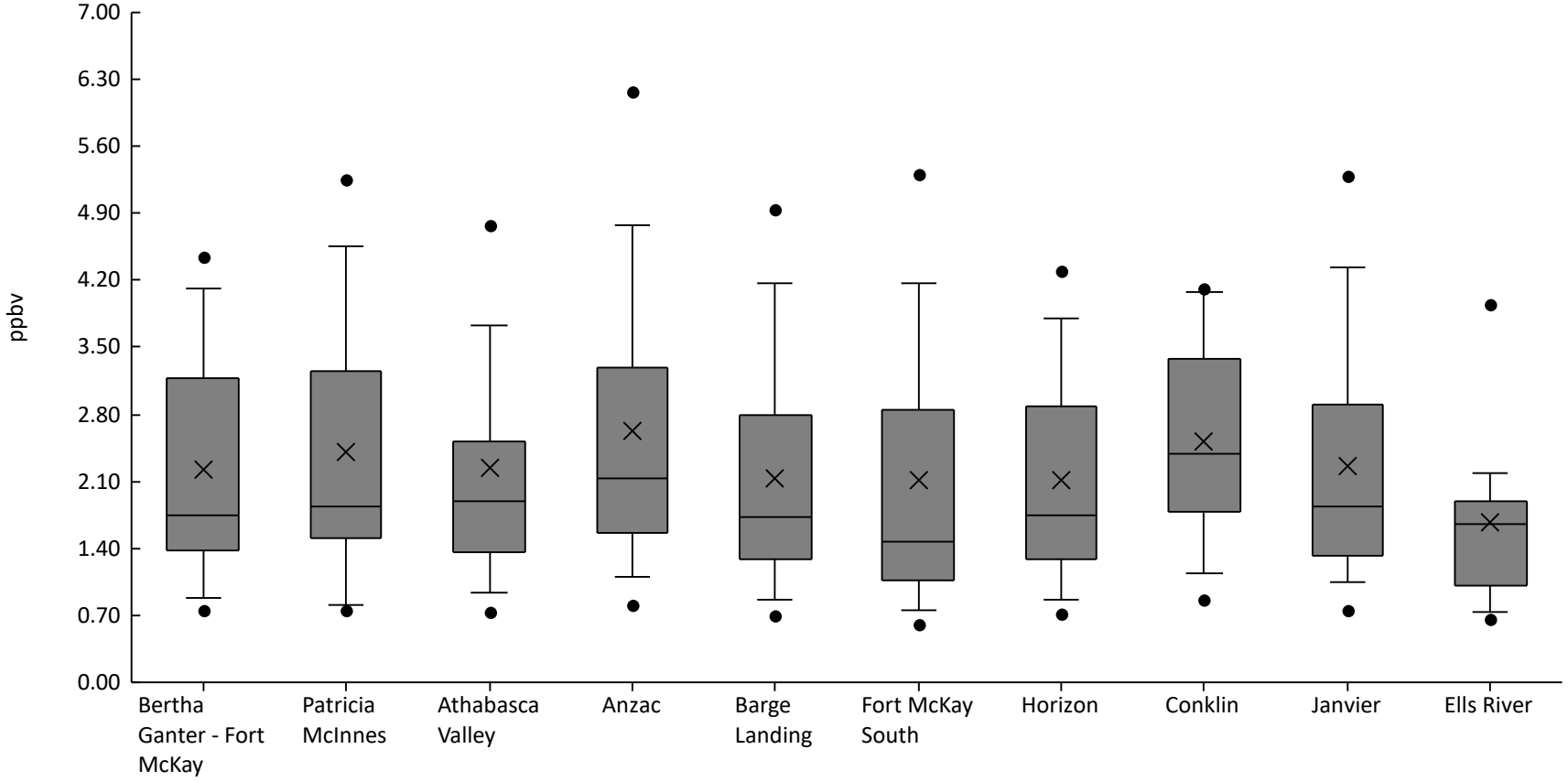
Volatile Organic Compound Canister - Acetaldehyde (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	0.51	0.8	1.3	2.7	5	9.1	10	12	3.7	3.1
AMS06	Patricia McInnes	61	97%	0	0.61	0.76	1.2	2.5	4.7	7.9	11	17	3.5	3.3
AMS07	Athabasca Valley	61	97%	0	0.6	0.8	1.4	2.7	5.2	7.9	12	17	3.7	3.5
AMS14	Anzac	60	97%	0	0.6	0.75	1.3	2.5	4.6	5.8	7.3	11	3.1	2.4
AMS09	Barge Landing	61	97%	0	0.56	0.7	1.4	2.5	6.3	10	16	18	4.4	4.4
AMS13	Fort McKay South	61	97%	0	0.56	0.7	1.1	2.4	4.9	7.1	8.4	23	3.4	3.4
AMS15	Horizon	40	95%	0	0.35	0.75	1.2	2.4	4.3	10	14	25	3.9	4.9
AMS21	Conklin	31	100%	0.5	0.65	1.7	3	4.1	5.5	7.4	9.1	9.9	4.3	2.2
AMS22	Janvier	61	97%	0	0.5	0.7	1.3	2.3	4.4	6	9.8	15	3.2	3
AMS30	Ells River	17	100%	0.4	0.44	0.72	1.7	3.4	4.3	7.9	14	17	4	3.9



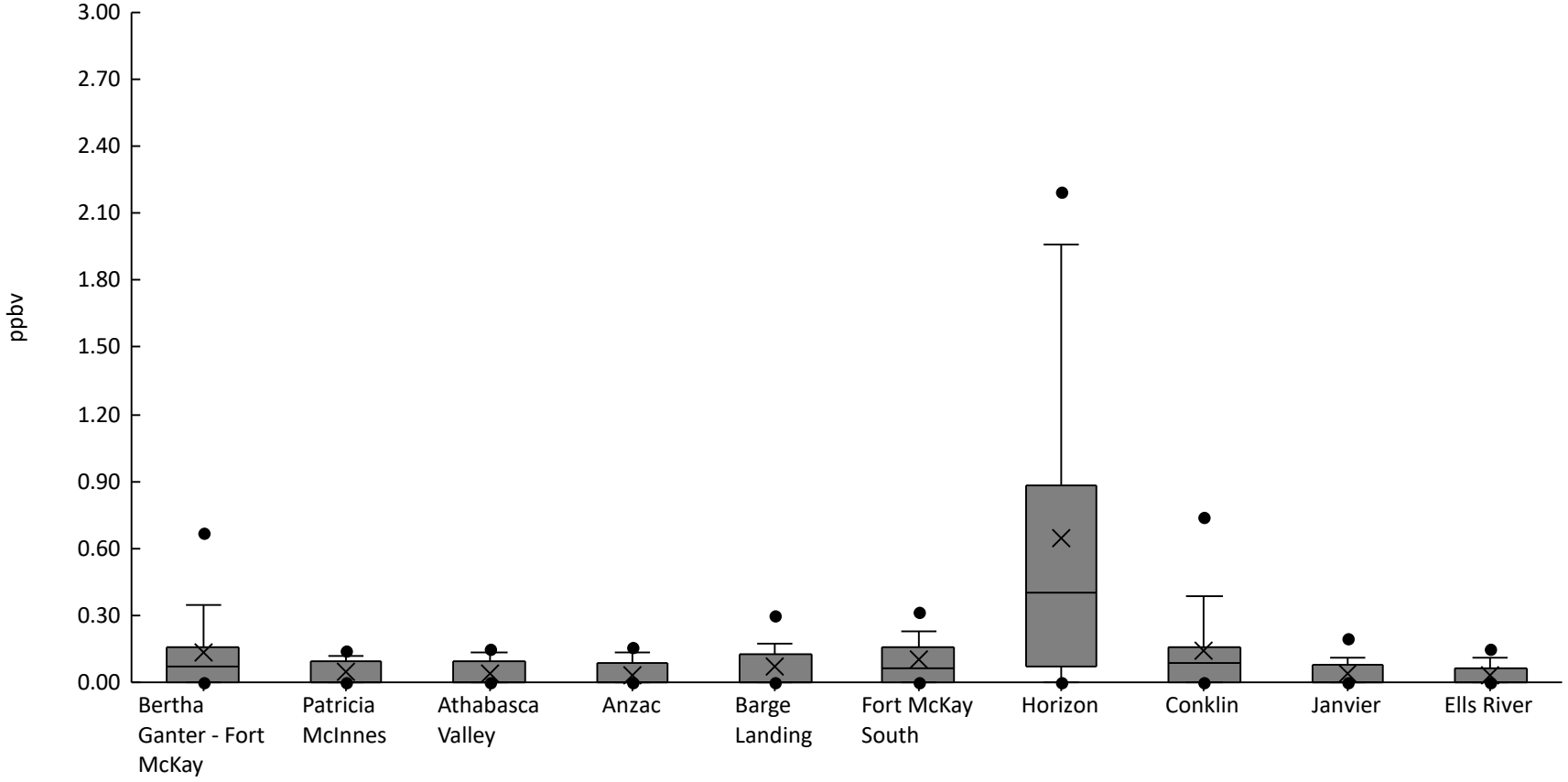
Volatile Organic Compound Canister - Acetone (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.54	0.76	0.89	1.4	1.8	3.2	4.1	4.4	6.9	2.2	1.3
AMS06	Patricia McInnes	61	100%	0.61	0.75	0.81	1.5	1.8	3.2	4.5	5.3	6.9	2.4	1.5
AMS07	Athabasca Valley	61	100%	0.64	0.73	0.94	1.4	1.9	2.5	3.7	4.8	8.9	2.2	1.4
AMS14	Anzac	60	100%	0.73	0.81	1.1	1.6	2.1	3.3	4.8	6.2	8.7	2.6	1.7
AMS09	Barge Landing	61	100%	0.48	0.7	0.86	1.3	1.7	2.8	4.2	4.9	6.3	2.1	1.3
AMS13	Fort McKay South	61	100%	0.46	0.61	0.75	1.1	1.5	2.8	4.2	5.3	7.2	2.1	1.5
AMS15	Horizon	40	100%	0.44	0.71	0.87	1.3	1.7	2.9	3.8	4.3	5.2	2.1	1.2
AMS21	Conklin	31	100%	0.79	0.87	1.1	1.8	2.4	3.4	4.1	4.1	4.5	2.5	1.1
AMS22	Janvier	61	100%	0.63	0.75	1	1.3	1.8	2.9	4.3	5.3	7.2	2.3	1.4
AMS30	Ells River	17	100%	0.63	0.66	0.73	1	1.7	1.9	2.2	3.9	4.9	1.7	0.96



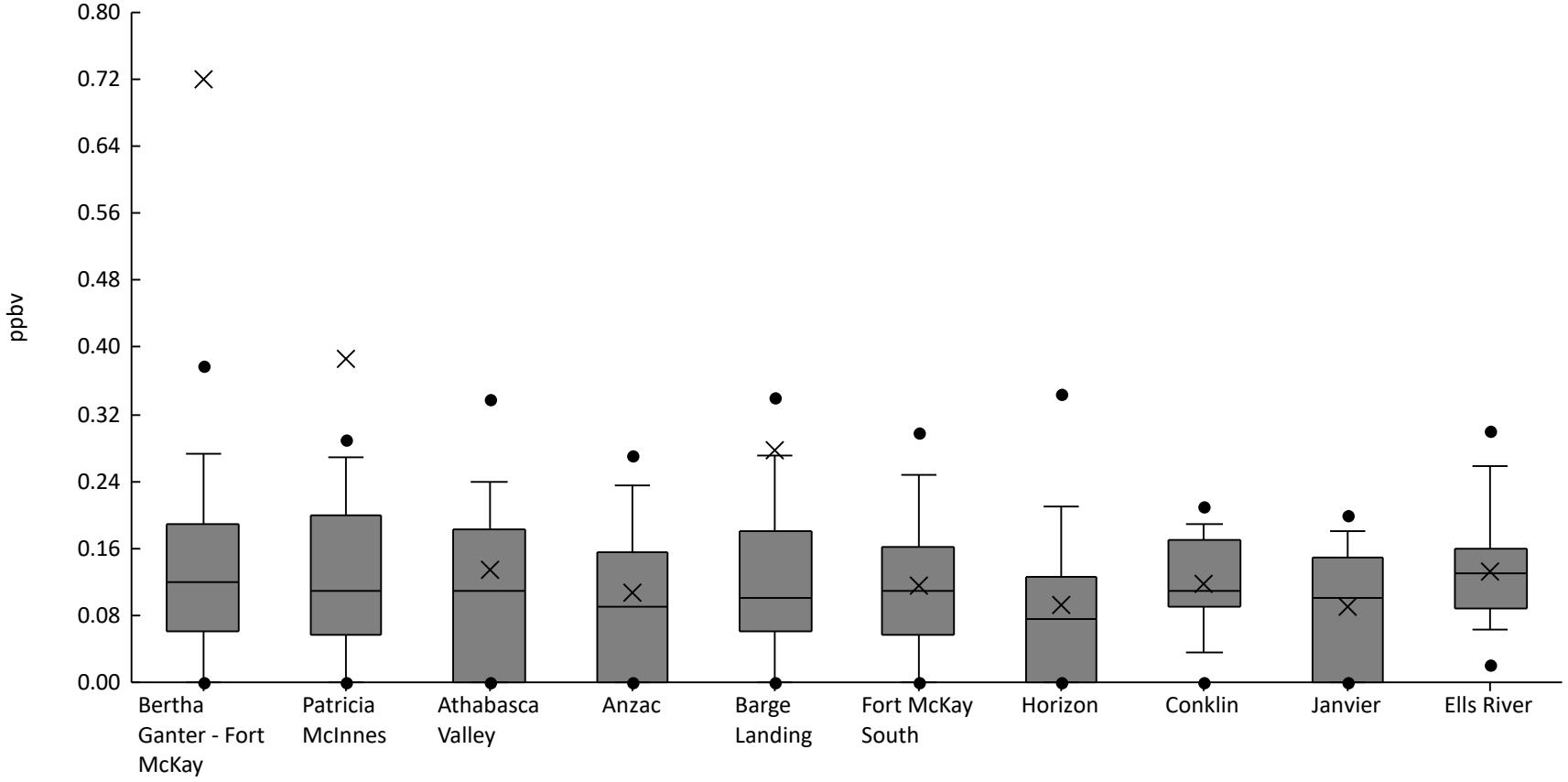
Volatile Organic Compound Canister - alpha-Pinene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	62%	0	0	0	0	0.07	0.16	0.35	0.67	0.91	0.13	0.2
AMS06	Patricia McInnes	61	43%	0	0	0	0	0	0.093	0.12	0.14	0.19	0.044	0.056
AMS07	Athabasca Valley	61	36%	0	0	0	0	0	0.093	0.13	0.15	0.24	0.041	0.061
AMS14	Anzac	60	27%	0	0	0	0	0	0.085	0.13	0.16	0.21	0.033	0.058
AMS09	Barge Landing	61	48%	0	0	0	0	0	0.12	0.17	0.3	0.52	0.072	0.11
AMS13	Fort McKay South	61	61%	0	0	0	0	0.06	0.16	0.23	0.31	0.78	0.1	0.15
AMS15	Horizon	40	80%	0	0	0	0.07	0.4	0.89	2	2.2	3	0.65	0.75
AMS21	Conklin	31	65%	0	0	0	0	0.09	0.16	0.38	0.74	0.82	0.14	0.21
AMS22	Janvier	61	34%	0	0	0	0	0	0.083	0.11	0.2	0.31	0.043	0.072
AMS30	Ells River	17	29%	0	0	0	0	0	0.065	0.11	0.15	0.17	0.031	0.054



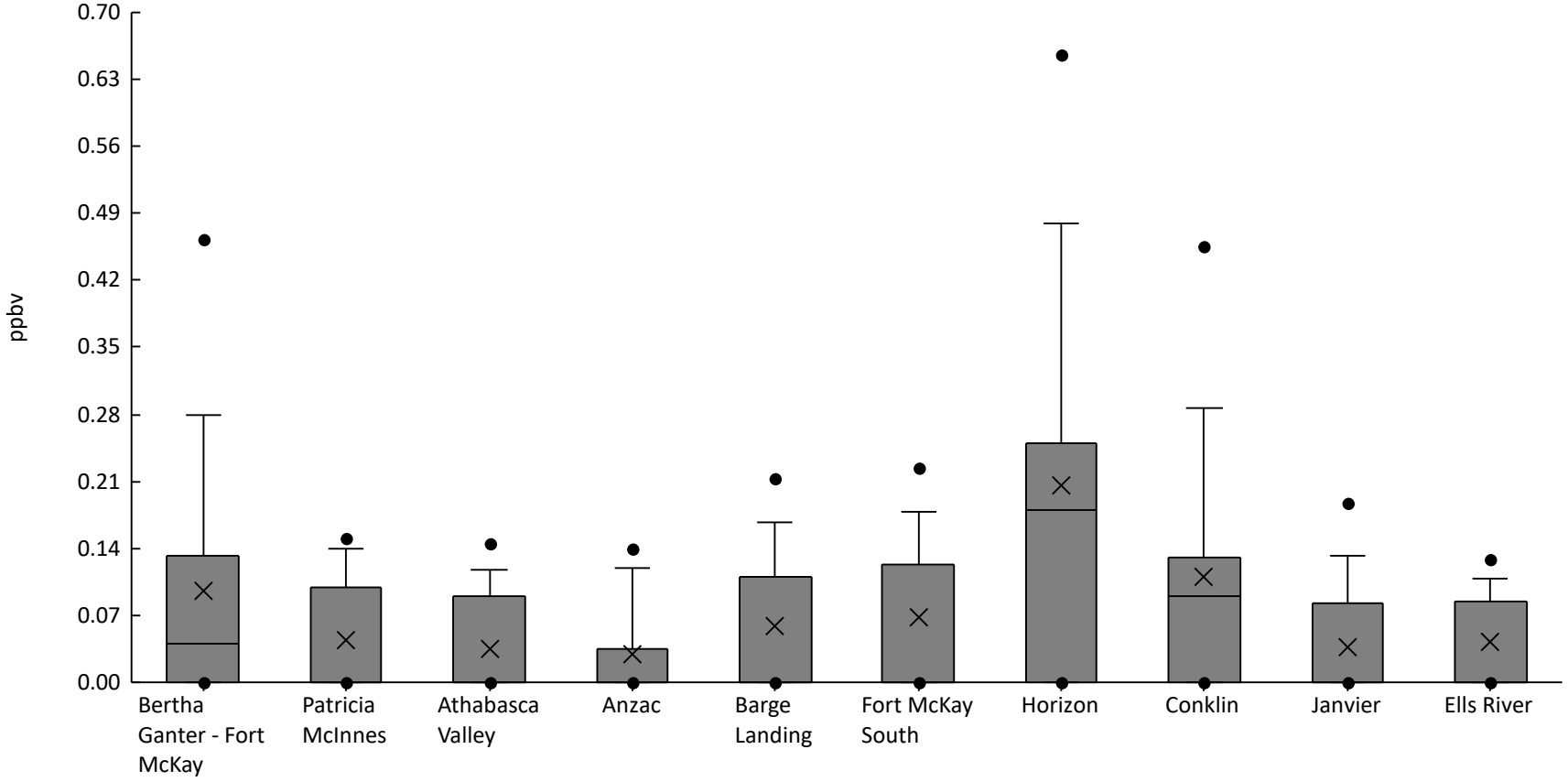
Volatile Organic Compound Canister - Benzene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	79%	0	0	0	0.06	0.12	0.19	0.27	0.38	36	0.72	4.6
AMS06	Patricia McInnes	61	77%	0	0	0	0.058	0.11	0.2	0.27	0.29	17	0.39	2.1
AMS07	Athabasca Valley	61	74%	0	0	0	0	0.11	0.18	0.24	0.34	1.6	0.14	0.21
AMS14	Anzac	60	72%	0	0	0	0	0.09	0.16	0.24	0.27	0.59	0.11	0.11
AMS09	Barge Landing	61	80%	0	0	0	0.06	0.1	0.18	0.27	0.34	9.7	0.28	1.2
AMS13	Fort McKay South	61	79%	0	0	0	0.058	0.11	0.16	0.25	0.3	0.45	0.12	0.097
AMS15	Horizon	40	62%	0	0	0	0	0.075	0.13	0.21	0.35	0.48	0.092	0.11
AMS21	Conklin	31	90%	0	0	0.036	0.09	0.11	0.17	0.19	0.21	0.21	0.12	0.058
AMS22	Janvier	61	72%	0	0	0	0	0.1	0.15	0.18	0.2	0.4	0.091	0.079
AMS30	Ells River	17	94%	0	0.021	0.062	0.088	0.13	0.16	0.26	0.3	0.31	0.13	0.076



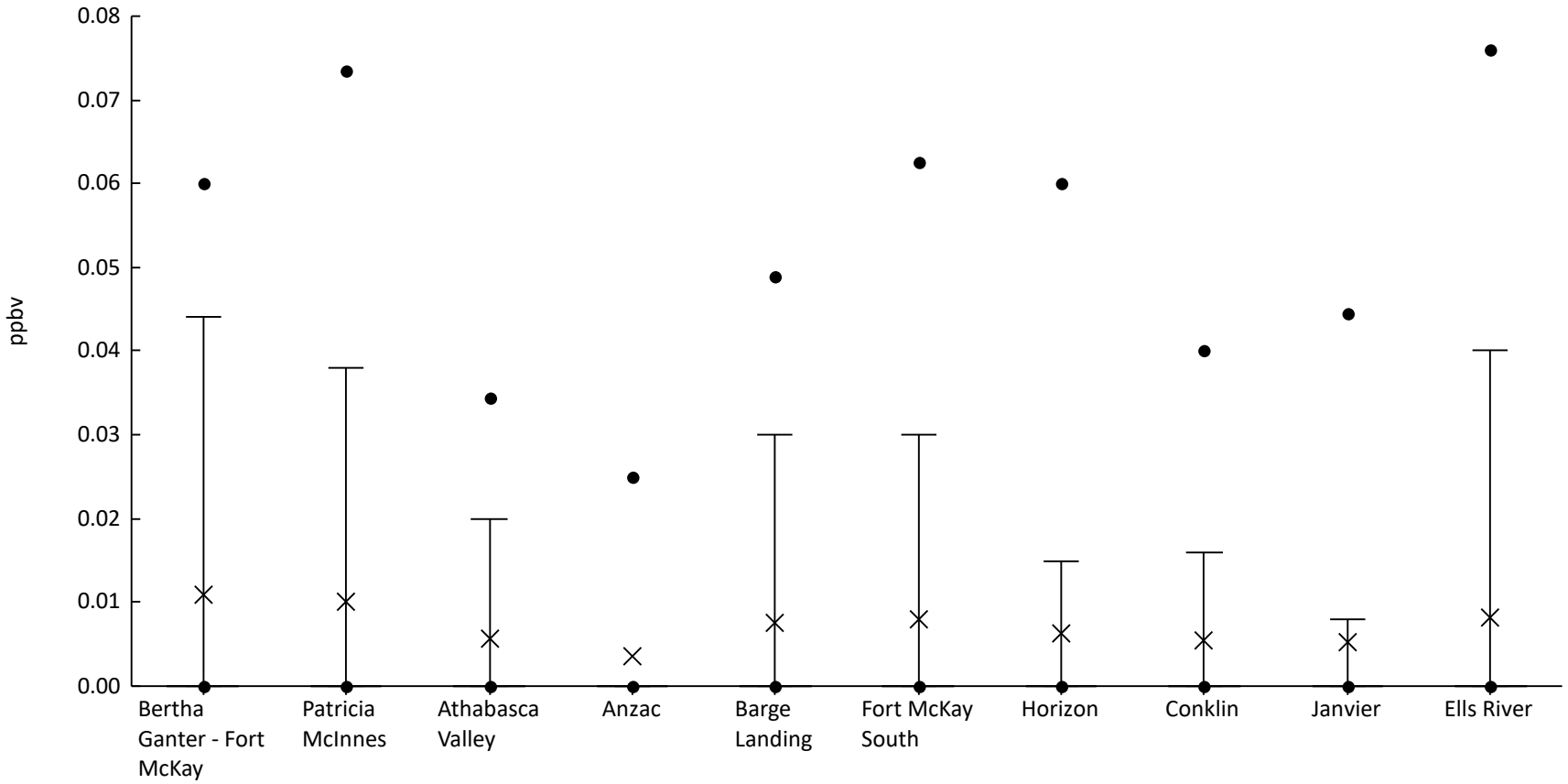
Volatile Organic Compound Canister - beta-Pinene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	54%	0	0	0	0	0.04	0.13	0.28	0.46	0.5	0.096	0.13
AMS06	Patricia McInnes	61	41%	0	0	0	0	0	0.1	0.14	0.15	0.18	0.045	0.059
AMS07	Athabasca Valley	61	31%	0	0	0	0	0	0.09	0.12	0.14	0.17	0.034	0.055
AMS14	Anzac	60	25%	0	0	0	0	0	0.035	0.12	0.14	0.16	0.029	0.052
AMS09	Barge Landing	61	46%	0	0	0	0	0	0.11	0.17	0.21	0.34	0.059	0.082
AMS13	Fort McKay South	61	46%	0	0	0	0	0	0.12	0.18	0.22	0.54	0.068	0.11
AMS15	Horizon	40	70%	0	0	0	0	0.18	0.25	0.48	0.66	1.3	0.21	0.25
AMS21	Conklin	31	68%	0	0	0	0	0.09	0.13	0.29	0.46	0.55	0.11	0.14
AMS22	Janvier	61	30%	0	0	0	0	0	0.083	0.13	0.19	0.25	0.037	0.066
AMS30	Ells River	17	47%	0	0	0	0	0	0.085	0.11	0.13	0.14	0.042	0.05



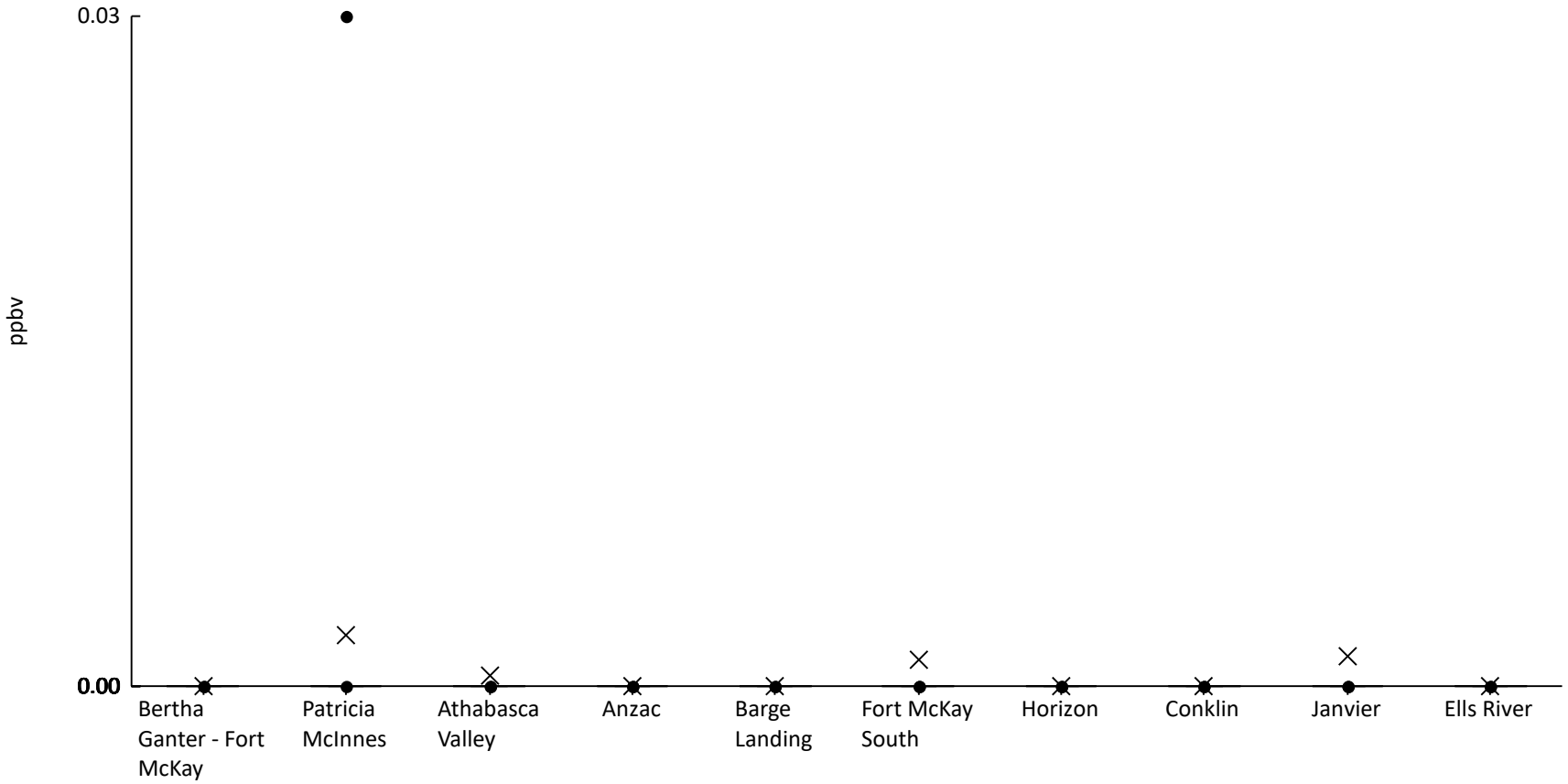
Volatile Organic Compound Canister - cis-2-Butene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	23%	0	0	0	0	0	0	0.044	0.06	0.12	0.011	0.024
AMS06	Patricia McInnes	61	18%	0	0	0	0	0	0	0.038	0.073	0.12	0.01	0.026
AMS07	Athabasca Valley	61	11%	0	0	0	0	0	0	0.02	0.035	0.11	5.6E-3	0.02
AMS14	Anzac	60	7%	0	0	0	0	0	0	0	0.025	0.1	3.7E-3	0.016
AMS09	Barge Landing	61	15%	0	0	0	0	0	0	0.03	0.049	0.13	7.5E-3	0.022
AMS13	Fort McKay South	61	13%	0	0	0	0	0	0	0.03	0.062	0.14	8E-3	0.025
AMS15	Horizon	40	10%	0	0	0	0	0	0	0.015	0.06	0.1	6.3E-3	0.021
AMS21	Conklin	31	10%	0	0	0	0	0	0	0.016	0.04	0.09	5.5E-3	0.019
AMS22	Janvier	61	10%	0	0	0	0	0	0	8E-3	0.045	0.1	5.2E-3	0.019
AMS30	Ells River	17	12%	0	0	0	0	0	0	0.04	0.076	0.09	8.2E-3	0.024



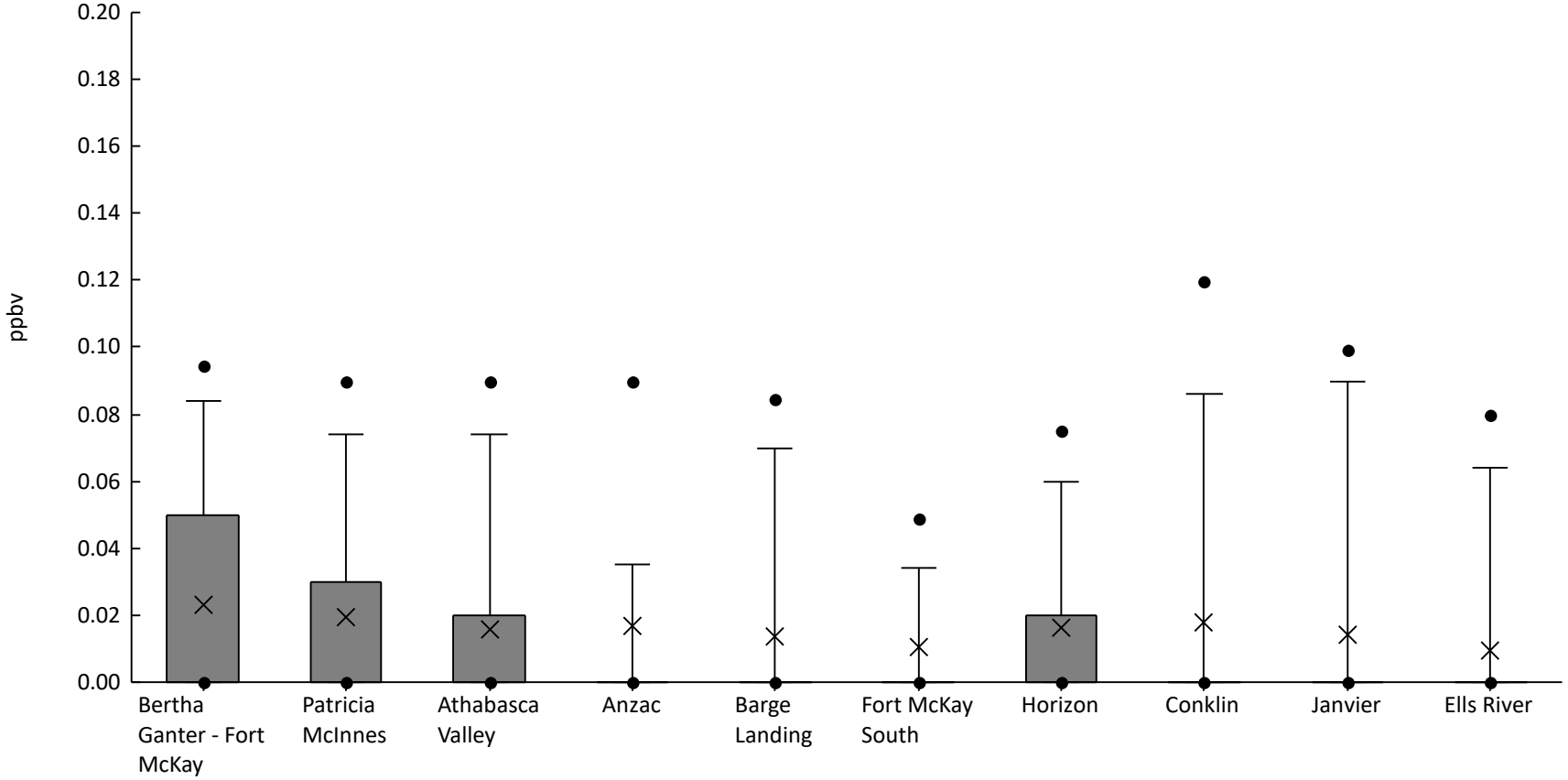
Volatile Organic Compound Canister - cis-2-Hexene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS06	Patricia McInnes	61	7%	0	0	0	0	0	0	0	0.03	0.05	2.3E-3	9E-3
AMS07	Athabasca Valley	61	2%	0	0	0	0	0	0	0	0	0.03	4.9E-4	3.8E-3
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS13	Fort McKay South	61	2%	0	0	0	0	0	0	0	0	0.07	1.1E-3	9E-3
AMS15	Horizon	40	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	61	3%	0	0	0	0	0	0	0	0	0.05	1.3E-3	7.4E-3
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



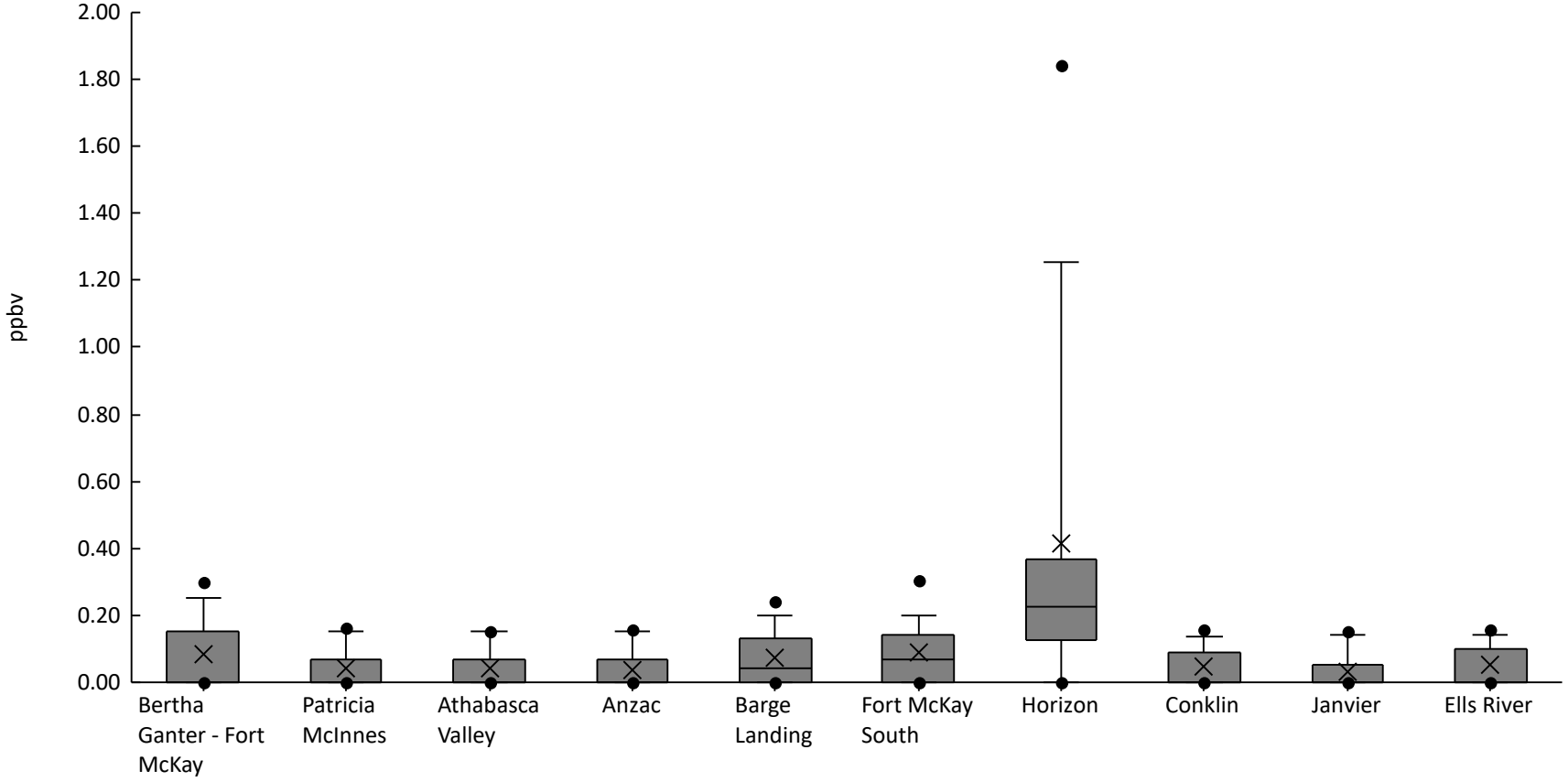
Volatile Organic Compound Canister - cis-2-Pentene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	36%	0	0	0	0	0	0.05	0.084	0.095	0.12	0.023	0.035
AMS06	Patricia McInnes	61	31%	0	0	0	0	0	0.03	0.074	0.09	0.13	0.019	0.033
AMS07	Athabasca Valley	61	26%	0	0	0	0	0	0.02	0.074	0.09	0.1	0.016	0.03
AMS14	Anzac	60	17%	0	0	0	0	0	0	0.035	0.09	0.5	0.017	0.068
AMS09	Barge Landing	61	23%	0	0	0	0	0	0	0.07	0.085	0.13	0.014	0.03
AMS13	Fort McKay South	61	13%	0	0	0	0	0	0	0.034	0.049	0.29	0.01	0.041
AMS15	Horizon	40	30%	0	0	0	0	0	0.02	0.06	0.075	0.18	0.016	0.035
AMS21	Conklin	31	23%	0	0	0	0	0	0	0.086	0.12	0.14	0.018	0.039
AMS22	Janvier	61	16%	0	0	0	0	0	0	0.09	0.099	0.13	0.014	0.035
AMS30	Ells River	17	12%	0	0	0	0	0	0	0.064	0.08	0.08	9.4E-3	0.027



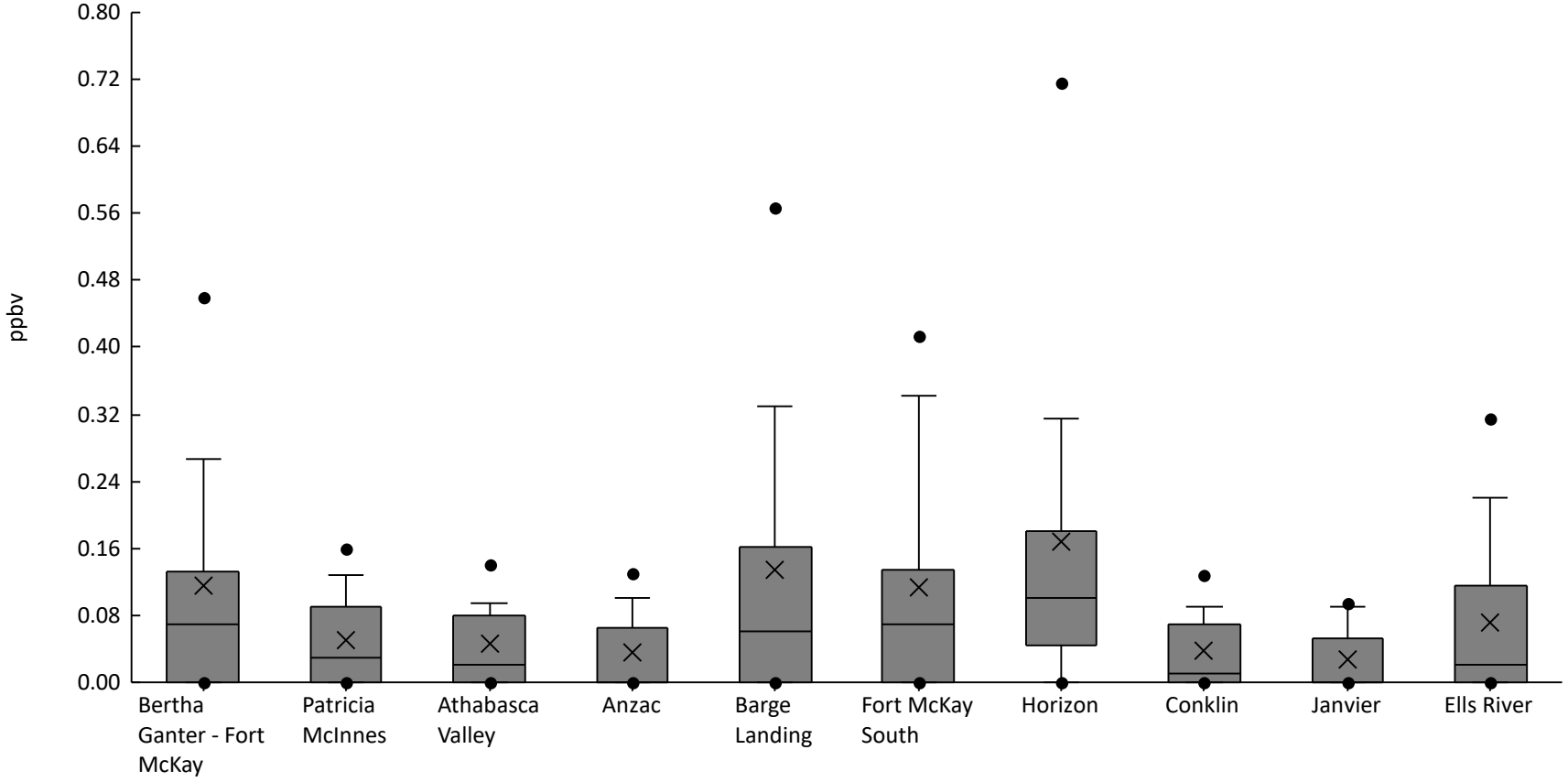
Volatile Organic Compound Canister - Cyclohexane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	49%	0	0	0	0	0	0.15	0.25	0.3	0.64	0.084	0.12
AMS06	Patricia McInnes	61	39%	0	0	0	0	0	0.07	0.15	0.16	0.21	0.041	0.062
AMS07	Athabasca Valley	61	41%	0	0	0	0	0	0.07	0.15	0.15	0.19	0.04	0.059
AMS14	Anzac	60	38%	0	0	0	0	0	0.07	0.15	0.16	0.2	0.039	0.059
AMS09	Barge Landing	61	51%	0	0	0	0	0.04	0.13	0.2	0.24	0.4	0.073	0.091
AMS13	Fort McKay South	61	57%	0	0	0	0	0.07	0.14	0.2	0.31	0.62	0.088	0.11
AMS15	Horizon	40	88%	0	0	0	0.13	0.23	0.37	1.3	1.8	3.1	0.42	0.62
AMS21	Conklin	31	48%	0	0	0	0	0	0.088	0.14	0.16	0.19	0.048	0.058
AMS22	Janvier	61	30%	0	0	0	0	0	0.05	0.14	0.15	0.19	0.03	0.055
AMS30	Ells River	17	47%	0	0	0	0	0	0.1	0.14	0.16	0.16	0.052	0.06



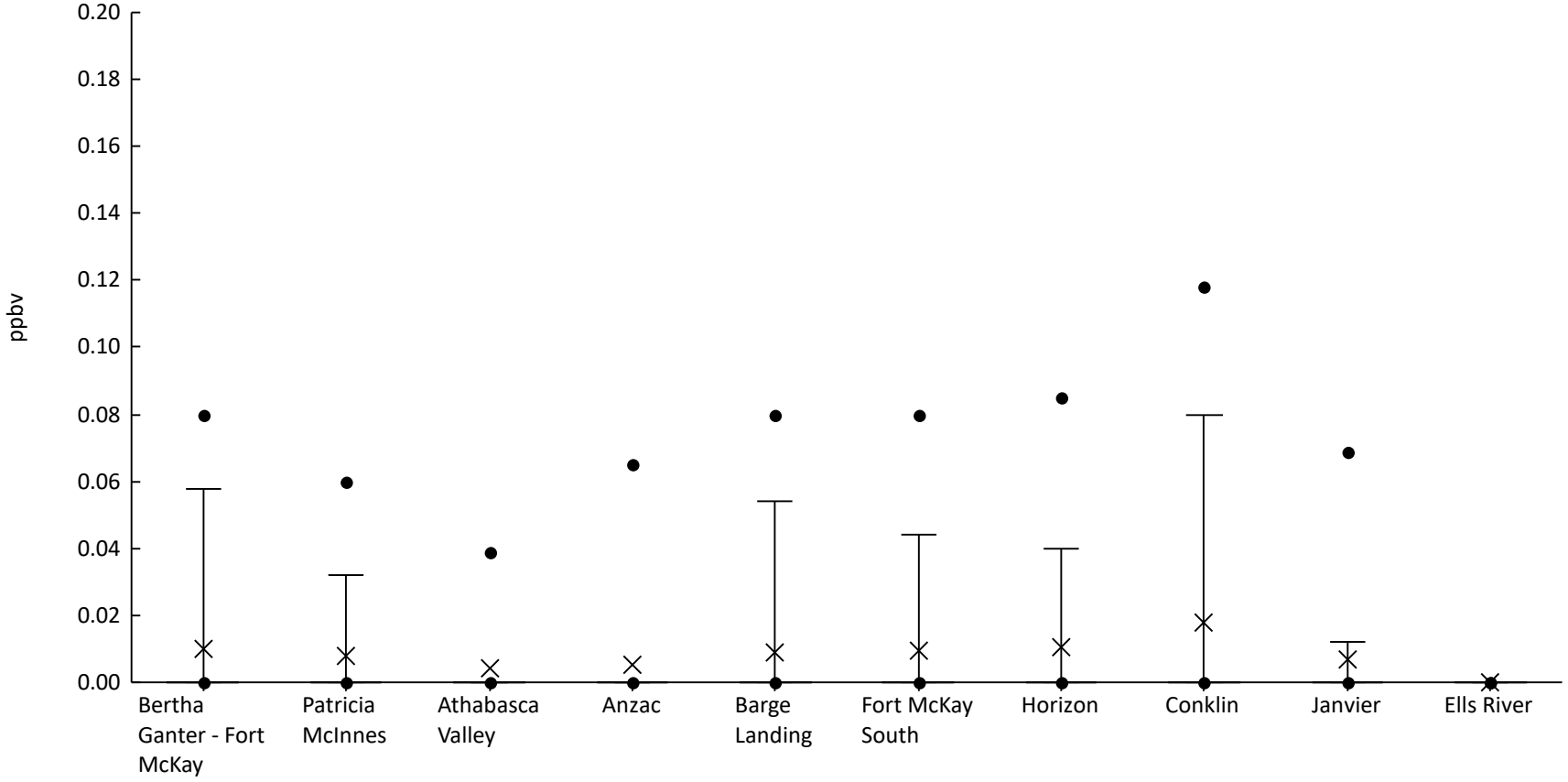
Volatile Organic Compound Canister - Cyclopentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	70%	0	0	0	0	0.07	0.13	0.27	0.46	1.1	0.12	0.17
AMS06	Patricia McInnes	61	57%	0	0	0	0	0.03	0.09	0.13	0.16	0.37	0.05	0.066
AMS07	Athabasca Valley	61	54%	0	0	0	0	0.02	0.08	0.094	0.14	0.41	0.047	0.074
AMS14	Anzac	60	48%	0	0	0	0	0	0.065	0.1	0.13	0.31	0.037	0.057
AMS09	Barge Landing	61	70%	0	0	0	0	0.06	0.16	0.33	0.57	1.3	0.13	0.21
AMS13	Fort McKay South	61	74%	0	0	0	0	0.07	0.14	0.34	0.41	0.86	0.11	0.16
AMS15	Horizon	40	85%	0	0	0	0.045	0.1	0.18	0.32	0.72	1.3	0.17	0.25
AMS21	Conklin	31	55%	0	0	0	0	0.01	0.07	0.09	0.13	0.14	0.038	0.044
AMS22	Janvier	61	41%	0	0	0	0	0	0.053	0.09	0.095	0.15	0.028	0.04
AMS30	Ells River	17	53%	0	0	0	0	0.02	0.12	0.22	0.31	0.36	0.071	0.1



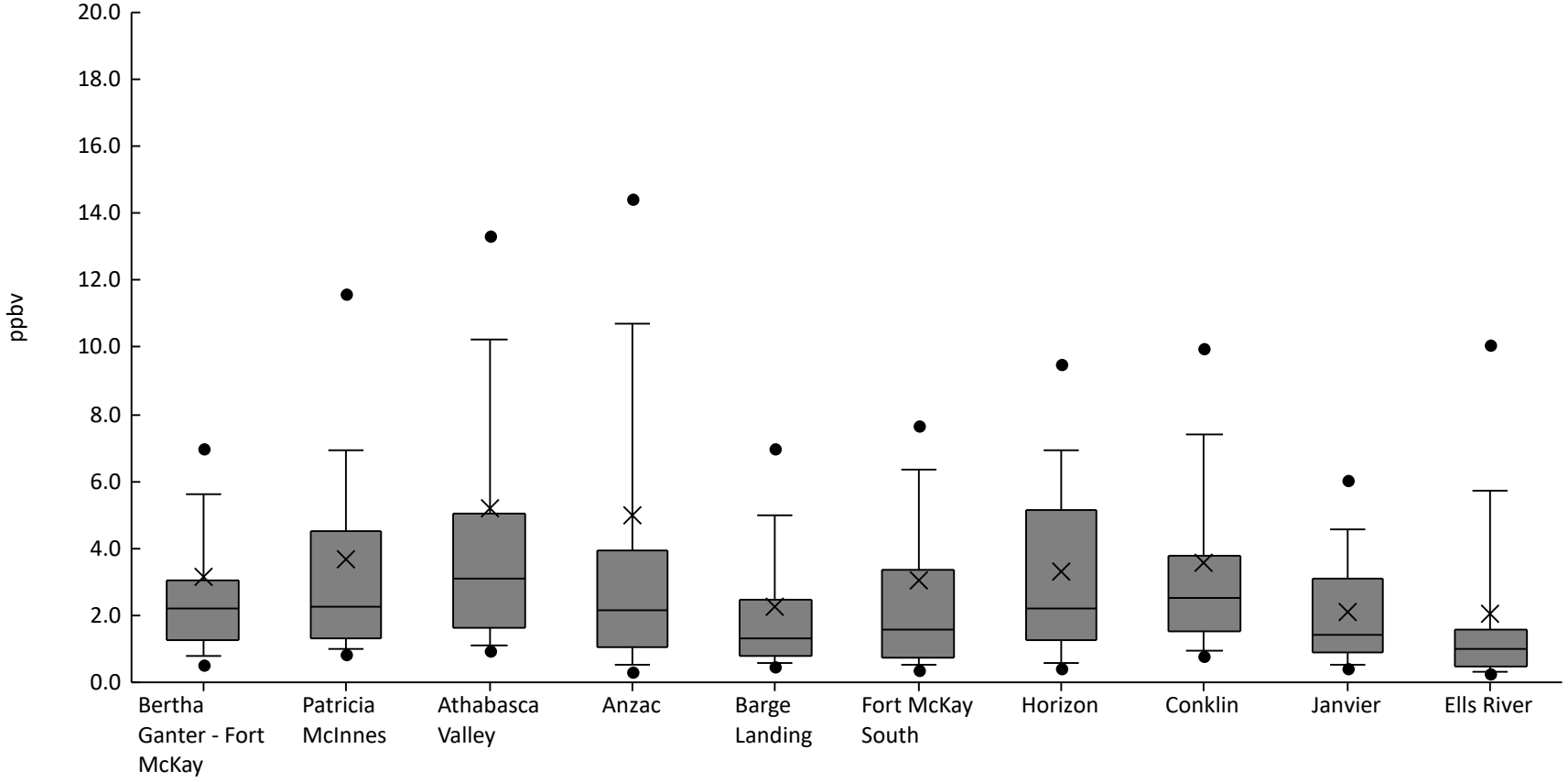
Volatile Organic Compound Canister - Cyclopentene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	16%	0	0	0	0	0	0	0.058	0.08	0.1	0.01	0.026
AMS06	Patricia McInnes	61	16%	0	0	0	0	0	0	0.032	0.06	0.09	7.7E-3	0.02
AMS07	Athabasca Valley	61	8%	0	0	0	0	0	0	0	0.039	0.08	4.4E-3	0.016
AMS14	Anzac	60	7%	0	0	0	0	0	0	0	0.065	0.09	5E-3	0.019
AMS09	Barge Landing	61	15%	0	0	0	0	0	0	0.054	0.08	0.09	9.2E-3	0.024
AMS13	Fort McKay South	61	15%	0	0	0	0	0	0	0.044	0.08	0.11	9.3E-3	0.026
AMS15	Horizon	40	12%	0	0	0	0	0	0	0.04	0.085	0.16	0.01	0.032
AMS21	Conklin	31	19%	0	0	0	0	0	0	0.08	0.12	0.14	0.018	0.039
AMS22	Janvier	61	10%	0	0	0	0	0	0	0.012	0.069	0.12	6.9E-3	0.023
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



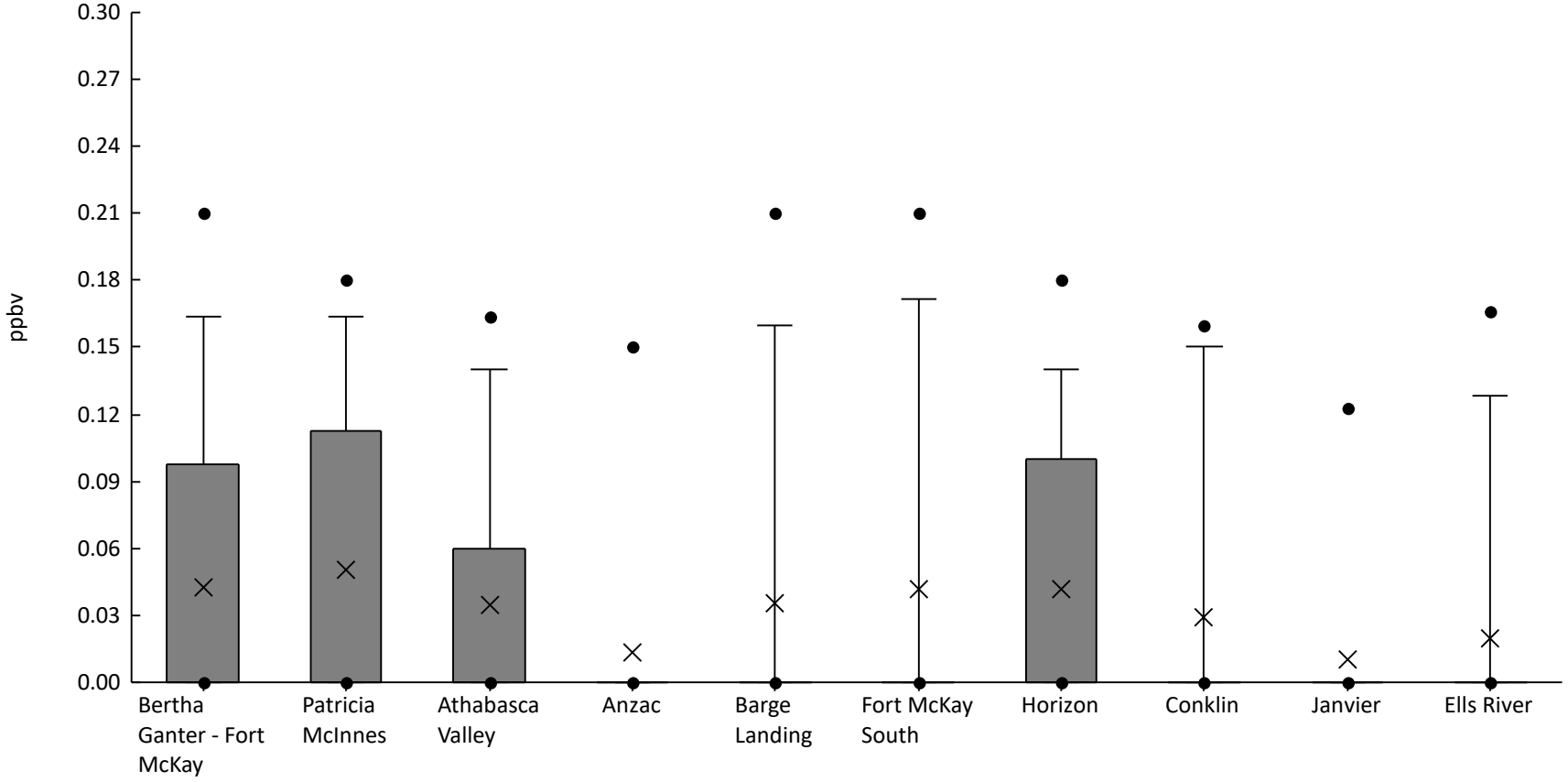
Volatile Organic Compound Canister - Ethanol (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.27	0.54	0.78	1.2	2.2	3.1	5.6	7	37	3.2	4.8
AMS06	Patricia McInnes	61	100%	0.24	0.85	1	1.3	2.2	4.5	6.9	12	30	3.7	4.6
AMS07	Athabasca Valley	61	100%	0.8	0.96	1.1	1.6	3.1	5	10	13	68	5.2	8.9
AMS14	Anzac	60	100%	0.21	0.3	0.53	1.1	2.1	4	11	14	62	5	10
AMS09	Barge Landing	61	100%	0.38	0.46	0.57	0.78	1.3	2.5	5	7	19	2.3	2.8
AMS13	Fort McKay South	61	100%	0.34	0.39	0.52	0.73	1.6	3.3	6.4	7.7	45	3.1	5.9
AMS15	Horizon	40	100%	0.32	0.42	0.59	1.2	2.2	5.1	6.9	9.5	18	3.3	3.5
AMS21	Conklin	31	100%	0.51	0.77	0.94	1.5	2.5	3.8	7.4	10	20	3.6	3.7
AMS22	Janvier	61	100%	0.34	0.43	0.5	0.87	1.4	3.1	4.6	6	7.8	2.1	1.8
AMS30	Ells River	17	100%	0.24	0.27	0.34	0.46	1	1.6	5.7	10	12	2	3



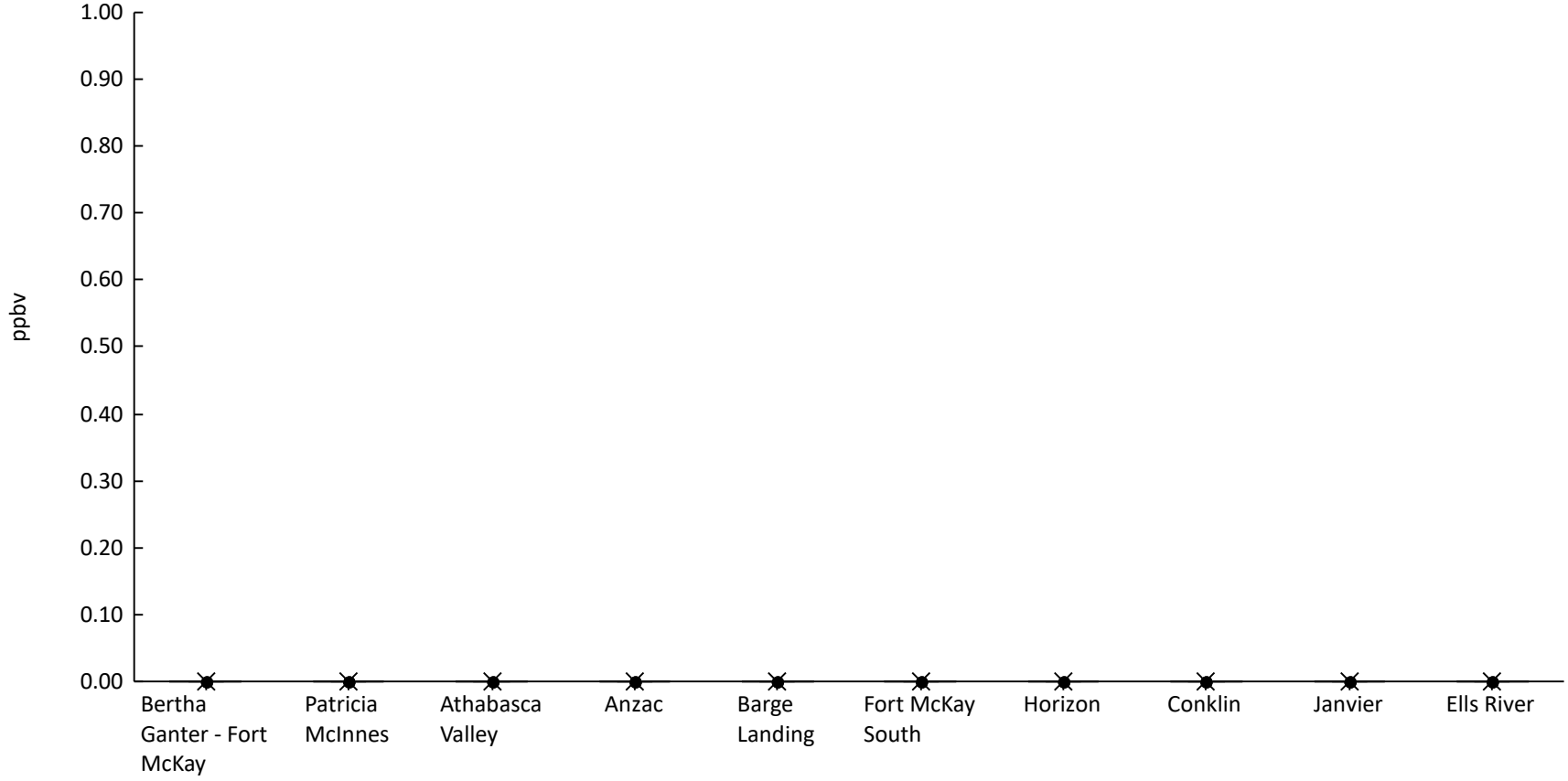
Volatile Organic Compound Canister - Ethylbenzene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	26%	0	0	0	0	0	0.098	0.16	0.21	0.25	0.043	0.075
AMS06	Patricia McInnes	61	38%	0	0	0	0	0	0.11	0.16	0.18	0.2	0.05	0.07
AMS07	Athabasca Valley	61	26%	0	0	0	0	0	0.06	0.14	0.16	0.25	0.035	0.063
AMS14	Anzac	60	8%	0	0	0	0	0	0	0	0.15	0.21	0.013	0.045
AMS09	Barge Landing	61	23%	0	0	0	0	0	0	0.16	0.21	0.21	0.035	0.069
AMS13	Fort McKay South	61	23%	0	0	0	0	0	0	0.17	0.21	0.53	0.042	0.093
AMS15	Horizon	40	32%	0	0	0	0	0	0.1	0.14	0.18	0.21	0.042	0.065
AMS21	Conklin	31	19%	0	0	0	0	0	0	0.15	0.16	0.21	0.029	0.062
AMS22	Janvier	61	7%	0	0	0	0	0	0	0	0.12	0.21	0.01	0.041
AMS30	Ells River	17	12%	0	0	0	0	0	0	0.13	0.17	0.17	0.019	0.055



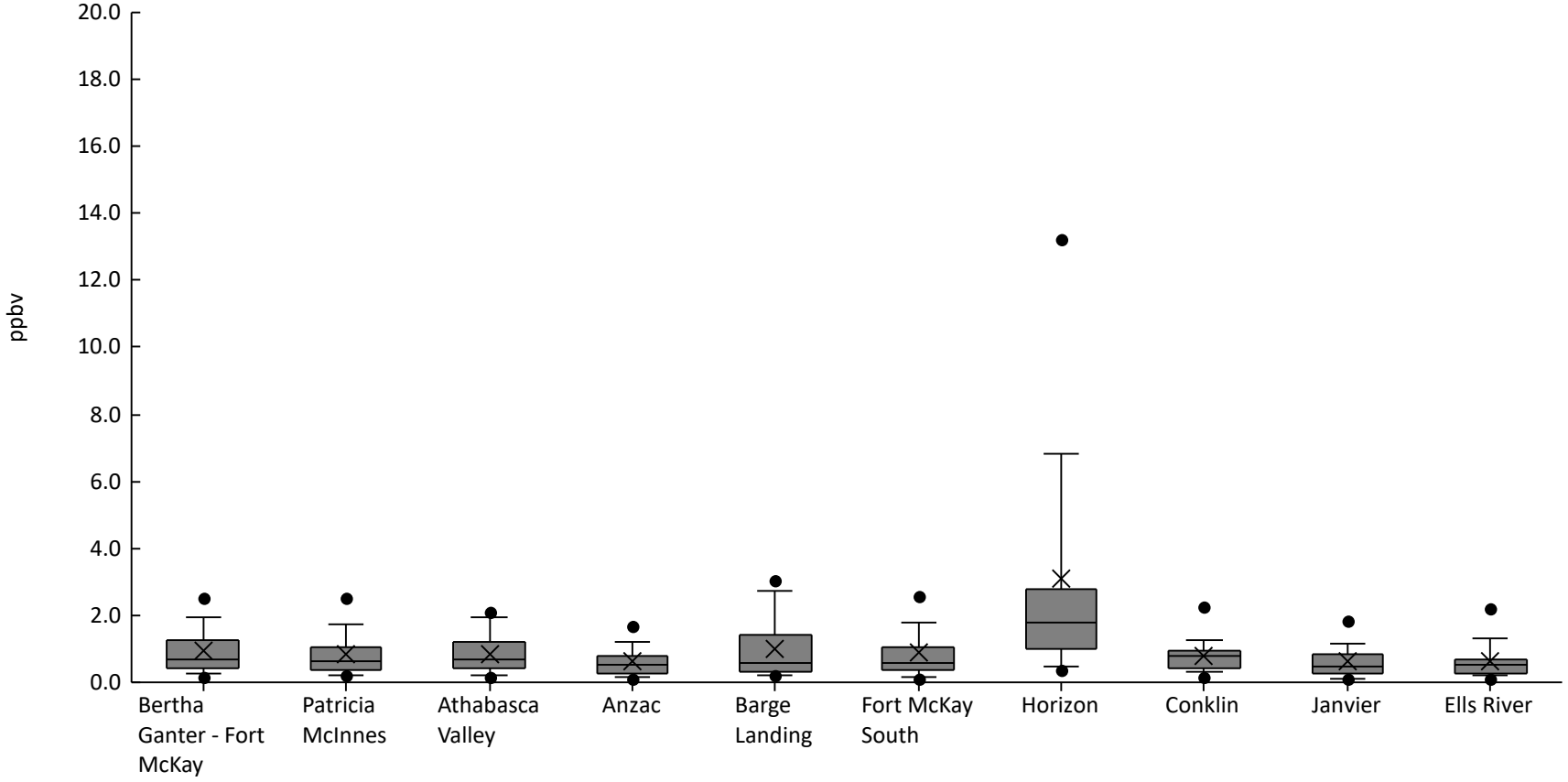
Volatile Organic Compound Canister - Formaldehyde (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS06	Patricia McInnes	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS07	Athabasca Valley	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS13	Fort McKay South	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS15	Horizon	40	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



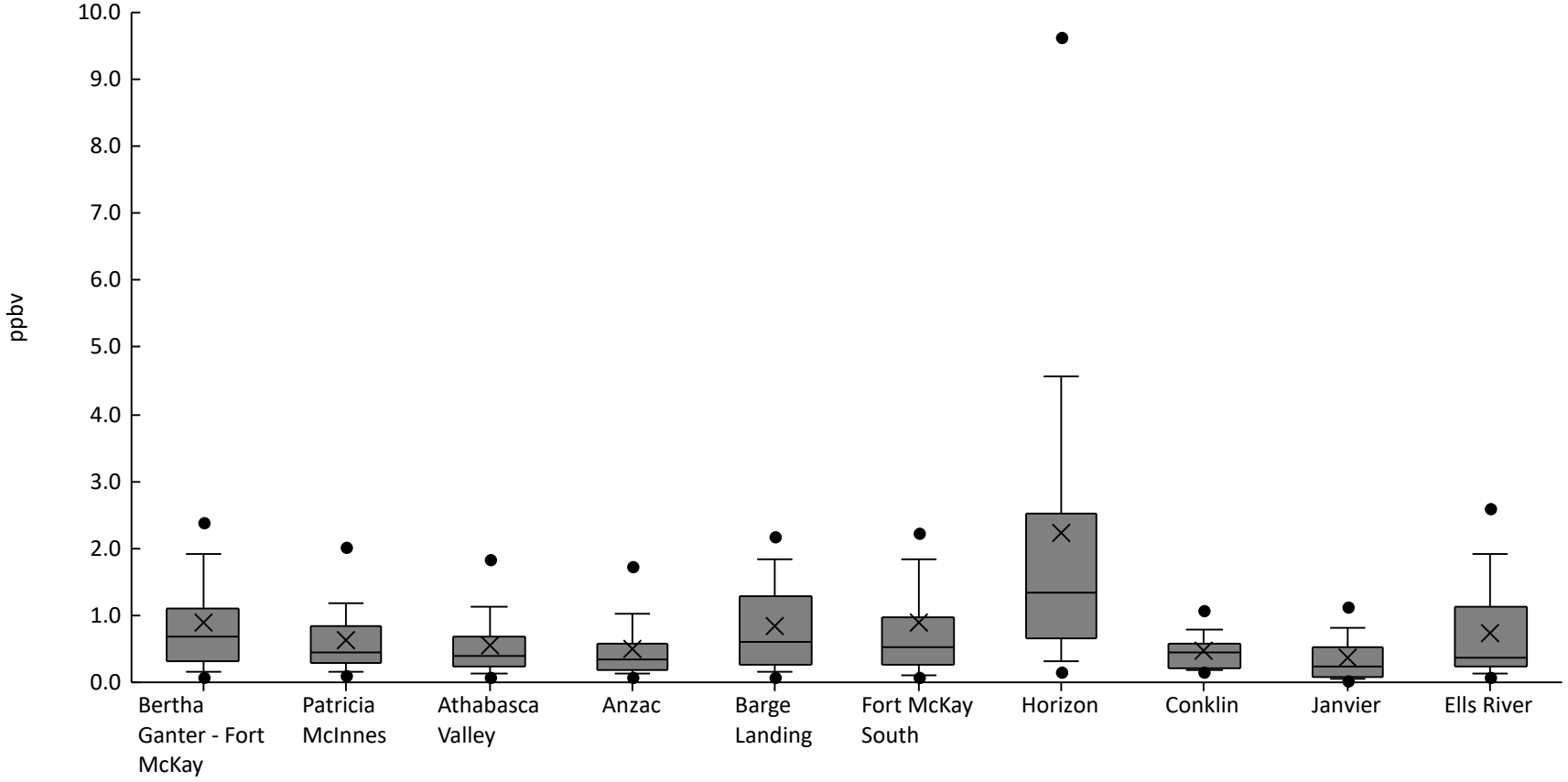
Volatile Organic Compound Canister - Isobutane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.07	0.18	0.29	0.42	0.66	1.3	1.9	2.5	4	0.94	0.77
AMS06	Patricia McInnes	61	100%	0.12	0.19	0.24	0.36	0.63	1.1	1.7	2.5	3.2	0.84	0.69
AMS07	Athabasca Valley	61	100%	0.12	0.16	0.23	0.4	0.68	1.2	1.9	2.1	2.4	0.86	0.6
AMS14	Anzac	60	97%	0	0.12	0.16	0.26	0.51	0.79	1.2	1.7	3.1	0.63	0.55
AMS09	Barge Landing	61	100%	0.1	0.2	0.22	0.32	0.57	1.4	2.7	3.1	4.2	0.99	0.97
AMS13	Fort McKay South	61	98%	0	0.1	0.18	0.38	0.56	1.1	1.8	2.6	6.5	0.89	1
AMS15	Horizon	40	100%	0.19	0.35	0.46	1	1.8	2.8	6.8	13	25	3.1	4.7
AMS21	Conklin	31	100%	0.17	0.18	0.32	0.43	0.79	0.96	1.3	2.2	2.7	0.81	0.55
AMS22	Janvier	61	100%	0.05	0.096	0.11	0.29	0.47	0.85	1.1	1.9	3	0.64	0.55
AMS30	Ells River	17	100%	0.09	0.12	0.19	0.28	0.5	0.68	1.3	2.2	2.6	0.63	0.6



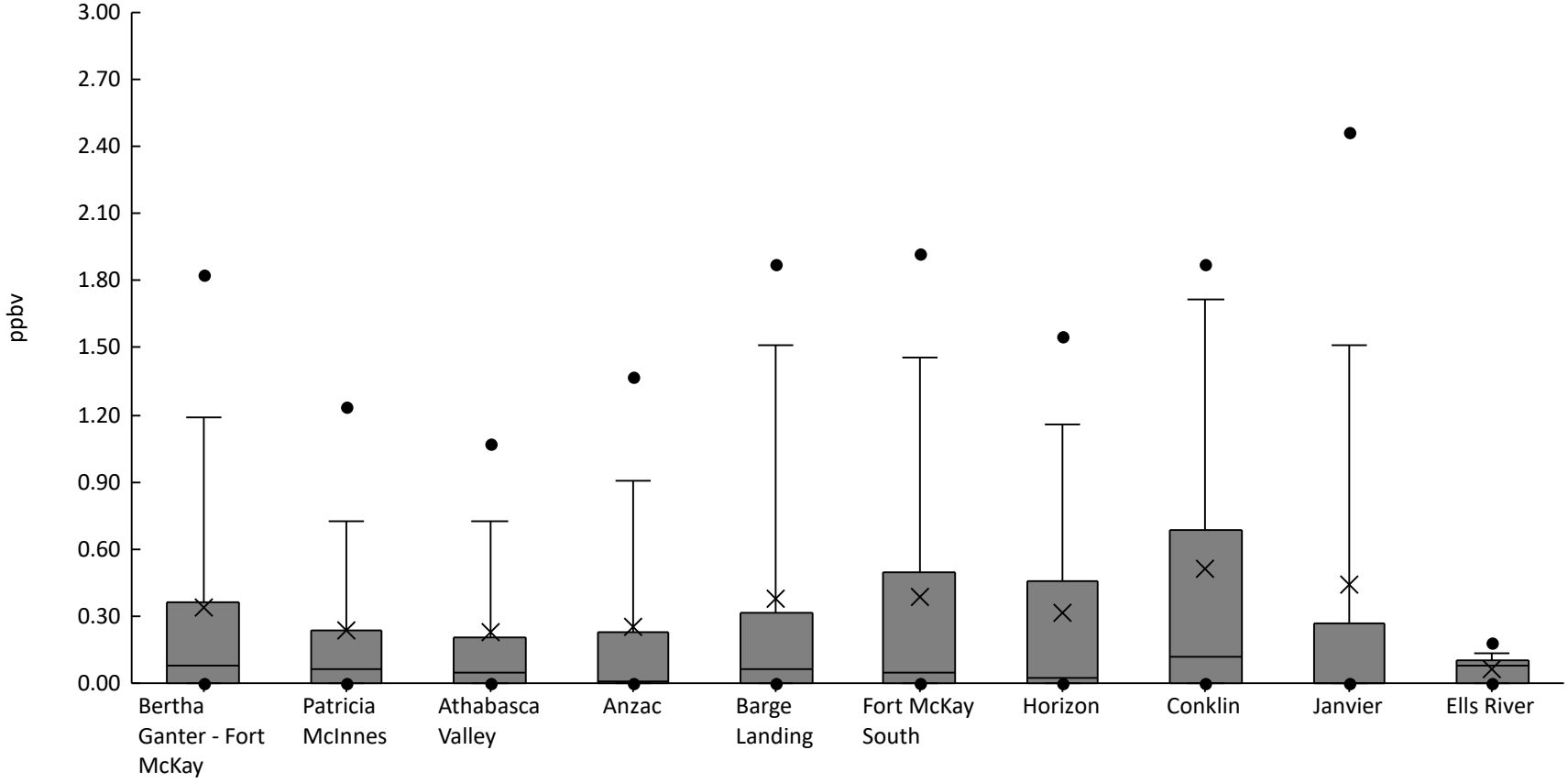
Volatile Organic Compound Canister - Isopentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.06	0.09	0.15	0.32	0.67	1.1	1.9	2.4	6.4	0.91	0.96
AMS06	Patricia McInnes	61	98%	0	0.1	0.15	0.28	0.45	0.85	1.2	2	2.8	0.64	0.58
AMS07	Athabasca Valley	61	98%	0	0.091	0.14	0.24	0.4	0.68	1.1	1.8	2.7	0.56	0.52
AMS14	Anzac	60	98%	0	0.085	0.12	0.19	0.34	0.58	1	1.7	3.4	0.5	0.57
AMS09	Barge Landing	61	97%	0	0.077	0.16	0.25	0.61	1.3	1.8	2.2	5.8	0.84	0.9
AMS13	Fort McKay South	61	98%	0	0.091	0.11	0.27	0.53	0.98	1.8	2.2	10	0.9	1.4
AMS15	Horizon	40	100%	0.11	0.17	0.31	0.65	1.3	2.5	4.6	9.6	12	2.2	2.7
AMS21	Conklin	31	100%	0.13	0.15	0.18	0.21	0.45	0.58	0.8	1.1	1.7	0.47	0.32
AMS22	Janvier	61	95%	0	0.022	0.056	0.09	0.24	0.52	0.83	1.1	2.5	0.38	0.45
AMS30	Ells River	17	100%	0.07	0.088	0.13	0.23	0.38	1.1	1.9	2.6	2.9	0.75	0.78



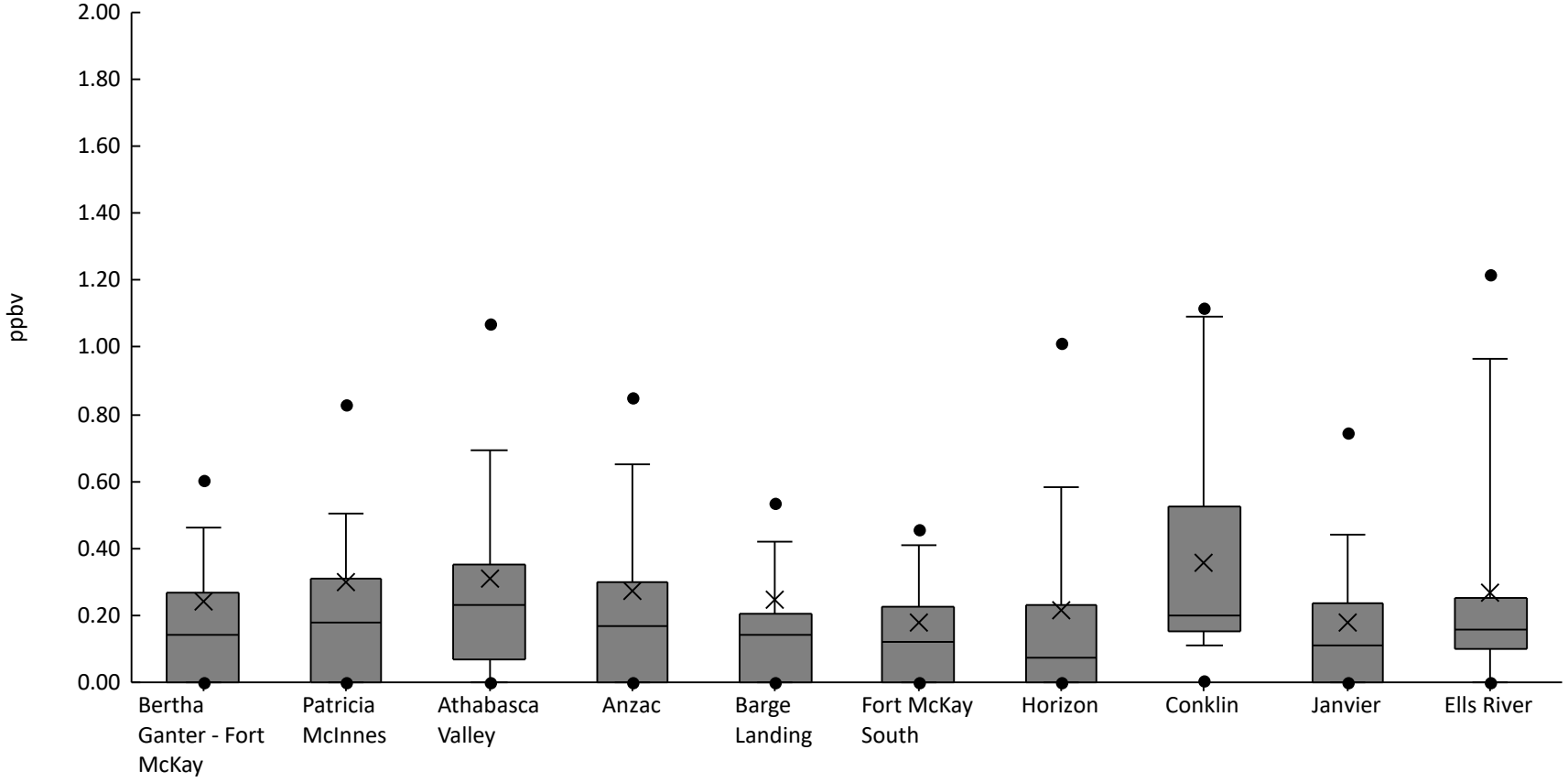
Volatile Organic Compound Canister - Isoprene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	69%	0	0	0	0	0.08	0.36	1.2	1.8	2.8	0.34	0.62
AMS06	Patricia McInnes	61	62%	0	0	0	0	0.06	0.24	0.73	1.2	2.4	0.24	0.45
AMS07	Athabasca Valley	61	64%	0	0	0	0	0.05	0.2	0.73	1.1	2.3	0.23	0.44
AMS14	Anzac	60	50%	0	0	0	0	0.01	0.23	0.91	1.4	2.8	0.25	0.52
AMS09	Barge Landing	61	66%	0	0	0	0	0.06	0.32	1.5	1.9	3.7	0.38	0.74
AMS13	Fort McKay South	61	66%	0	0	0	0	0.05	0.49	1.5	1.9	3.5	0.38	0.7
AMS15	Horizon	40	52%	0	0	0	0	0.02	0.46	1.2	1.6	2.1	0.31	0.53
AMS21	Conklin	31	65%	0	0	0	0	0.12	0.69	1.7	1.9	3.3	0.51	0.79
AMS22	Janvier	61	49%	0	0	0	0	0	0.27	1.5	2.5	6.3	0.44	1.1
AMS30	Ells River	17	53%	0	0	0	0	0.08	0.1	0.14	0.18	0.2	0.061	0.064



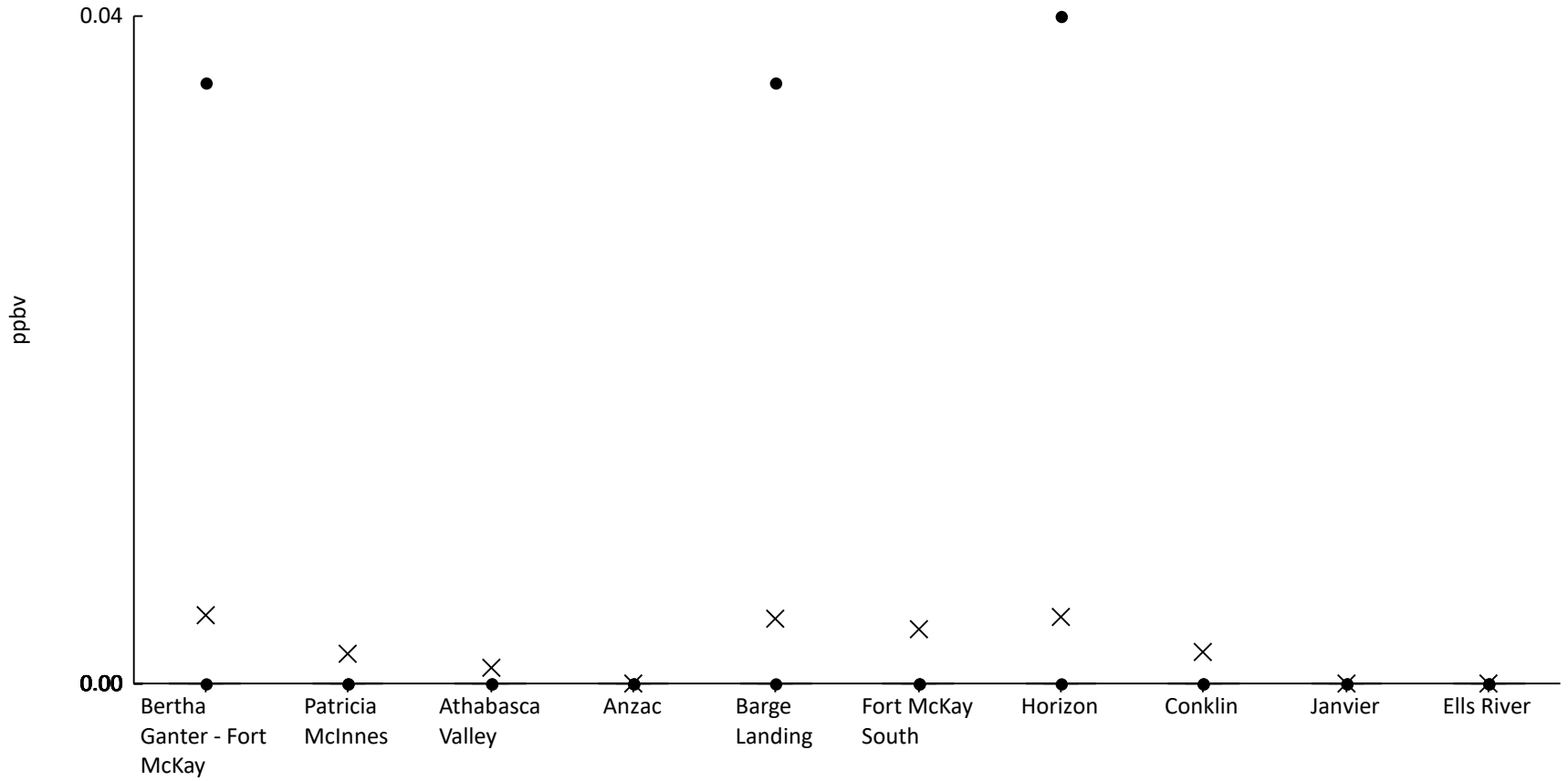
Volatile Organic Compound Canister - Isopropylalcohol (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	70%	0	0	0	0	0.14	0.27	0.46	0.61	4.3	0.24	0.56
AMS06	Patricia McInnes	61	72%	0	0	0	0	0.18	0.31	0.5	0.83	3.8	0.3	0.59
AMS07	Athabasca Valley	61	75%	0	0	0	0.068	0.23	0.35	0.69	1.1	2.4	0.31	0.41
AMS14	Anzac	60	73%	0	0	0	0	0.17	0.3	0.65	0.85	2.5	0.27	0.4
AMS09	Barge Landing	61	62%	0	0	0	0	0.14	0.2	0.42	0.54	6.5	0.25	0.83
AMS13	Fort McKay South	61	67%	0	0	0	0	0.12	0.23	0.41	0.45	2.3	0.18	0.31
AMS15	Horizon	40	55%	0	0	0	0	0.075	0.23	0.59	1	2.3	0.21	0.41
AMS21	Conklin	31	94%	0	5E-3	0.11	0.15	0.2	0.53	1.1	1.1	1.2	0.36	0.34
AMS22	Janvier	61	64%	0	0	0	0	0.11	0.24	0.44	0.74	1.4	0.18	0.25
AMS30	Ells River	17	82%	0	0	0	0.098	0.16	0.25	0.97	1.2	1.3	0.27	0.36



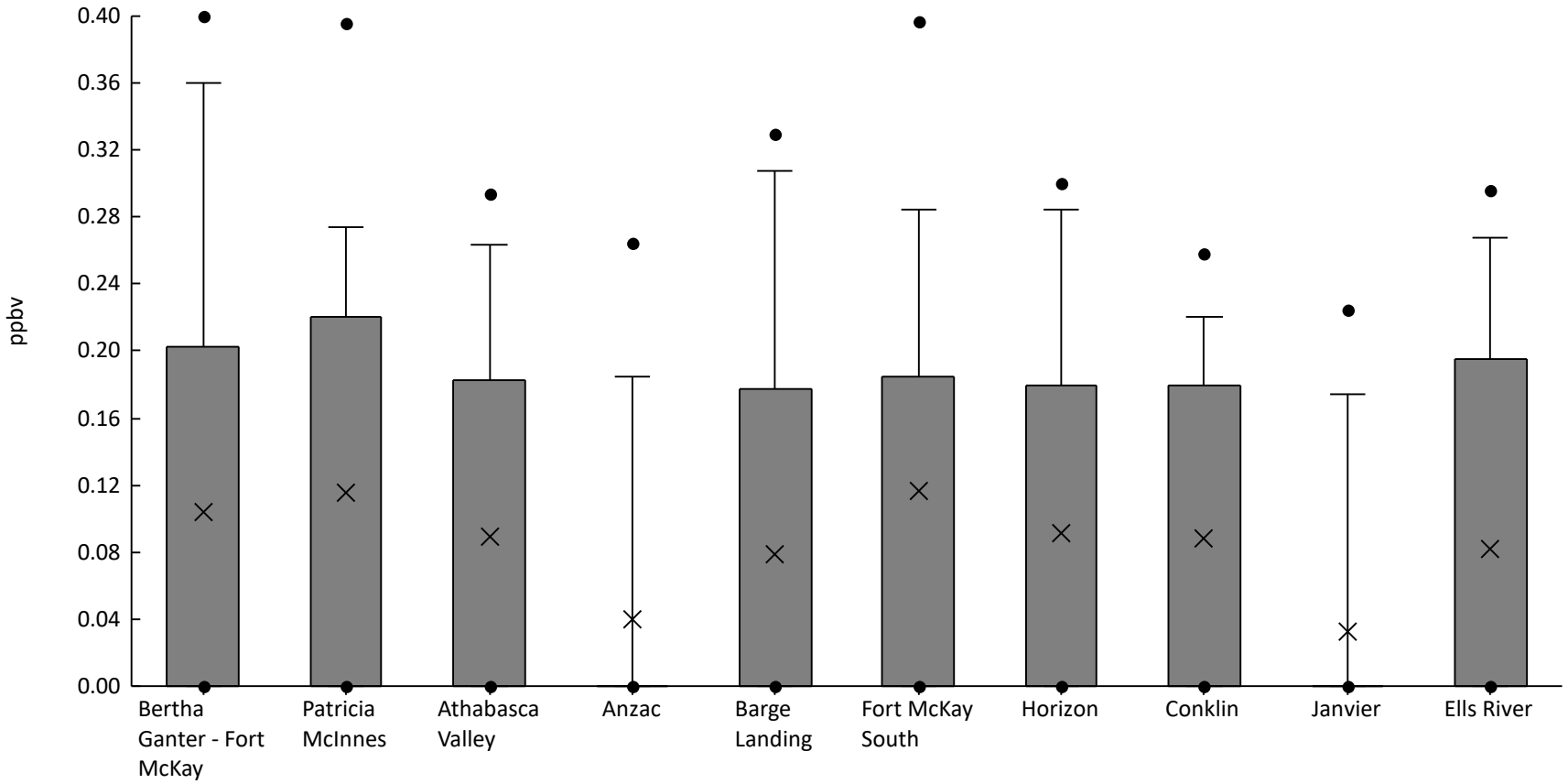
Volatile Organic Compound Canister - Isopropylbenzene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	5%	0	0	0	0	0	0	0	0.036	0.09	4.1E-3	0.018
AMS06	Patricia McInnes	61	3%	0	0	0	0	0	0	0	0	0.08	1.8E-3	0.011
AMS07	Athabasca Valley	61	2%	0	0	0	0	0	0	0	0	0.06	9.8E-4	7.7E-3
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	5%	0	0	0	0	0	0	0	0.036	0.08	3.9E-3	0.017
AMS13	Fort McKay South	61	3%	0	0	0	0	0	0	0	0	0.1	3.3E-3	0.018
AMS15	Horizon	40	5%	0	0	0	0	0	0	0	0.04	0.08	4E-3	0.018
AMS21	Conklin	31	3%	0	0	0	0	0	0	0	0	0.06	1.9E-3	0.011
AMS22	Janvier	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



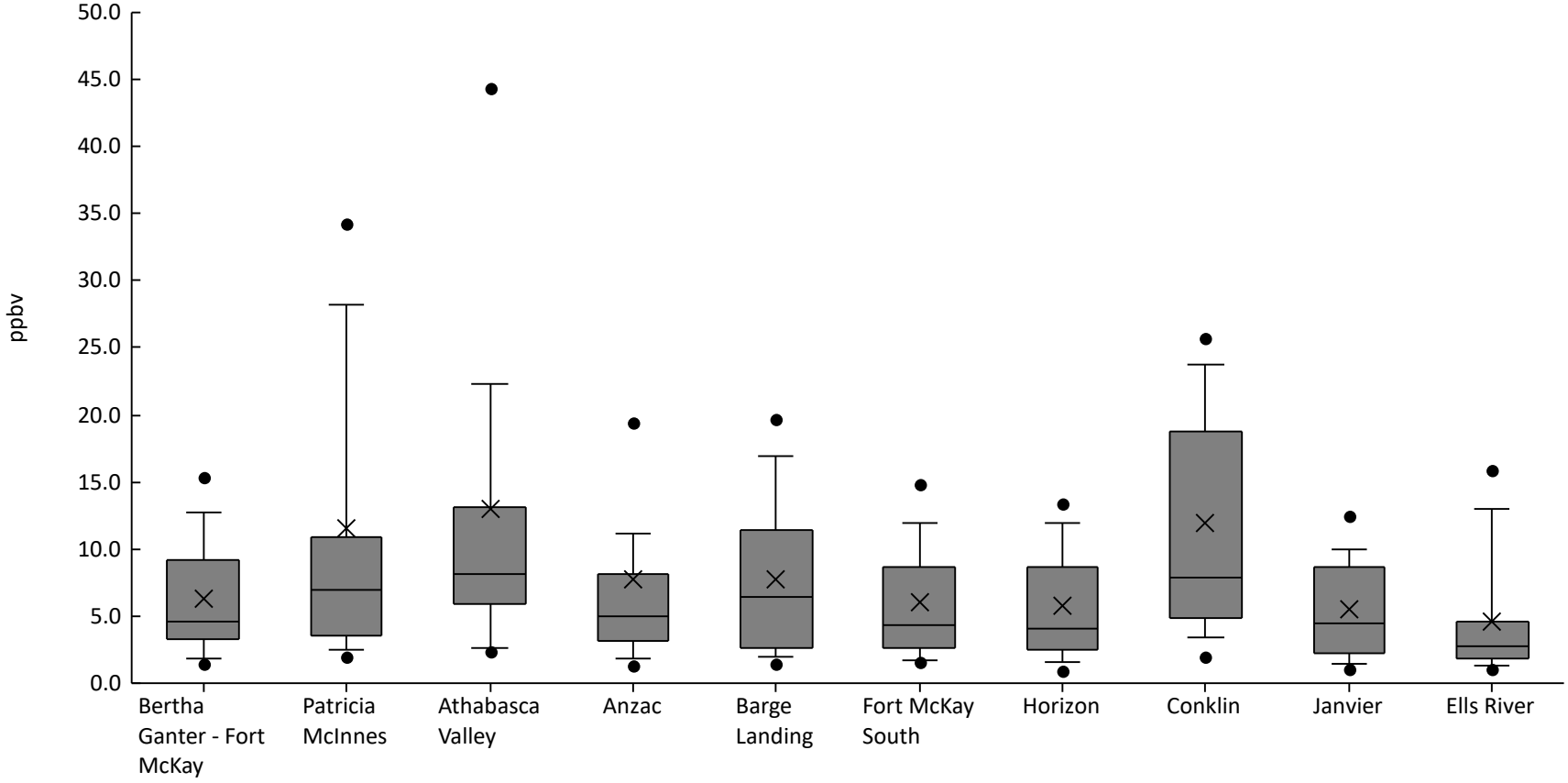
Volatile Organic Compound Canister - m,p-Xylene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	38%	0	0	0	0	0	0.2	0.36	0.4	0.48	0.1	0.15
AMS06	Patricia McInnes	61	48%	0	0	0	0	0	0.22	0.27	0.4	0.47	0.12	0.14
AMS07	Athabasca Valley	61	39%	0	0	0	0	0	0.18	0.26	0.29	0.56	0.089	0.12
AMS14	Anzac	60	17%	0	0	0	0	0	0	0.19	0.27	0.51	0.04	0.099
AMS09	Barge Landing	61	33%	0	0	0	0	0	0.18	0.31	0.33	0.36	0.079	0.12
AMS13	Fort McKay South	61	34%	0	0	0	0	0	0.19	0.28	0.4	2	0.12	0.28
AMS15	Horizon	40	38%	0	0	0	0	0	0.18	0.29	0.3	0.56	0.092	0.14
AMS21	Conklin	31	45%	0	0	0	0	0	0.18	0.22	0.26	0.39	0.089	0.11
AMS22	Janvier	61	15%	0	0	0	0	0	0	0.17	0.22	0.35	0.033	0.083
AMS30	Ells River	17	35%	0	0	0	0	0	0.2	0.27	0.3	0.31	0.082	0.12



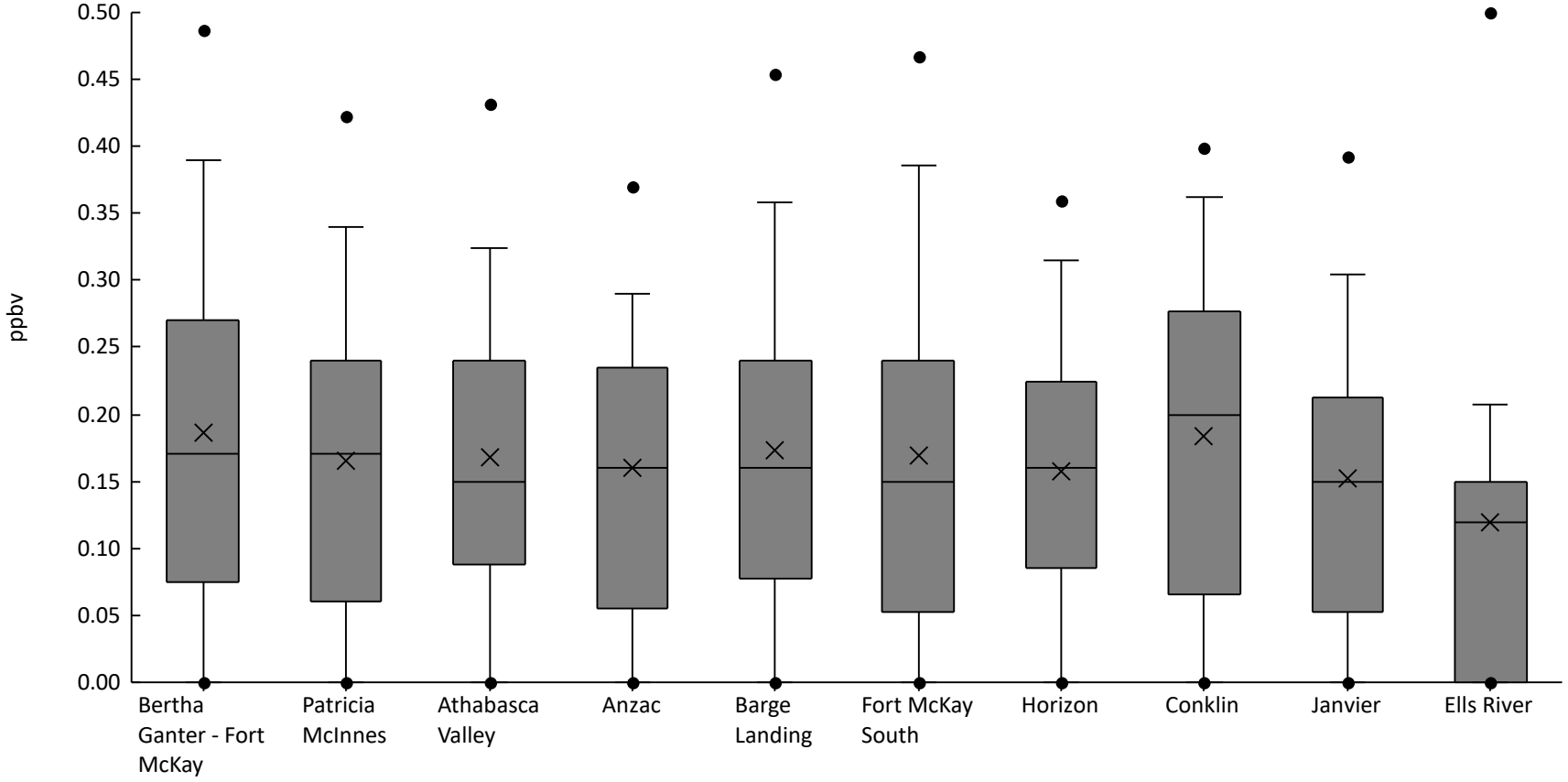
Volatile Organic Compound Canister - Methanol (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0	1.5	1.9	3.3	4.6	9.2	13	15	20	6.3	4.3
AMS06	Patricia McInnes	61	98%	0	2	2.5	3.6	6.9	11	28	34	112	12	16
AMS07	Athabasca Valley	61	98%	0	2.4	2.7	5.9	8.2	13	22	44	93	13	16
AMS14	Anzac	60	98%	0	1.4	1.9	3.2	5	8.2	11	19	94	7.8	13
AMS09	Barge Landing	61	98%	0	1.4	2	2.7	6.4	11	17	20	26	7.7	6.1
AMS13	Fort McKay South	61	98%	0	1.6	1.8	2.6	4.3	8.7	12	15	21	6	4.6
AMS15	Horizon	40	98%	0	0.9	1.6	2.6	4.1	8.7	12	13	16	5.8	4.1
AMS21	Conklin	31	100%	1.4	2	3.4	4.8	7.9	19	24	26	34	12	8.5
AMS22	Janvier	61	98%	0	1.1	1.5	2.3	4.4	8.6	9.9	13	21	5.5	4.3
AMS30	Ells River	17	100%	1	1.1	1.3	1.9	2.7	4.6	13	16	17	4.5	4.5



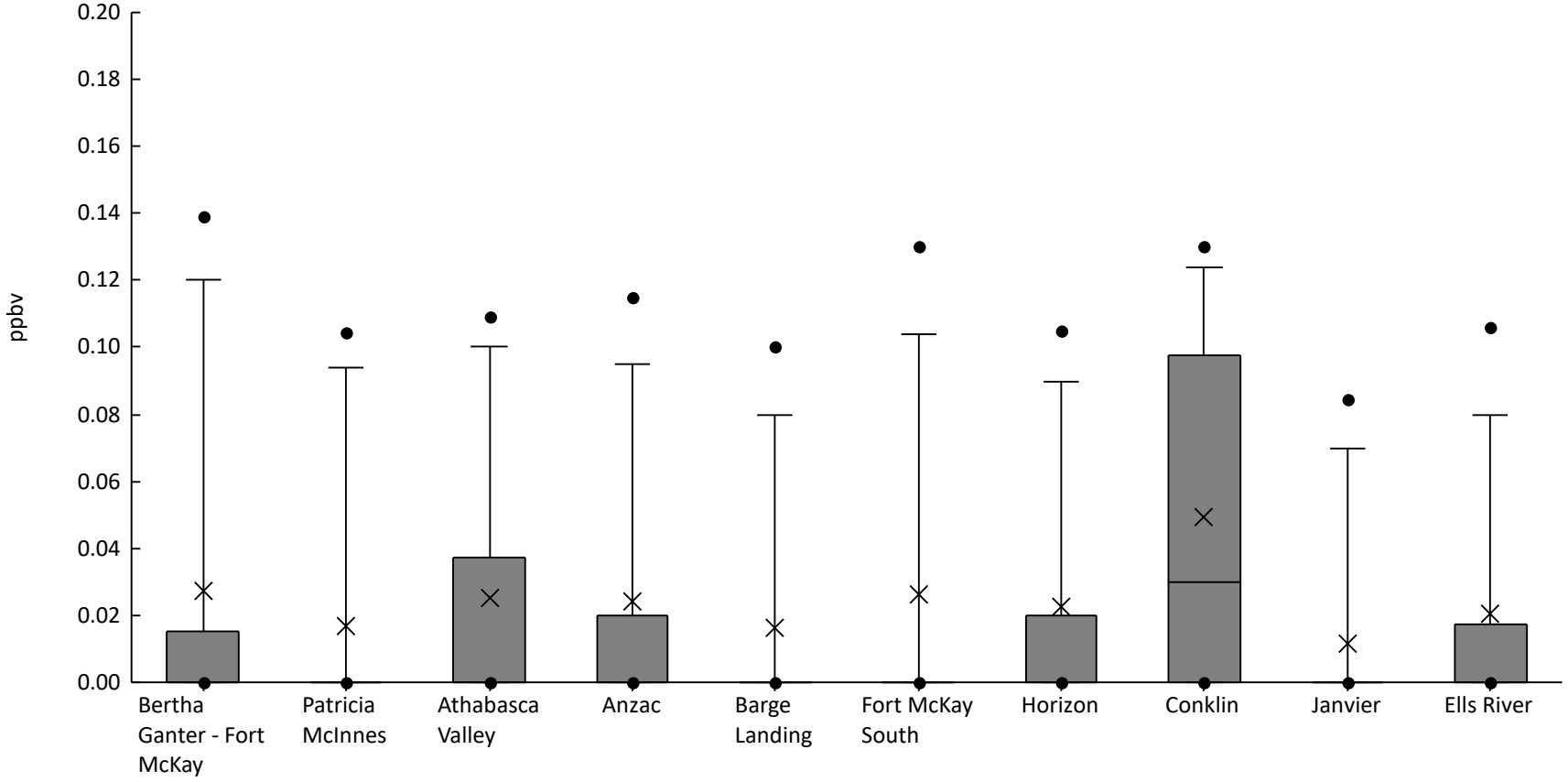
Volatile Organic Compound Canister - Methylethylketone (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	80%	0	0	0	0.075	0.17	0.27	0.39	0.49	0.55	0.19	0.15
AMS06	Patricia McInnes	61	79%	0	0	0	0.06	0.17	0.24	0.34	0.42	0.51	0.17	0.13
AMS07	Athabasca Valley	61	80%	0	0	0	0.088	0.15	0.24	0.32	0.43	0.49	0.17	0.13
AMS14	Anzac	60	80%	0	0	0	0.055	0.16	0.24	0.29	0.37	0.47	0.16	0.12
AMS09	Barge Landing	61	79%	0	0	0	0.078	0.16	0.24	0.36	0.45	0.62	0.17	0.14
AMS13	Fort McKay South	61	77%	0	0	0	0.053	0.15	0.24	0.39	0.47	0.69	0.17	0.15
AMS15	Horizon	40	78%	0	0	0	0.085	0.16	0.23	0.32	0.36	0.42	0.16	0.11
AMS21	Conklin	31	84%	0	0	0	0.065	0.2	0.28	0.36	0.4	0.43	0.18	0.13
AMS22	Janvier	61	77%	0	0	0	0.053	0.15	0.21	0.3	0.39	0.56	0.15	0.13
AMS30	Ells River	17	71%	0	0	0	0	0.12	0.15	0.21	0.5	0.65	0.12	0.15



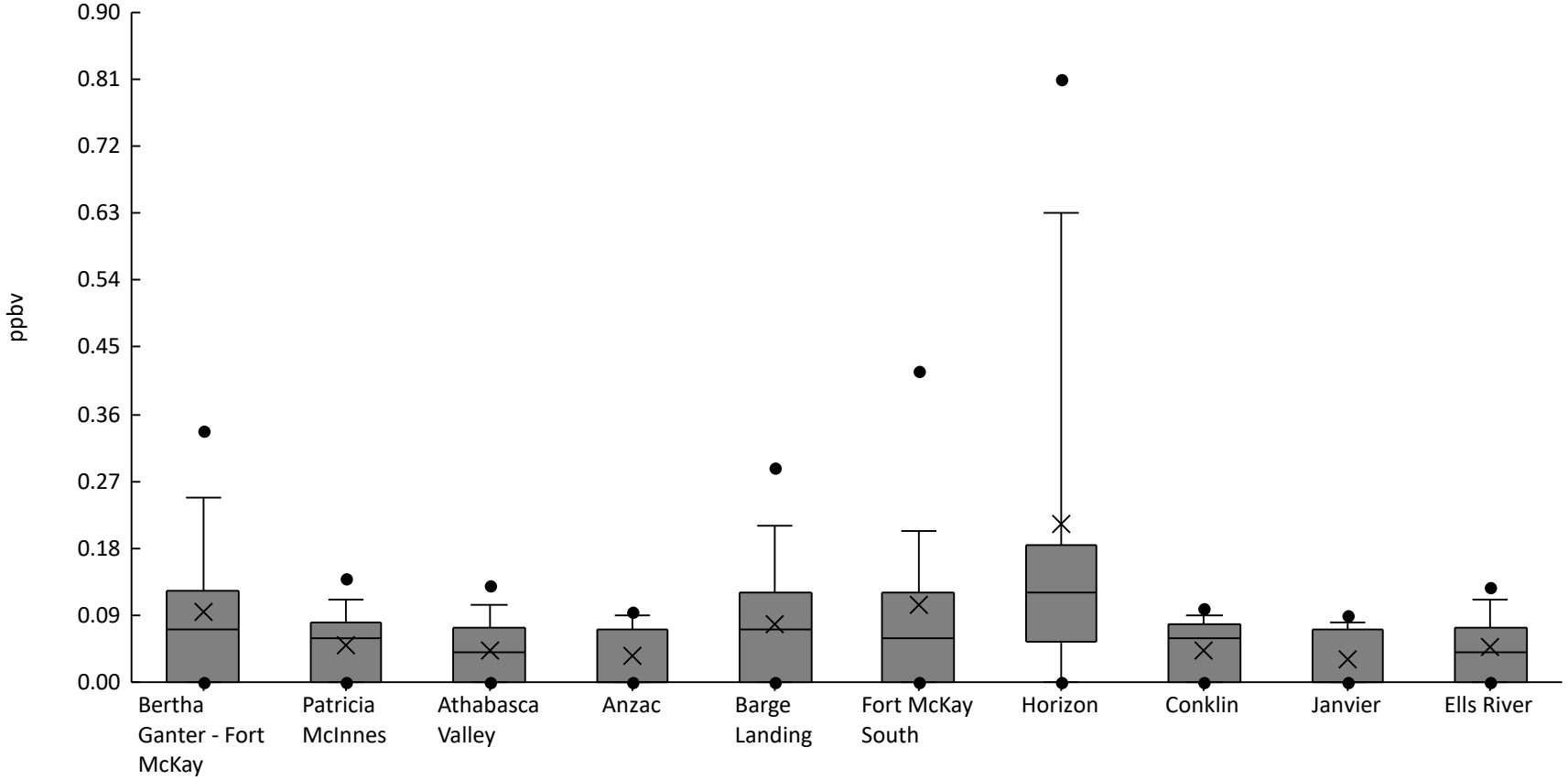
Volatile Organic Compound Canister - Methylisobutylketone (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	25%	0	0	0	0	0	0.015	0.12	0.14	0.18	0.028	0.051
AMS06	Patricia McInnes	61	18%	0	0	0	0	0	0	0.094	0.1	0.13	0.017	0.037
AMS07	Athabasca Valley	61	26%	0	0	0	0	0	0.038	0.1	0.11	0.18	0.025	0.046
AMS14	Anzac	60	25%	0	0	0	0	0	0.02	0.095	0.12	0.18	0.024	0.045
AMS09	Barge Landing	61	21%	0	0	0	0	0	0	0.08	0.1	0.12	0.016	0.034
AMS13	Fort McKay South	61	21%	0	0	0	0	0	0	0.1	0.13	0.4	0.026	0.064
AMS15	Horizon	40	25%	0	0	0	0	0	0.02	0.09	0.11	0.21	0.023	0.046
AMS21	Conklin	31	52%	0	0	0	0	0.03	0.098	0.12	0.13	0.18	0.049	0.055
AMS22	Janvier	61	13%	0	0	0	0	0	0	0.07	0.085	0.15	0.011	0.031
AMS30	Ells River	17	24%	0	0	0	0	0	0.018	0.08	0.11	0.12	0.021	0.039



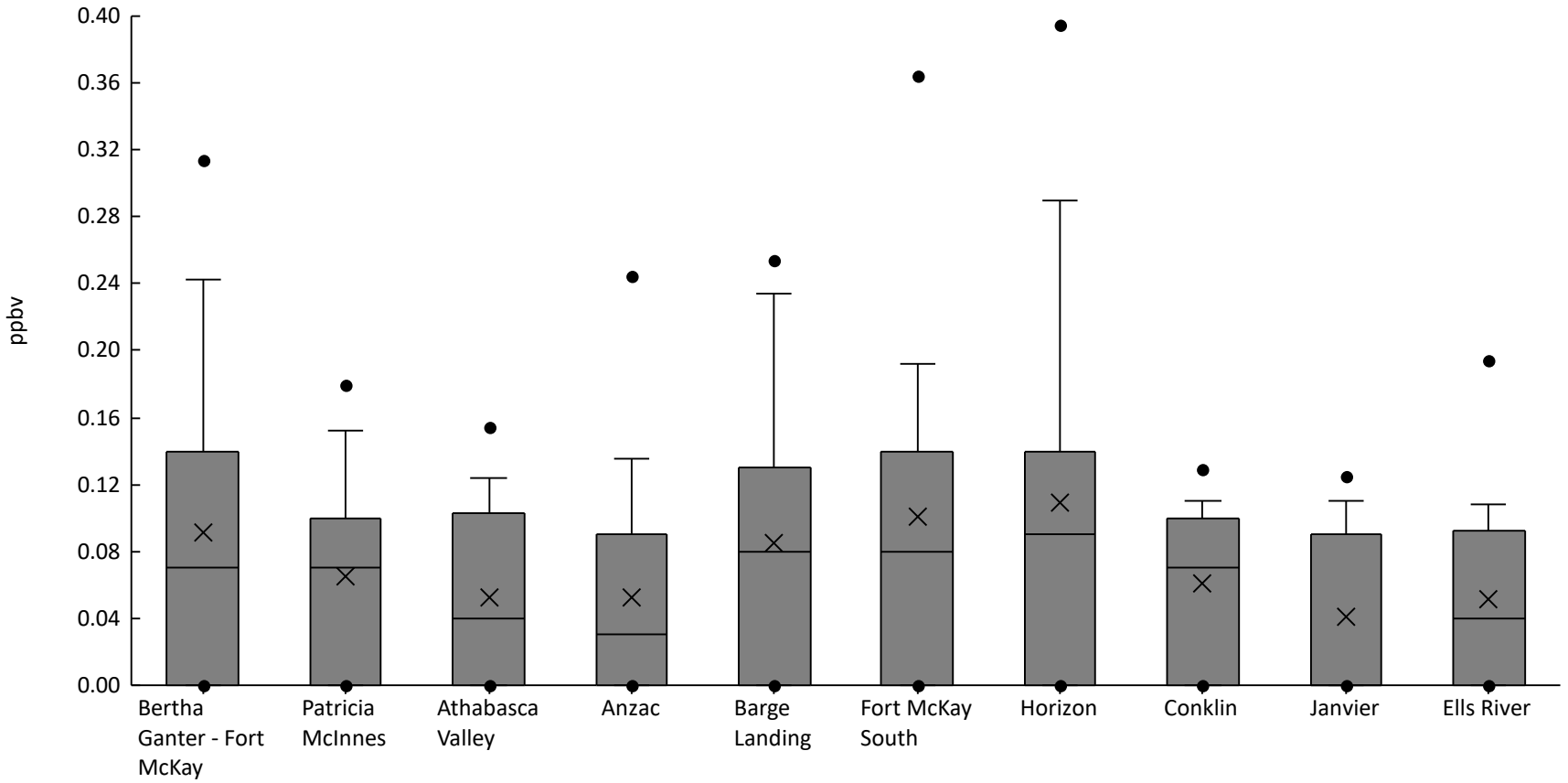
Volatile Organic Compound Canister - Methylcyclohexane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	69%	0	0	0	0	0.07	0.12	0.25	0.34	0.48	0.094	0.11
AMS06	Patricia McInnes	61	56%	0	0	0	0	0.06	0.08	0.11	0.14	0.2	0.049	0.051
AMS07	Athabasca Valley	61	52%	0	0	0	0	0.04	0.073	0.1	0.13	0.18	0.043	0.047
AMS14	Anzac	60	48%	0	0	0	0	0	0.07	0.09	0.095	0.12	0.036	0.04
AMS09	Barge Landing	61	62%	0	0	0	0	0.07	0.12	0.21	0.29	0.32	0.079	0.087
AMS13	Fort McKay South	61	67%	0	0	0	0	0.06	0.12	0.2	0.42	0.86	0.1	0.15
AMS15	Horizon	40	80%	0	0	0	0.055	0.12	0.19	0.63	0.81	1.8	0.21	0.34
AMS21	Conklin	31	58%	0	0	0	0	0.06	0.078	0.09	0.1	0.1	0.043	0.039
AMS22	Janvier	61	44%	0	0	0	0	0	0.07	0.08	0.09	0.09	0.031	0.036
AMS30	Ells River	17	71%	0	0	0	0	0.04	0.073	0.11	0.13	0.13	0.048	0.042



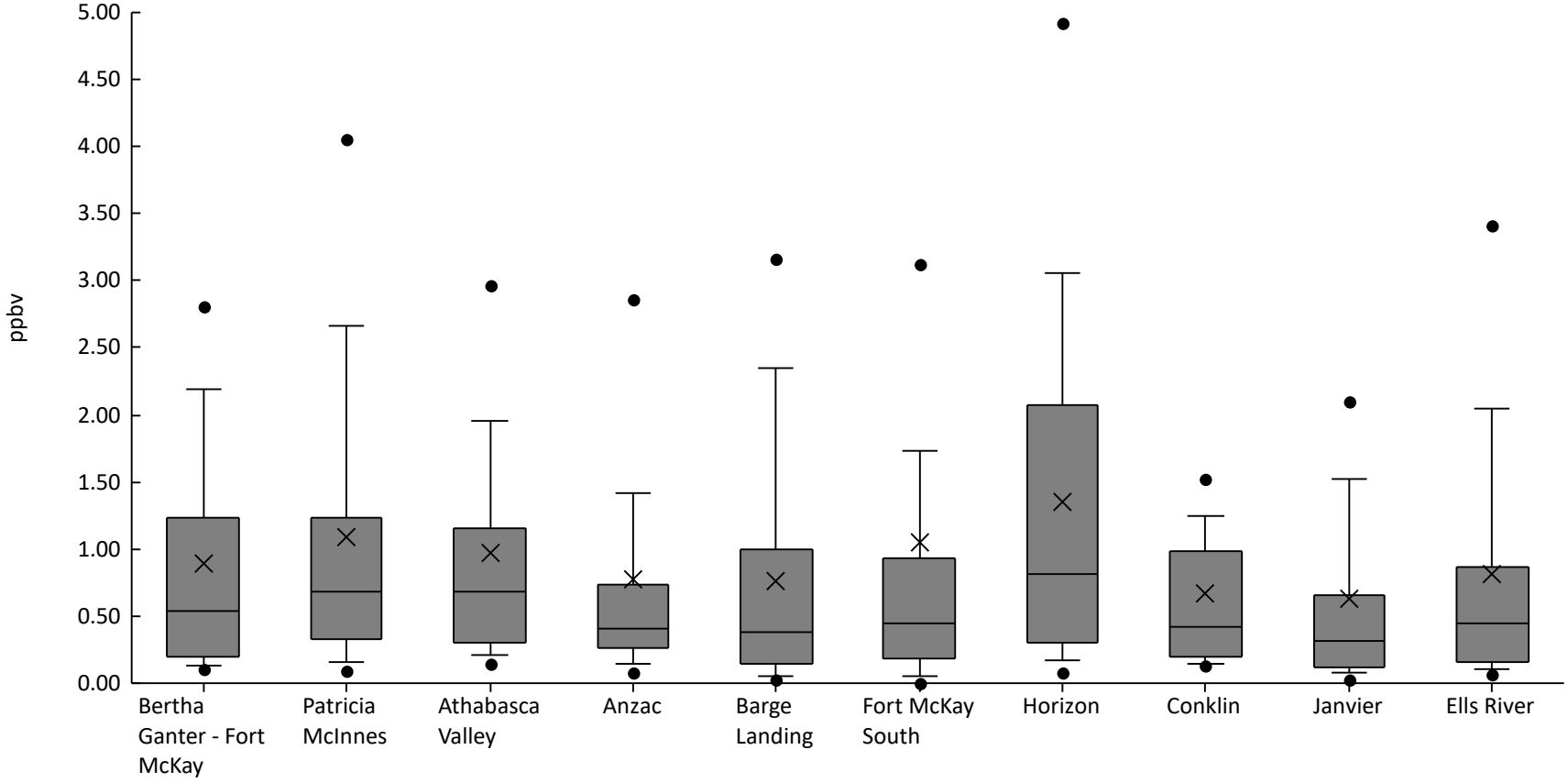
Volatile Organic Compound Canister - Methylcyclopentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	66%	0	0	0	0	0.07	0.14	0.24	0.31	0.44	0.092	0.1
AMS06	Patricia McInnes	61	64%	0	0	0	0	0.07	0.1	0.15	0.18	0.29	0.065	0.066
AMS07	Athabasca Valley	61	57%	0	0	0	0	0.04	0.1	0.12	0.15	0.21	0.052	0.056
AMS14	Anzac	60	57%	0	0	0	0	0.03	0.09	0.14	0.25	0.27	0.052	0.07
AMS09	Barge Landing	61	64%	0	0	0	0	0.08	0.13	0.23	0.25	0.41	0.085	0.092
AMS13	Fort McKay South	61	66%	0	0	0	0	0.08	0.14	0.19	0.36	0.88	0.1	0.14
AMS15	Horizon	40	72%	0	0	0	0	0.09	0.14	0.29	0.4	0.5	0.11	0.12
AMS21	Conklin	31	68%	0	0	0	0	0.07	0.1	0.11	0.13	0.19	0.061	0.051
AMS22	Janvier	61	49%	0	0	0	0	0	0.09	0.11	0.12	0.24	0.041	0.052
AMS30	Ells River	17	59%	0	0	0	0	0.04	0.093	0.11	0.19	0.24	0.051	0.064



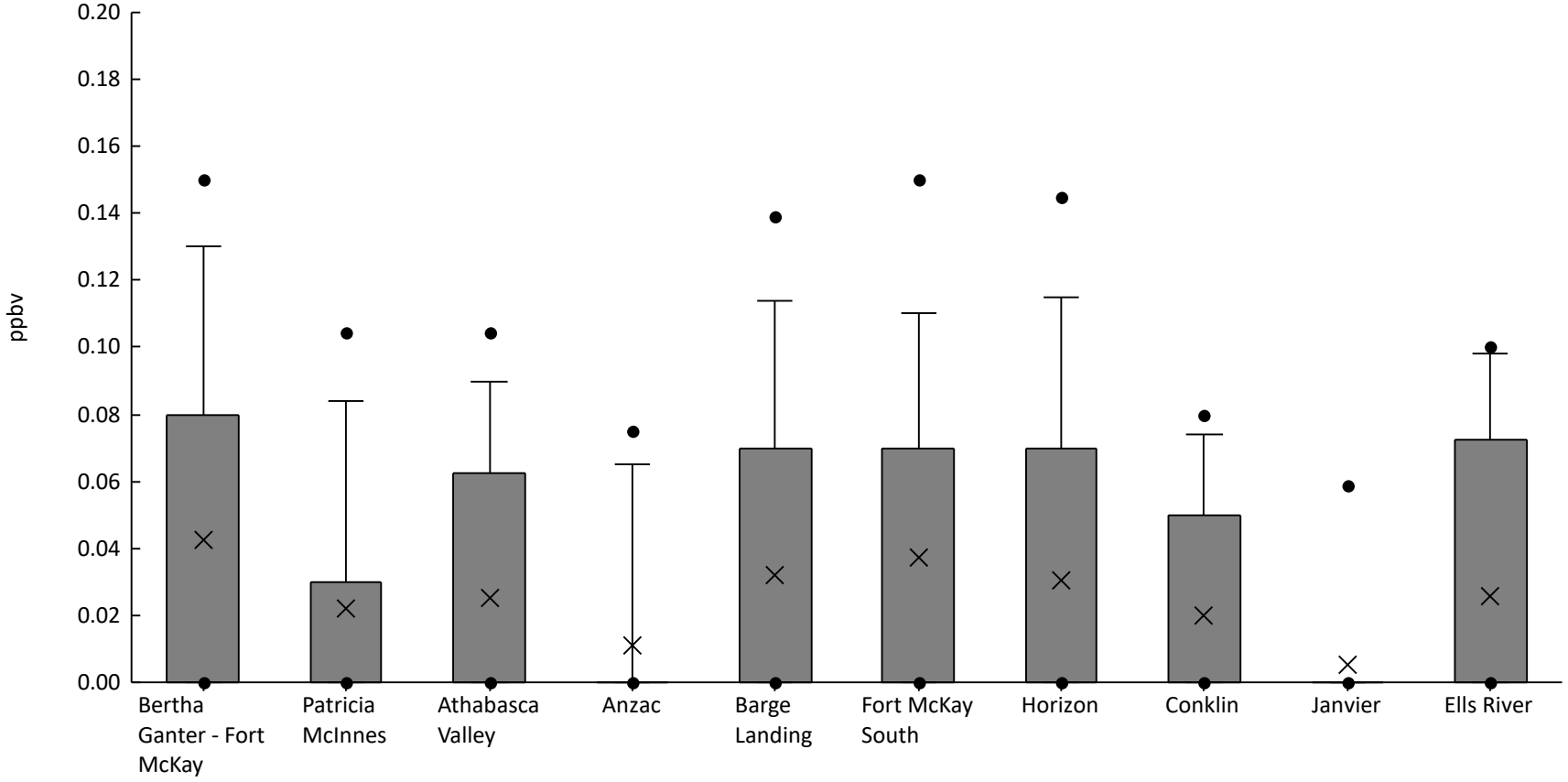
Volatile Organic Compound Canister - n-Butane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0	0.11	0.13	0.2	0.54	1.2	2.2	2.8	6.5	0.89	1.1
AMS06	Patricia McInnes	61	100%	0.05	0.087	0.16	0.33	0.68	1.2	2.7	4	5.6	1.1	1.2
AMS07	Athabasca Valley	61	100%	0.04	0.14	0.22	0.31	0.68	1.2	2	3	7.4	0.96	1.2
AMS14	Anzac	60	97%	0	0.085	0.15	0.27	0.41	0.74	1.4	2.9	9.1	0.77	1.3
AMS09	Barge Landing	61	95%	0	0.022	0.056	0.15	0.38	1	2.3	3.2	4.2	0.77	0.96
AMS13	Fort McKay South	61	92%	0	0	0.052	0.19	0.44	0.93	1.7	3.1	22	1	2.9
AMS15	Horizon	40	95%	0	0.075	0.18	0.3	0.82	2.1	3.1	4.9	6.8	1.4	1.5
AMS21	Conklin	31	97%	0	0.13	0.15	0.2	0.42	0.99	1.3	1.5	4.5	0.67	0.82
AMS22	Janvier	61	95%	0	0.022	0.08	0.12	0.31	0.66	1.5	2.1	6.8	0.63	1.1
AMS30	Ells River	17	100%	0.05	0.068	0.11	0.16	0.44	0.87	2	3.4	4.1	0.81	1



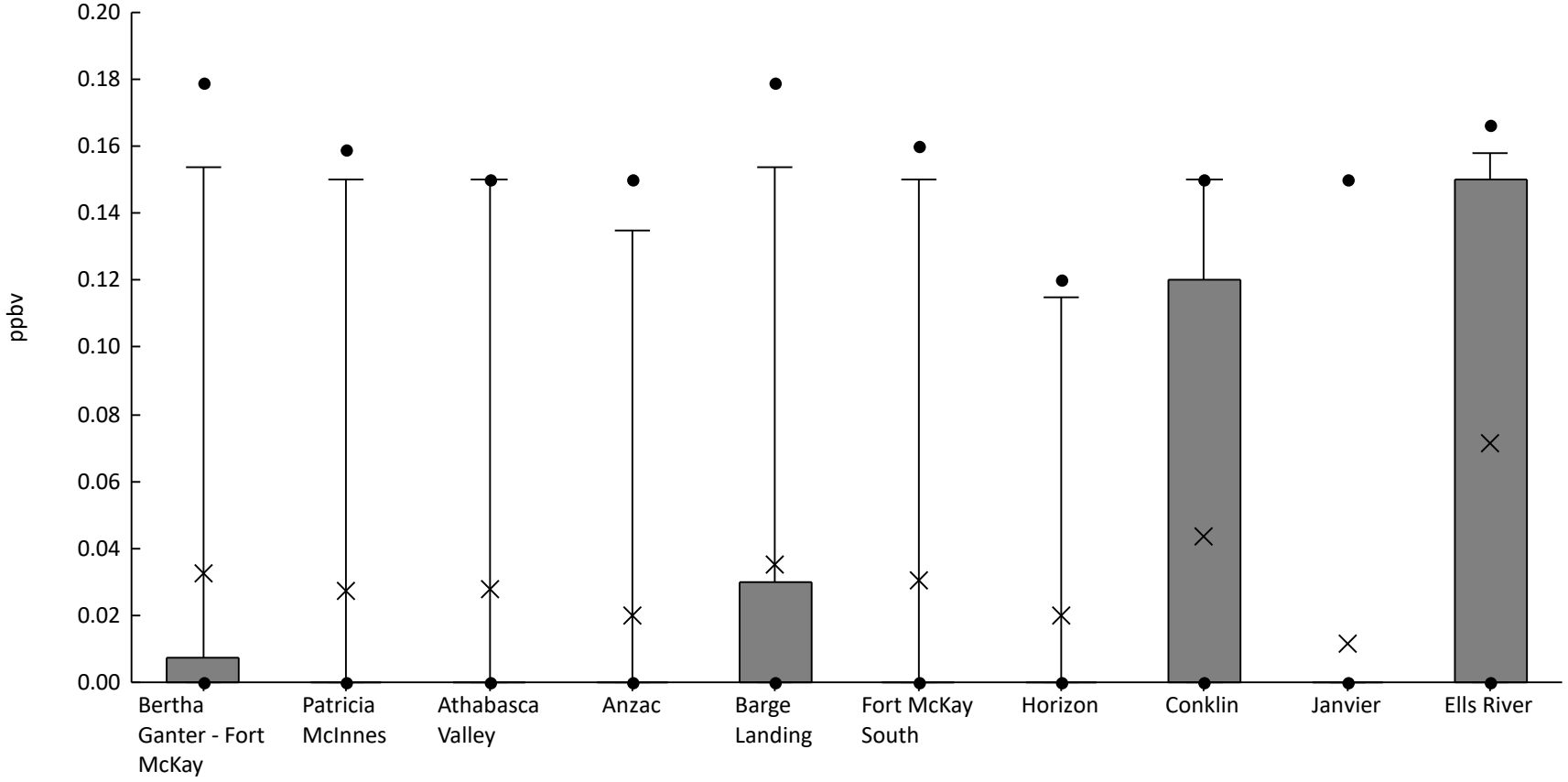
Volatile Organic Compound Canister - n-Decane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	44%	0	0	0	0	0	0.08	0.13	0.15	0.18	0.043	0.055
AMS06	Patricia McInnes	61	26%	0	0	0	0	0	0.03	0.084	0.1	0.15	0.022	0.04
AMS07	Athabasca Valley	61	31%	0	0	0	0	0	0.063	0.09	0.1	0.15	0.025	0.041
AMS14	Anzac	60	15%	0	0	0	0	0	0	0.065	0.075	0.11	0.011	0.027
AMS09	Barge Landing	61	34%	0	0	0	0	0	0.07	0.11	0.14	0.17	0.032	0.05
AMS13	Fort McKay South	61	38%	0	0	0	0	0	0.07	0.11	0.15	0.21	0.037	0.054
AMS15	Horizon	40	32%	0	0	0	0	0	0.07	0.12	0.15	0.16	0.031	0.05
AMS21	Conklin	31	29%	0	0	0	0	0	0.05	0.074	0.08	0.09	0.02	0.033
AMS22	Janvier	61	8%	0	0	0	0	0	0	0	0.059	0.09	5.4E-3	0.019
AMS30	Ells River	17	29%	0	0	0	0	0	0.073	0.098	0.1	0.1	0.026	0.042



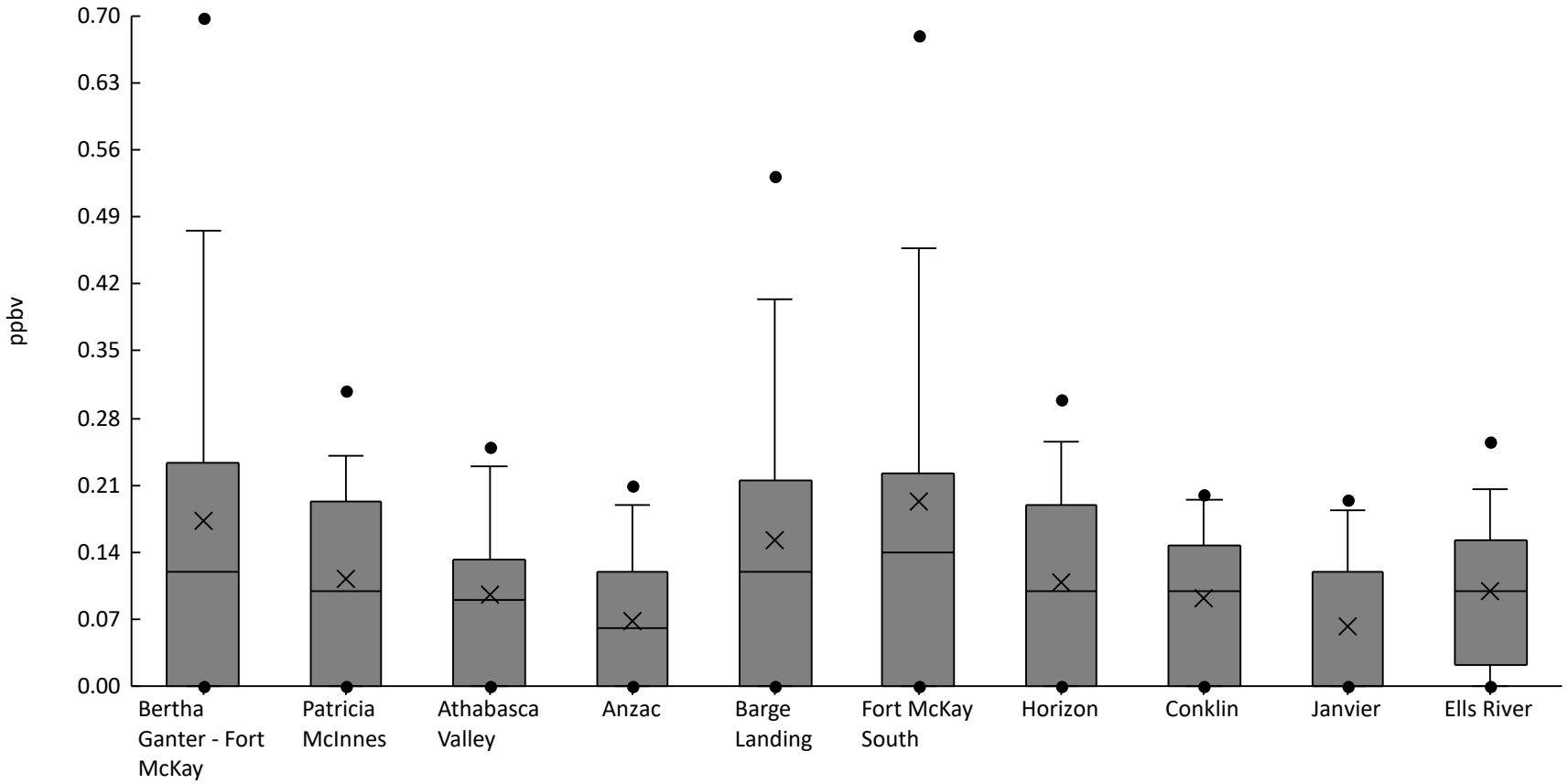
Volatile Organic Compound Canister - n-Dodecane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	25%	0	0	0	0	0	7.5E-3	0.15	0.18	0.21	0.033	0.063
AMS06	Patricia McInnes	61	18%	0	0	0	0	0	0	0.15	0.16	0.2	0.027	0.059
AMS07	Athabasca Valley	61	20%	0	0	0	0	0	0	0.15	0.15	0.21	0.028	0.058
AMS14	Anzac	60	13%	0	0	0	0	0	0	0.14	0.15	0.19	0.02	0.052
AMS09	Barge Landing	61	26%	0	0	0	0	0	0.03	0.15	0.18	0.21	0.035	0.065
AMS13	Fort McKay South	61	23%	0	0	0	0	0	0	0.15	0.16	0.21	0.03	0.06
AMS15	Horizon	40	20%	0	0	0	0	0	0	0.12	0.12	0.17	0.02	0.045
AMS21	Conklin	31	35%	0	0	0	0	0	0.12	0.15	0.15	0.15	0.044	0.063
AMS22	Janvier	61	8%	0	0	0	0	0	0	0	0.15	0.15	0.012	0.04
AMS30	Ells River	17	47%	0	0	0	0	0	0.15	0.16	0.17	0.17	0.071	0.078



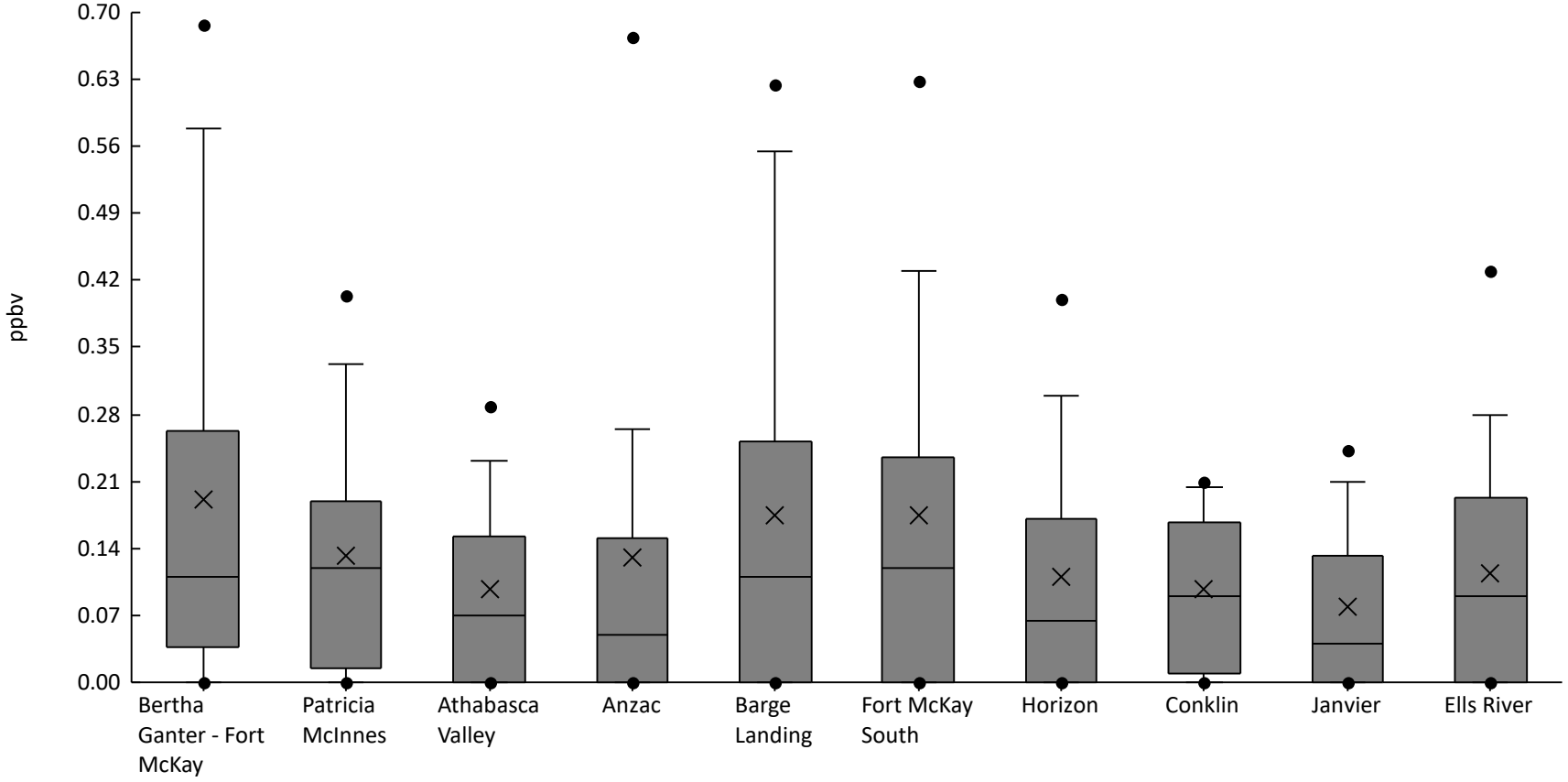
Volatile Organic Compound Canister - n-Heptane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	67%	0	0	0	0	0.12	0.23	0.48	0.7	0.74	0.17	0.2
AMS06	Patricia McInnes	61	66%	0	0	0	0	0.1	0.19	0.24	0.31	0.47	0.11	0.11
AMS07	Athabasca Valley	61	66%	0	0	0	0	0.09	0.13	0.23	0.25	0.33	0.096	0.091
AMS14	Anzac	60	55%	0	0	0	0	0.06	0.12	0.19	0.21	0.22	0.069	0.074
AMS09	Barge Landing	61	66%	0	0	0	0	0.12	0.22	0.4	0.53	0.66	0.15	0.17
AMS13	Fort McKay South	61	70%	0	0	0	0	0.14	0.22	0.46	0.68	1.4	0.19	0.26
AMS15	Horizon	40	55%	0	0	0	0	0.1	0.19	0.26	0.3	0.5	0.11	0.12
AMS21	Conklin	31	68%	0	0	0	0	0.1	0.15	0.19	0.2	0.2	0.091	0.073
AMS22	Janvier	61	49%	0	0	0	0	0	0.12	0.18	0.19	0.2	0.063	0.072
AMS30	Ells River	17	76%	0	0	0	0.023	0.1	0.15	0.21	0.26	0.28	0.099	0.082



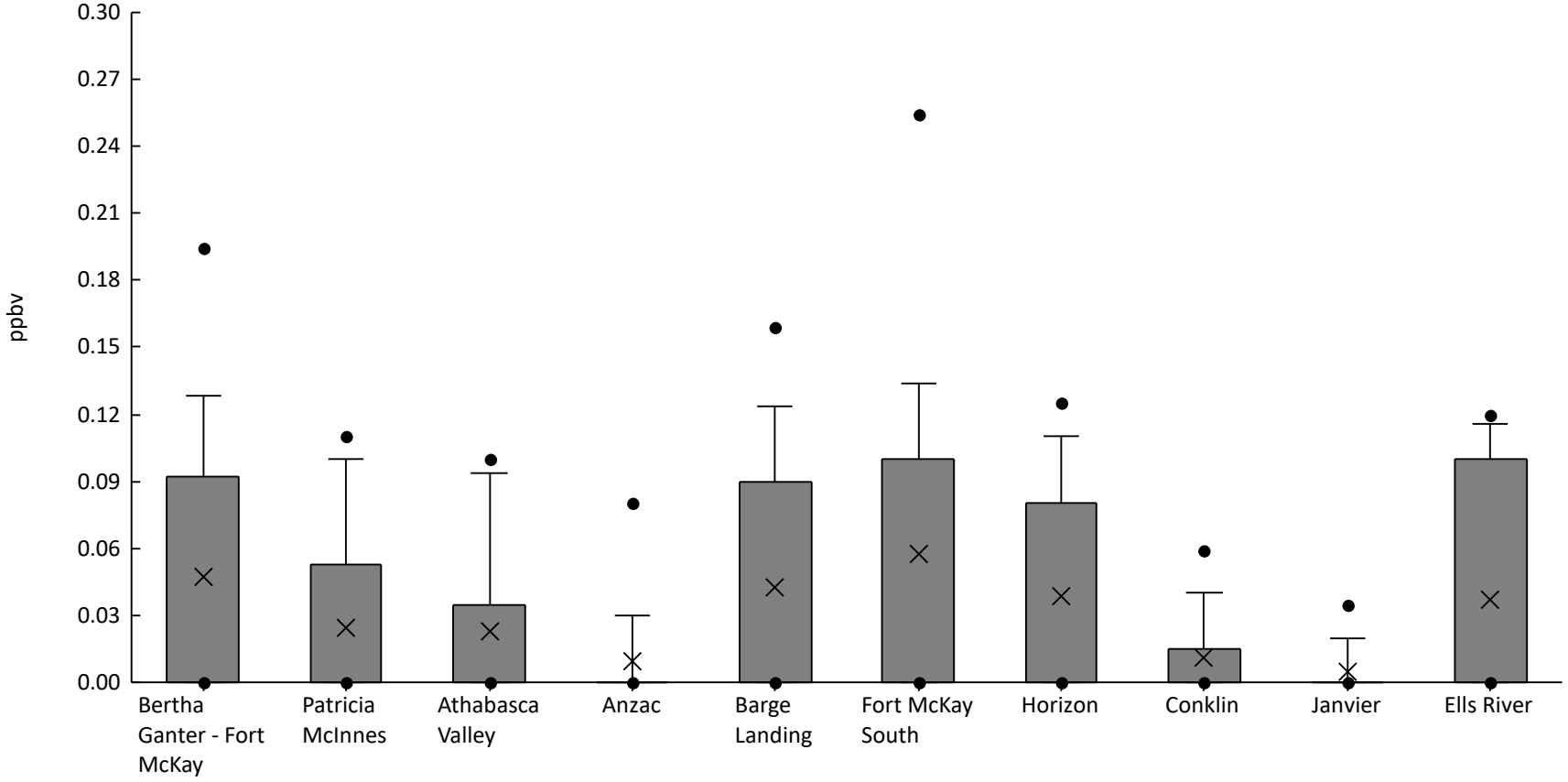
Volatile Organic Compound Canister - n-Hexane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	77%	0	0	0	0.038	0.11	0.26	0.58	0.69	1.2	0.19	0.24
AMS06	Patricia McInnes	61	75%	0	0	0	0.015	0.12	0.19	0.33	0.4	0.46	0.13	0.12
AMS07	Athabasca Valley	61	69%	0	0	0	0	0.07	0.15	0.23	0.29	0.41	0.097	0.099
AMS14	Anzac	60	67%	0	0	0	0	0.05	0.15	0.27	0.68	1.1	0.13	0.22
AMS09	Barge Landing	61	70%	0	0	0	0	0.11	0.25	0.55	0.62	0.72	0.17	0.2
AMS13	Fort McKay South	61	72%	0	0	0	0	0.12	0.24	0.43	0.63	1.1	0.18	0.21
AMS15	Horizon	40	62%	0	0	0	0	0.065	0.17	0.3	0.4	0.56	0.11	0.13
AMS21	Conklin	31	74%	0	0	0	0.01	0.09	0.17	0.2	0.21	0.25	0.097	0.08
AMS22	Janvier	61	61%	0	0	0	0	0.04	0.13	0.21	0.24	0.49	0.08	0.099
AMS30	Ells River	17	65%	0	0	0	0	0.09	0.19	0.28	0.43	0.5	0.11	0.14



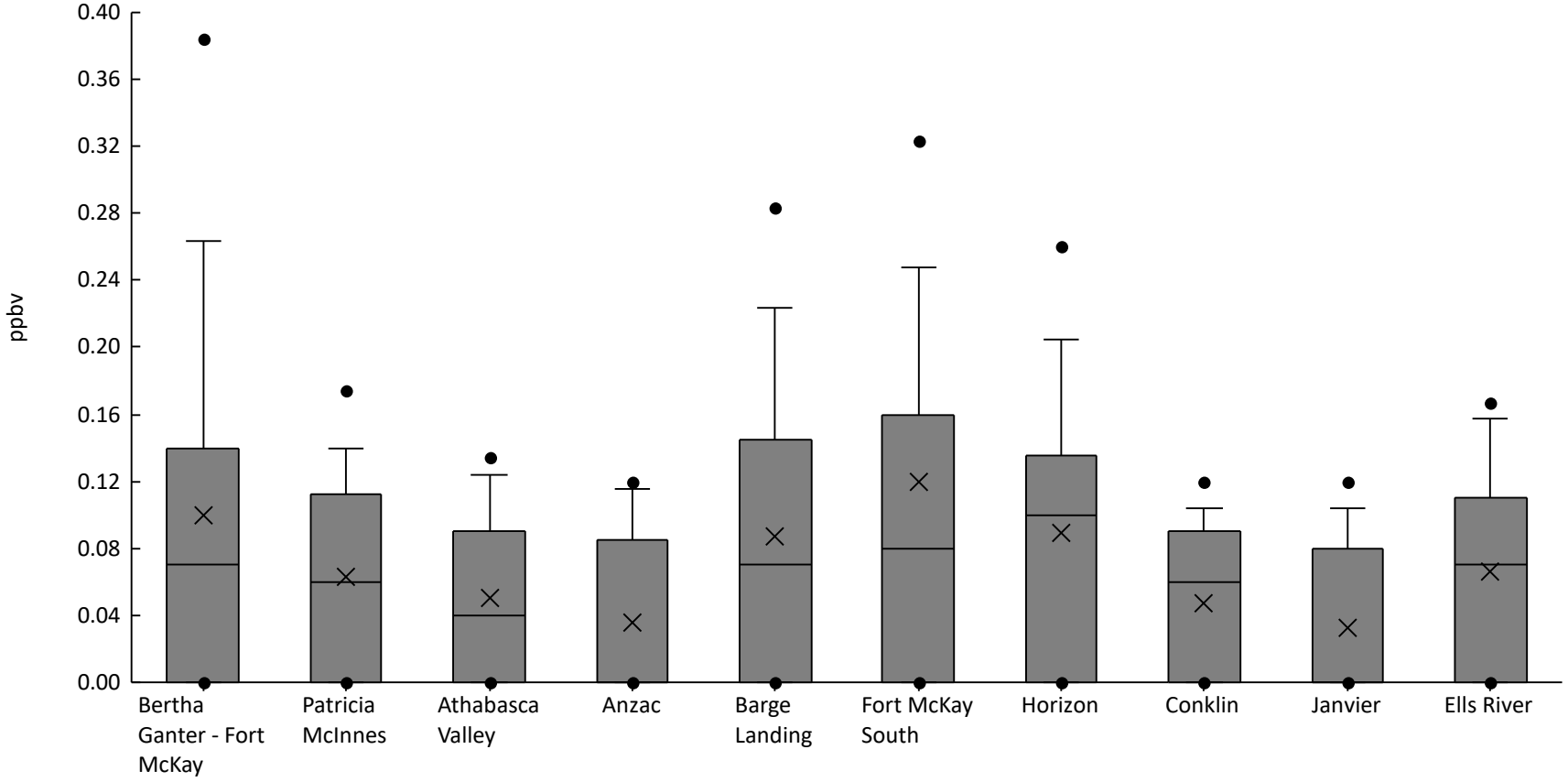
Volatile Organic Compound Canister - n-Nonane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	44%	0	0	0	0	0	0.093	0.13	0.19	0.29	0.047	0.068
AMS06	Patricia McInnes	61	31%	0	0	0	0	0	0.053	0.1	0.11	0.12	0.025	0.041
AMS07	Athabasca Valley	61	33%	0	0	0	0	0	0.035	0.094	0.1	0.11	0.022	0.037
AMS14	Anzac	60	18%	0	0	0	0	0	0	0.03	0.08	0.09	9.2E-3	0.023
AMS09	Barge Landing	61	43%	0	0	0	0	0	0.09	0.12	0.16	0.24	0.043	0.06
AMS13	Fort McKay South	61	48%	0	0	0	0	0	0.1	0.13	0.25	0.42	0.057	0.092
AMS15	Horizon	40	48%	0	0	0	0	0	0.08	0.11	0.13	0.16	0.039	0.048
AMS21	Conklin	31	26%	0	0	0	0	0	0.015	0.04	0.059	0.1	0.011	0.023
AMS22	Janvier	61	11%	0	0	0	0	0	0	0.02	0.035	0.09	4.6E-3	0.015
AMS30	Ells River	17	35%	0	0	0	0	0	0.1	0.12	0.12	0.12	0.037	0.052



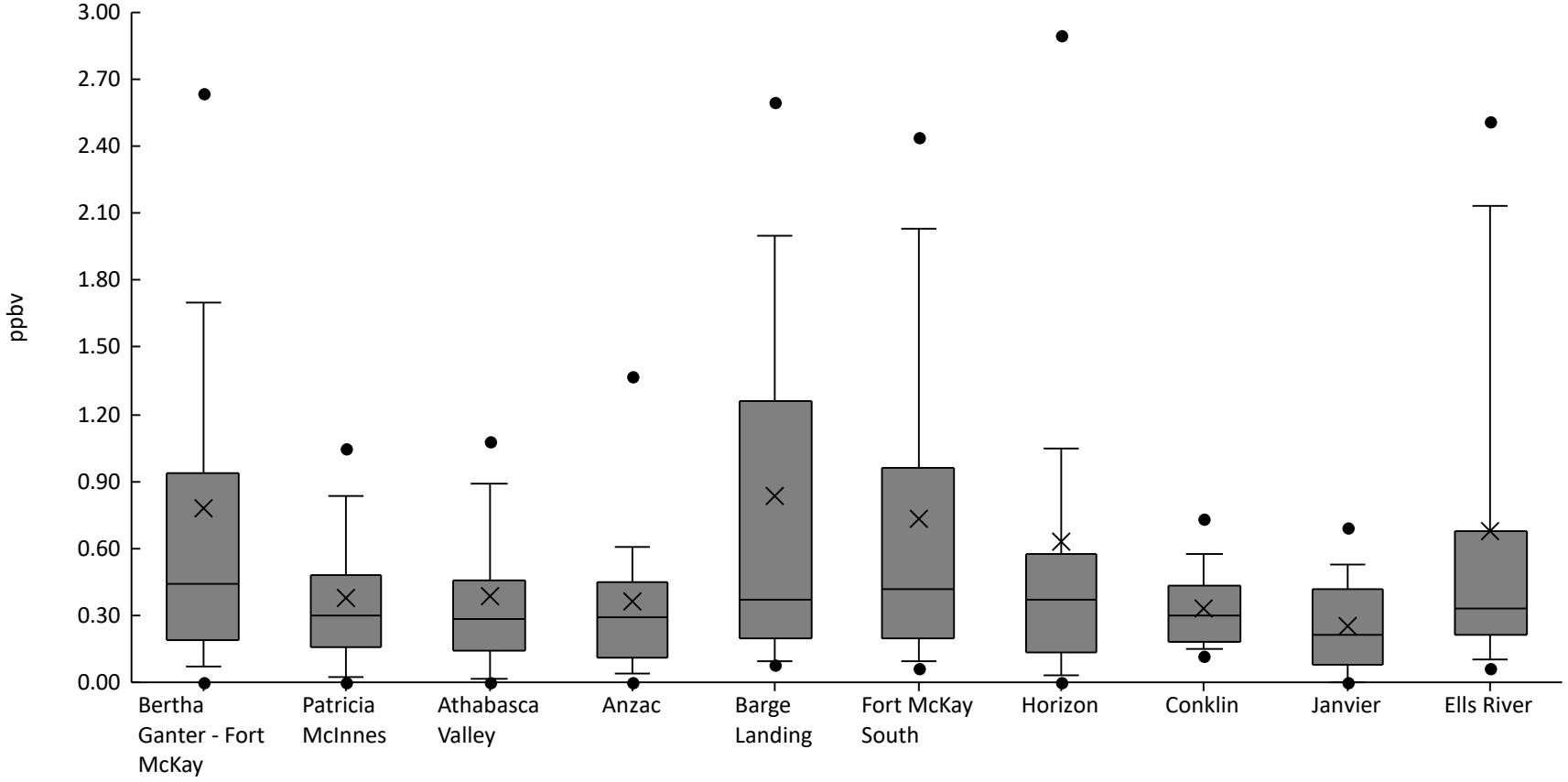
Volatile Organic Compound Canister - n-Octane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	59%	0	0	0	0	0.07	0.14	0.26	0.38	0.58	0.1	0.13
AMS06	Patricia McInnes	61	57%	0	0	0	0	0.06	0.11	0.14	0.17	0.22	0.063	0.064
AMS07	Athabasca Valley	61	52%	0	0	0	0	0.04	0.09	0.12	0.13	0.24	0.05	0.056
AMS14	Anzac	60	38%	0	0	0	0	0	0.085	0.12	0.12	0.2	0.035	0.05
AMS09	Barge Landing	61	57%	0	0	0	0	0.07	0.15	0.22	0.28	0.42	0.087	0.099
AMS13	Fort McKay South	61	61%	0	0	0	0	0.08	0.16	0.25	0.32	1.2	0.12	0.2
AMS15	Horizon	40	68%	0	0	0	0	0.1	0.14	0.21	0.26	0.29	0.089	0.083
AMS21	Conklin	31	55%	0	0	0	0	0.06	0.09	0.1	0.12	0.13	0.048	0.046
AMS22	Janvier	61	36%	0	0	0	0	0	0.08	0.1	0.12	0.16	0.032	0.047
AMS30	Ells River	17	59%	0	0	0	0	0.07	0.11	0.16	0.17	0.17	0.066	0.063



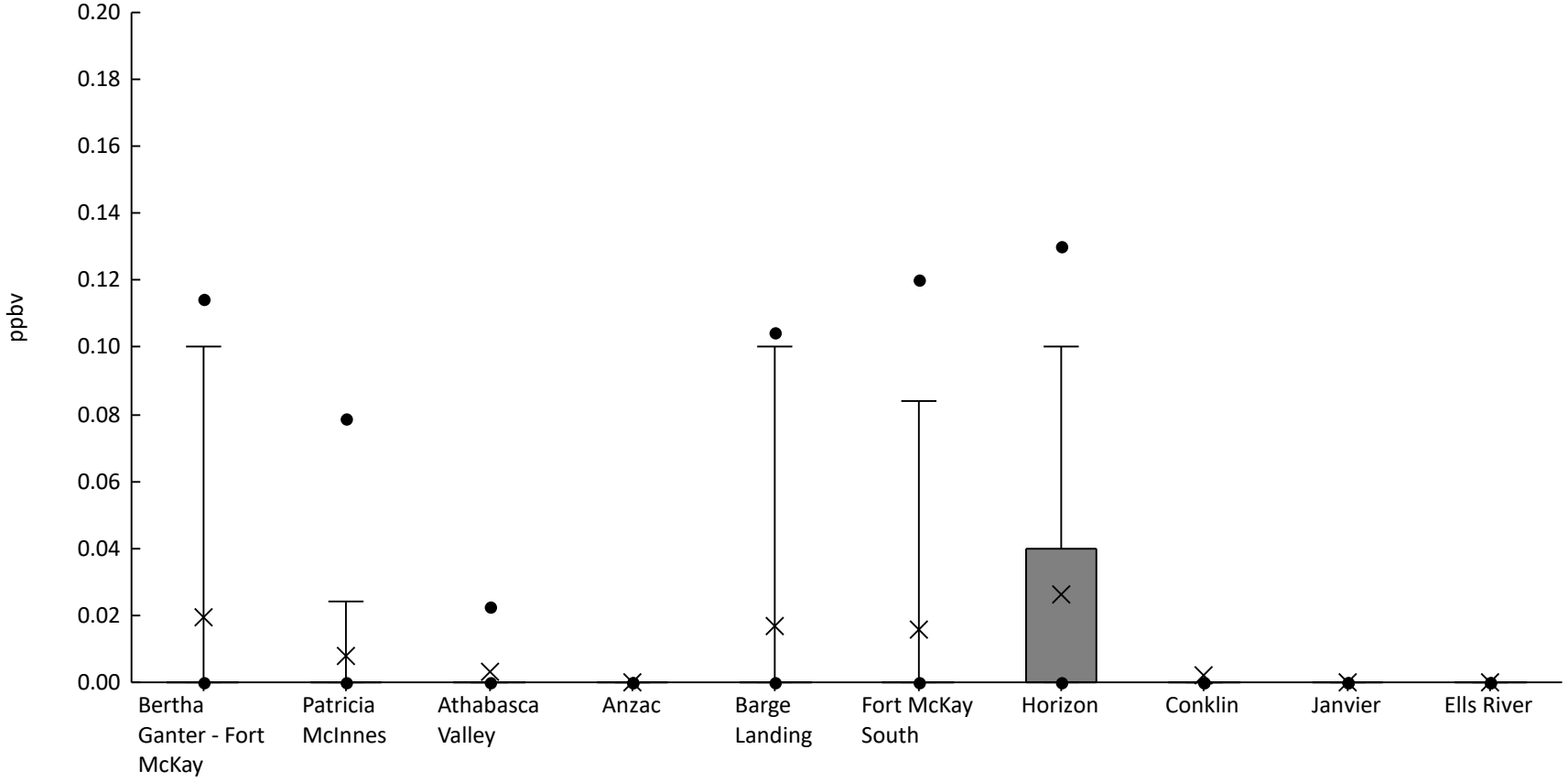
Volatile Organic Compound Canister - n-Pentane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	93%	0	0	0.068	0.19	0.44	0.94	1.7	2.6	6.6	0.78	1.1
AMS06	Patricia McInnes	61	90%	0	0	0.024	0.16	0.3	0.48	0.83	1	1.6	0.38	0.34
AMS07	Athabasca Valley	61	90%	0	0	0.018	0.14	0.28	0.46	0.89	1.1	2.6	0.39	0.42
AMS14	Anzac	60	92%	0	0	0.04	0.11	0.29	0.45	0.61	1.4	2.3	0.36	0.42
AMS09	Barge Landing	61	98%	0	0.076	0.092	0.2	0.37	1.3	2	2.6	7.6	0.83	1.2
AMS13	Fort McKay South	61	97%	0	0.061	0.096	0.2	0.42	0.96	2	2.4	4.8	0.74	0.87
AMS15	Horizon	40	90%	0	0	0.03	0.14	0.37	0.58	1	2.9	5.7	0.63	1.1
AMS21	Conklin	31	100%	0.09	0.12	0.15	0.18	0.3	0.44	0.57	0.74	0.92	0.33	0.19
AMS22	Janvier	61	85%	0	0	0	0.08	0.21	0.42	0.53	0.7	0.82	0.25	0.21
AMS30	Ells River	17	100%	0.04	0.061	0.1	0.21	0.33	0.68	2.1	2.5	2.7	0.68	0.79



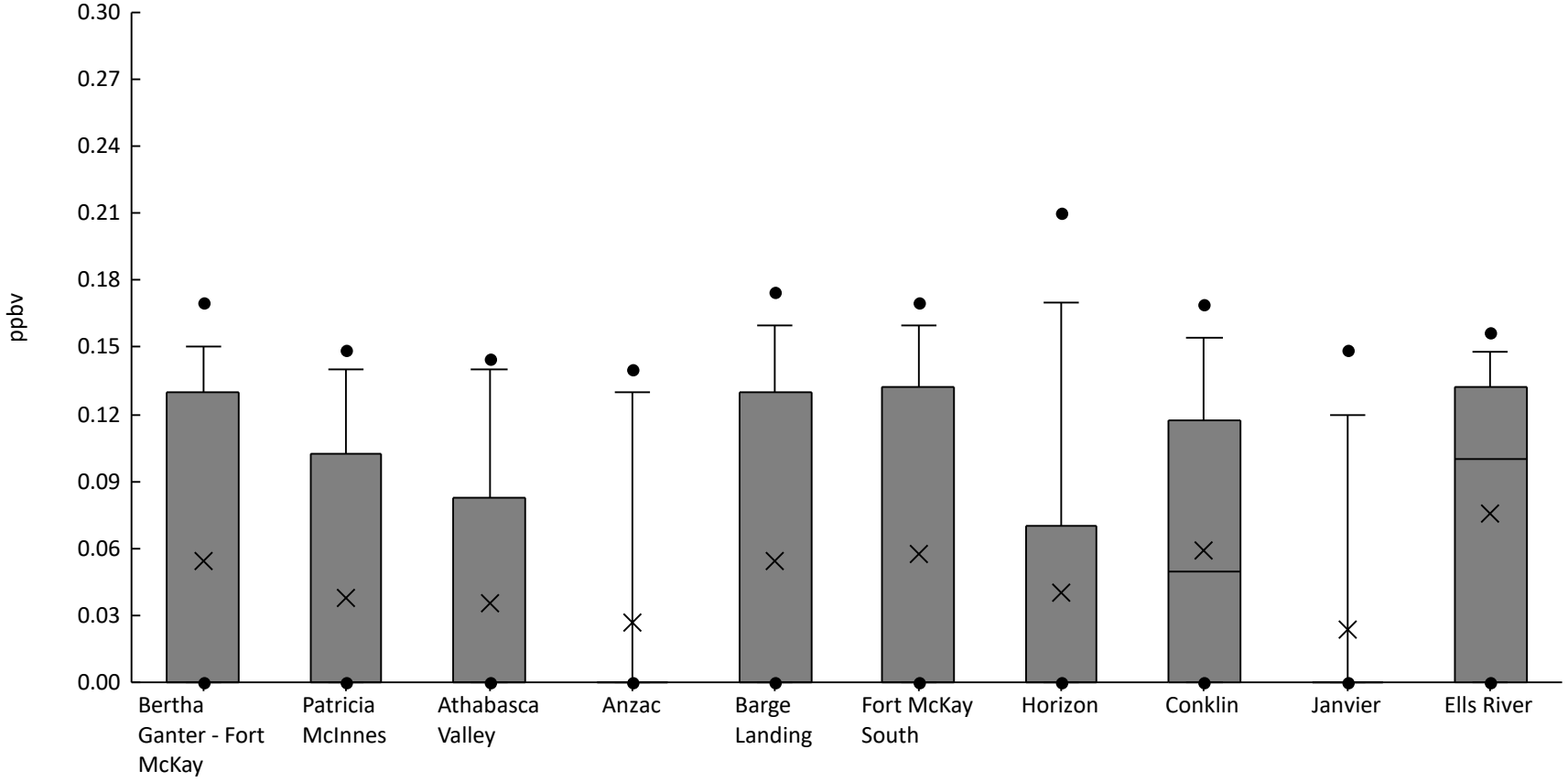
Volatile Organic Compound Canister - n-Propylbenzene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	20%	0	0	0	0	0	0	0.1	0.11	0.14	0.02	0.042
AMS06	Patricia McInnes	61	10%	0	0	0	0	0	0	0.024	0.079	0.11	8E-3	0.025
AMS07	Athabasca Valley	61	5%	0	0	0	0	0	0	0	0.022	0.08	3.1E-3	0.014
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	18%	0	0	0	0	0	0	0.1	0.1	0.14	0.017	0.038
AMS13	Fort McKay South	61	16%	0	0	0	0	0	0	0.084	0.12	0.14	0.016	0.038
AMS15	Horizon	40	30%	0	0	0	0	0	0.04	0.1	0.13	0.14	0.026	0.045
AMS21	Conklin	31	3%	0	0	0	0	0	0	0	0	0.06	1.9E-3	0.011
AMS22	Janvier	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



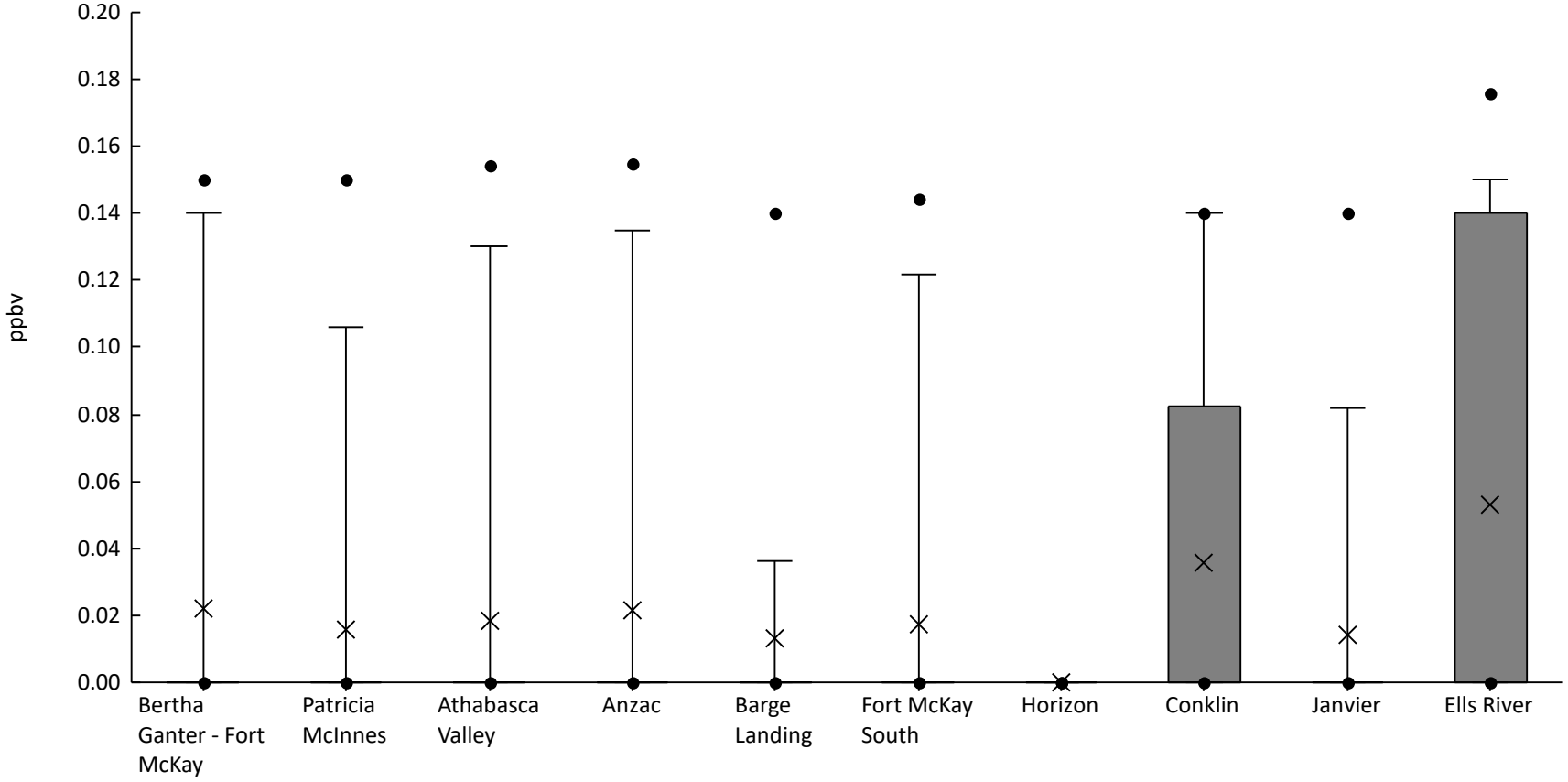
Volatile Organic Compound Canister - n-Undecane (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	41%	0	0	0	0	0	0.13	0.15	0.17	0.25	0.054	0.071
AMS06	Patricia McInnes	61	31%	0	0	0	0	0	0.1	0.14	0.15	0.19	0.038	0.06
AMS07	Athabasca Valley	61	31%	0	0	0	0	0	0.083	0.14	0.14	0.17	0.036	0.057
AMS14	Anzac	60	23%	0	0	0	0	0	0	0.13	0.14	0.15	0.027	0.051
AMS09	Barge Landing	61	39%	0	0	0	0	0	0.13	0.16	0.17	0.23	0.054	0.073
AMS13	Fort McKay South	61	41%	0	0	0	0	0	0.13	0.16	0.17	0.37	0.058	0.08
AMS15	Horizon	40	30%	0	0	0	0	0	0.07	0.17	0.21	0.22	0.04	0.07
AMS21	Conklin	31	52%	0	0	0	0	0.05	0.12	0.15	0.17	0.17	0.059	0.064
AMS22	Janvier	61	20%	0	0	0	0	0	0	0.12	0.15	0.17	0.024	0.05
AMS30	Ells River	17	59%	0	0	0	0	0.1	0.13	0.15	0.16	0.16	0.075	0.067



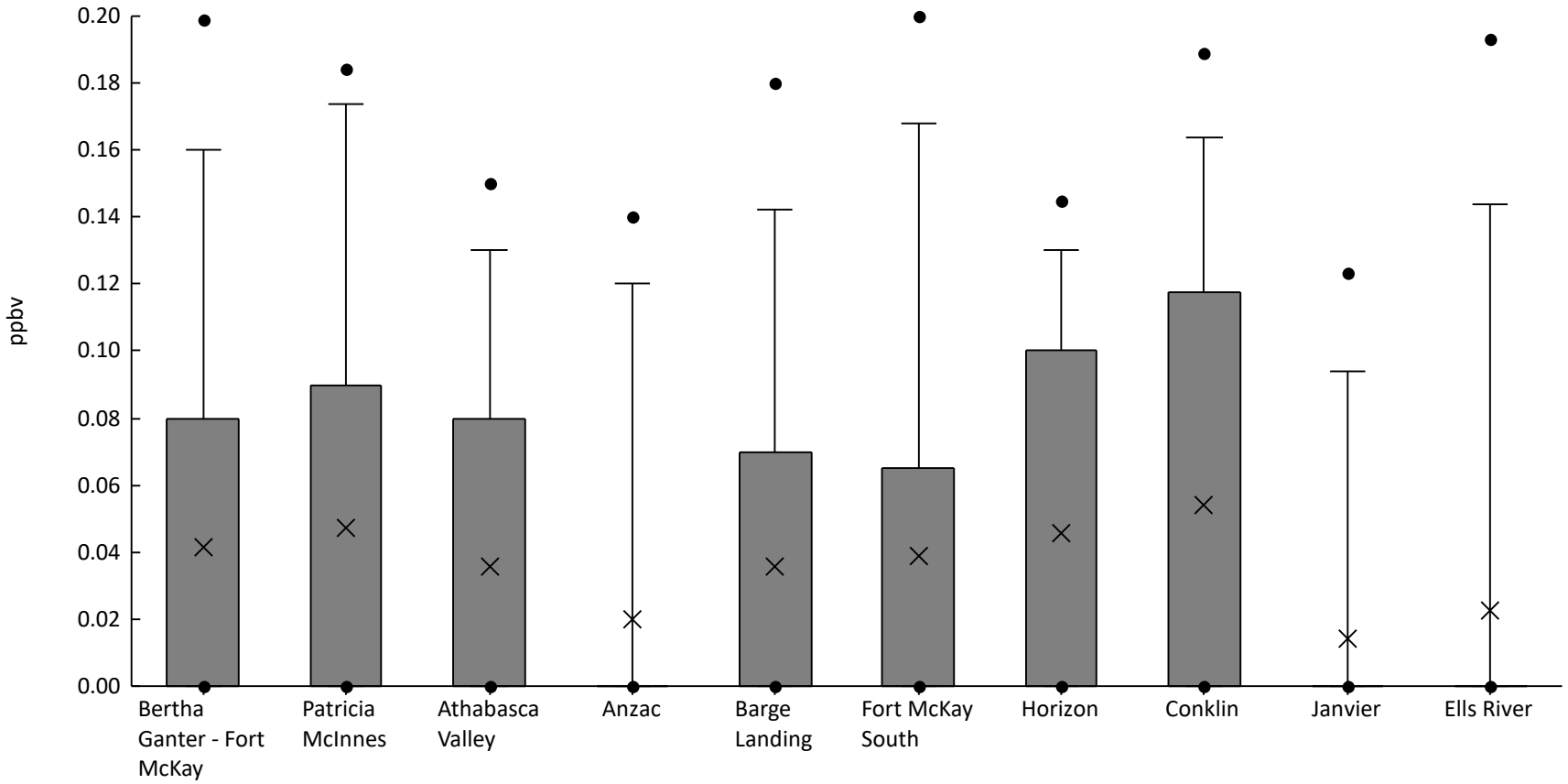
Volatile Organic Compound Canister - Naphthalene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	16%	0	0	0	0	0	0	0.14	0.15	0.18	0.022	0.052
AMS06	Patricia McInnes	61	11%	0	0	0	0	0	0	0.11	0.15	0.16	0.016	0.045
AMS07	Athabasca Valley	61	13%	0	0	0	0	0	0	0.13	0.15	0.16	0.018	0.048
AMS14	Anzac	60	15%	0	0	0	0	0	0	0.14	0.16	0.19	0.022	0.053
AMS09	Barge Landing	61	10%	0	0	0	0	0	0	0.036	0.14	0.15	0.013	0.041
AMS13	Fort McKay South	61	13%	0	0	0	0	0	0	0.12	0.14	0.15	0.018	0.046
AMS15	Horizon	40	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	29%	0	0	0	0	0	0.083	0.14	0.14	0.15	0.036	0.059
AMS22	Janvier	61	11%	0	0	0	0	0	0	0.082	0.14	0.14	0.014	0.041
AMS30	Ells River	17	35%	0	0	0	0	0	0.14	0.15	0.18	0.19	0.053	0.075



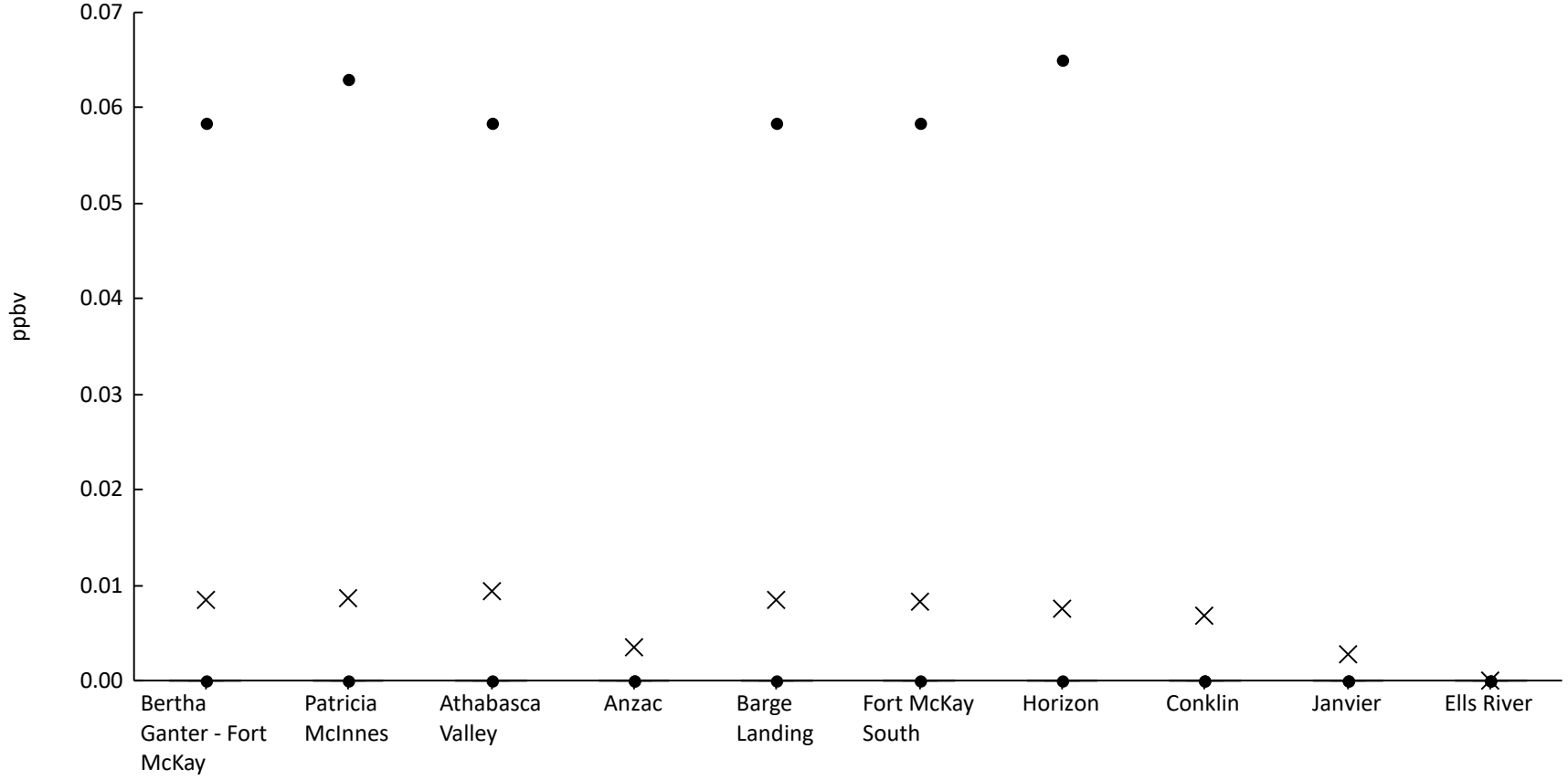
Volatile Organic Compound Canister - o-Xylene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	33%	0	0	0	0	0	0.08	0.16	0.2	0.25	0.041	0.069
AMS06	Patricia McInnes	61	36%	0	0	0	0	0	0.09	0.17	0.18	0.22	0.047	0.071
AMS07	Athabasca Valley	61	33%	0	0	0	0	0	0.08	0.13	0.15	0.17	0.036	0.055
AMS14	Anzac	60	15%	0	0	0	0	0	0	0.12	0.14	0.2	0.02	0.05
AMS09	Barge Landing	61	31%	0	0	0	0	0	0.07	0.14	0.18	0.2	0.036	0.061
AMS13	Fort McKay South	61	28%	0	0	0	0	0	0.065	0.17	0.2	0.25	0.039	0.071
AMS15	Horizon	40	42%	0	0	0	0	0	0.1	0.13	0.15	0.24	0.046	0.061
AMS21	Conklin	31	39%	0	0	0	0	0	0.12	0.16	0.19	0.25	0.054	0.076
AMS22	Janvier	61	11%	0	0	0	0	0	0	0.094	0.12	0.17	0.014	0.041
AMS30	Ells River	17	12%	0	0	0	0	0	0	0.14	0.19	0.2	0.022	0.063



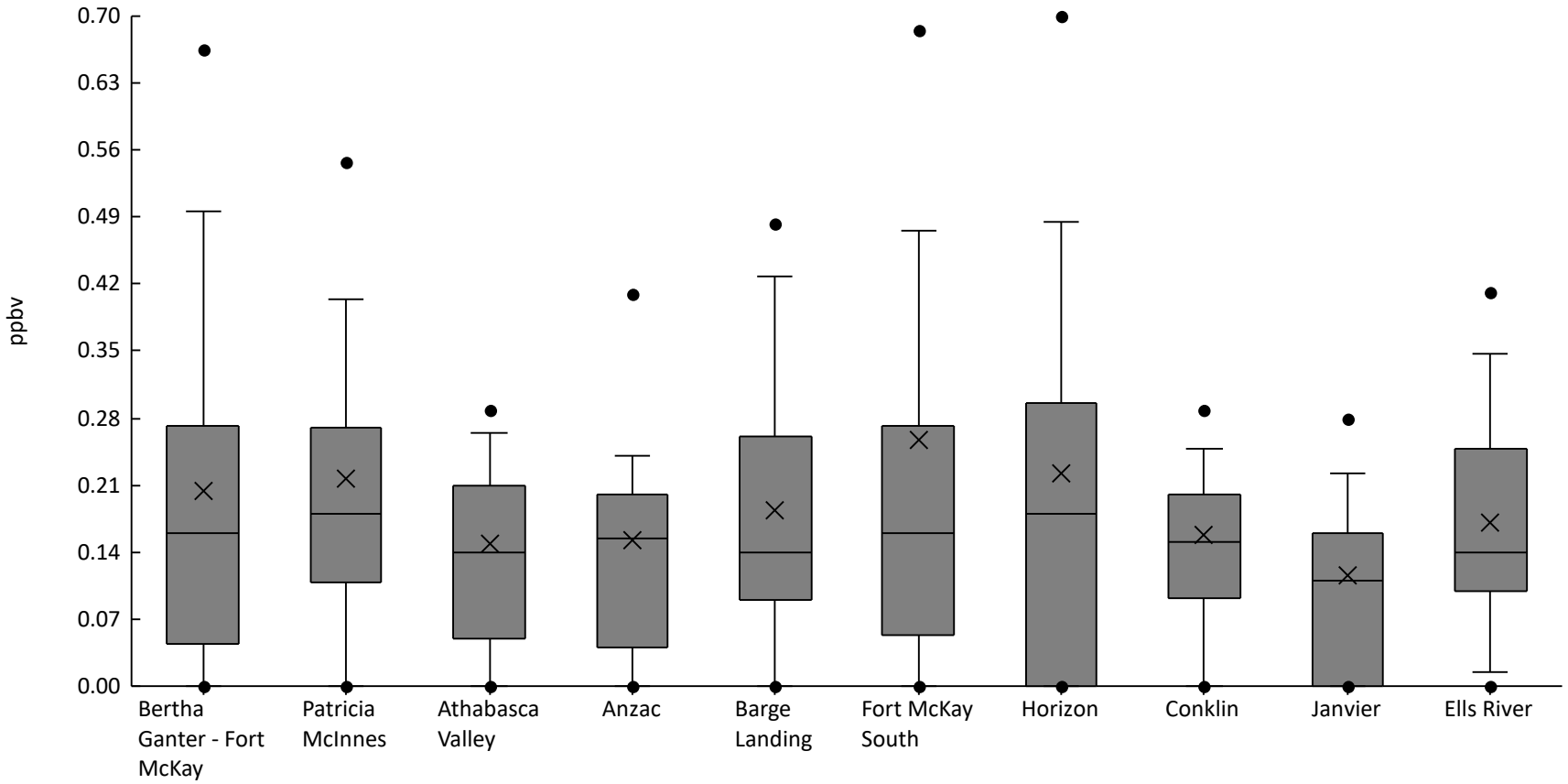
Volatile Organic Compound Canister - Styrene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	5%	0	0	0	0	0	0	0	0.058	0.21	8.4E-3	0.038
AMS06	Patricia McInnes	61	5%	0	0	0	0	0	0	0	0.063	0.21	8.7E-3	0.039
AMS07	Athabasca Valley	61	5%	0	0	0	0	0	0	0	0.058	0.23	9.3E-3	0.043
AMS14	Anzac	60	2%	0	0	0	0	0	0	0	0	0.21	3.5E-3	0.027
AMS09	Barge Landing	61	5%	0	0	0	0	0	0	0	0.058	0.21	8.4E-3	0.038
AMS13	Fort McKay South	61	5%	0	0	0	0	0	0	0	0.058	0.21	8.2E-3	0.037
AMS15	Horizon	40	5%	0	0	0	0	0	0	0	0.065	0.17	7.5E-3	0.033
AMS21	Conklin	31	3%	0	0	0	0	0	0	0	0	0.21	6.8E-3	0.038
AMS22	Janvier	61	2%	0	0	0	0	0	0	0	0	0.17	2.8E-3	0.022
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



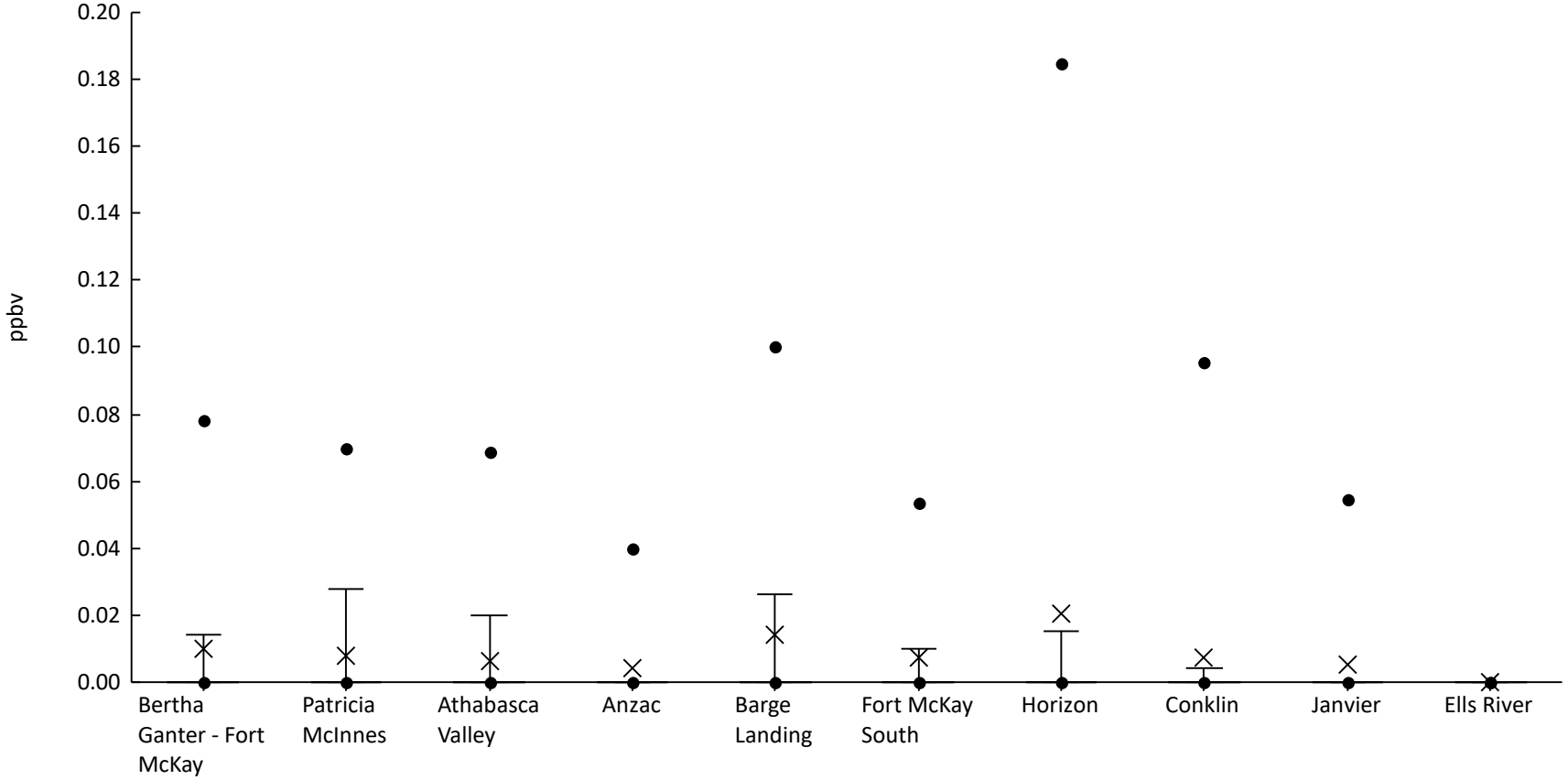
Volatile Organic Compound Canister - Toluene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	77%	0	0	0	0.045	0.16	0.27	0.5	0.67	0.94	0.2	0.21
AMS06	Patricia McInnes	61	84%	0	0	0	0.11	0.18	0.27	0.4	0.55	1.3	0.22	0.22
AMS07	Athabasca Valley	61	80%	0	0	0	0.05	0.14	0.21	0.26	0.29	0.86	0.15	0.14
AMS14	Anzac	60	78%	0	0	0	0.04	0.16	0.2	0.24	0.41	1.1	0.15	0.17
AMS09	Barge Landing	61	82%	0	0	0	0.09	0.14	0.26	0.43	0.48	0.6	0.18	0.15
AMS13	Fort McKay South	61	75%	0	0	0	0.053	0.16	0.27	0.48	0.68	4	0.26	0.52
AMS15	Horizon	40	72%	0	0	0	0	0.18	0.3	0.49	0.7	1.5	0.22	0.28
AMS21	Conklin	31	84%	0	0	0	0.093	0.15	0.2	0.25	0.29	0.82	0.16	0.15
AMS22	Janvier	61	69%	0	0	0	0	0.11	0.16	0.22	0.28	0.77	0.11	0.13
AMS30	Ells River	17	88%	0	0	0.014	0.1	0.14	0.25	0.35	0.41	0.44	0.17	0.12



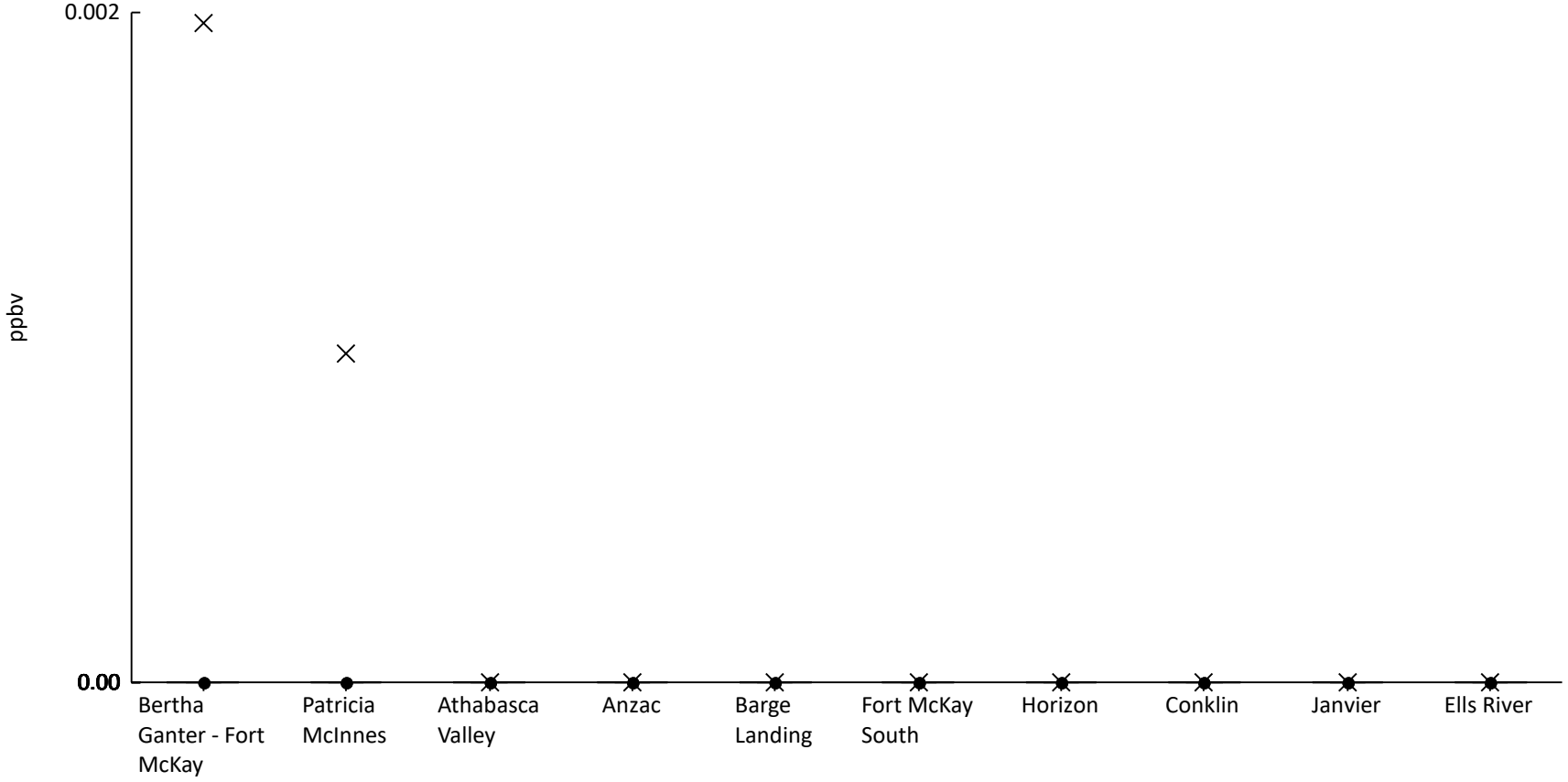
Volatile Organic Compound Canister - trans-2-Butene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	13%	0	0	0	0	0	0	0.014	0.078	0.27	0.01	0.039
AMS06	Patricia McInnes	61	15%	0	0	0	0	0	0	0.028	0.07	0.1	7.9E-3	0.023
AMS07	Athabasca Valley	61	13%	0	0	0	0	0	0	0.02	0.069	0.1	6.6E-3	0.021
AMS14	Anzac	60	7%	0	0	0	0	0	0	0	0.04	0.1	4E-3	0.016
AMS09	Barge Landing	61	11%	0	0	0	0	0	0	0.026	0.1	0.31	0.014	0.053
AMS13	Fort McKay South	61	11%	0	0	0	0	0	0	0.01	0.053	0.18	7.5E-3	0.029
AMS15	Horizon	40	10%	0	0	0	0	0	0	0.015	0.19	0.41	0.02	0.081
AMS21	Conklin	31	10%	0	0	0	0	0	0	4E-3	0.095	0.12	7.4E-3	0.028
AMS22	Janvier	61	8%	0	0	0	0	0	0	0	0.055	0.1	5.1E-3	0.019
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



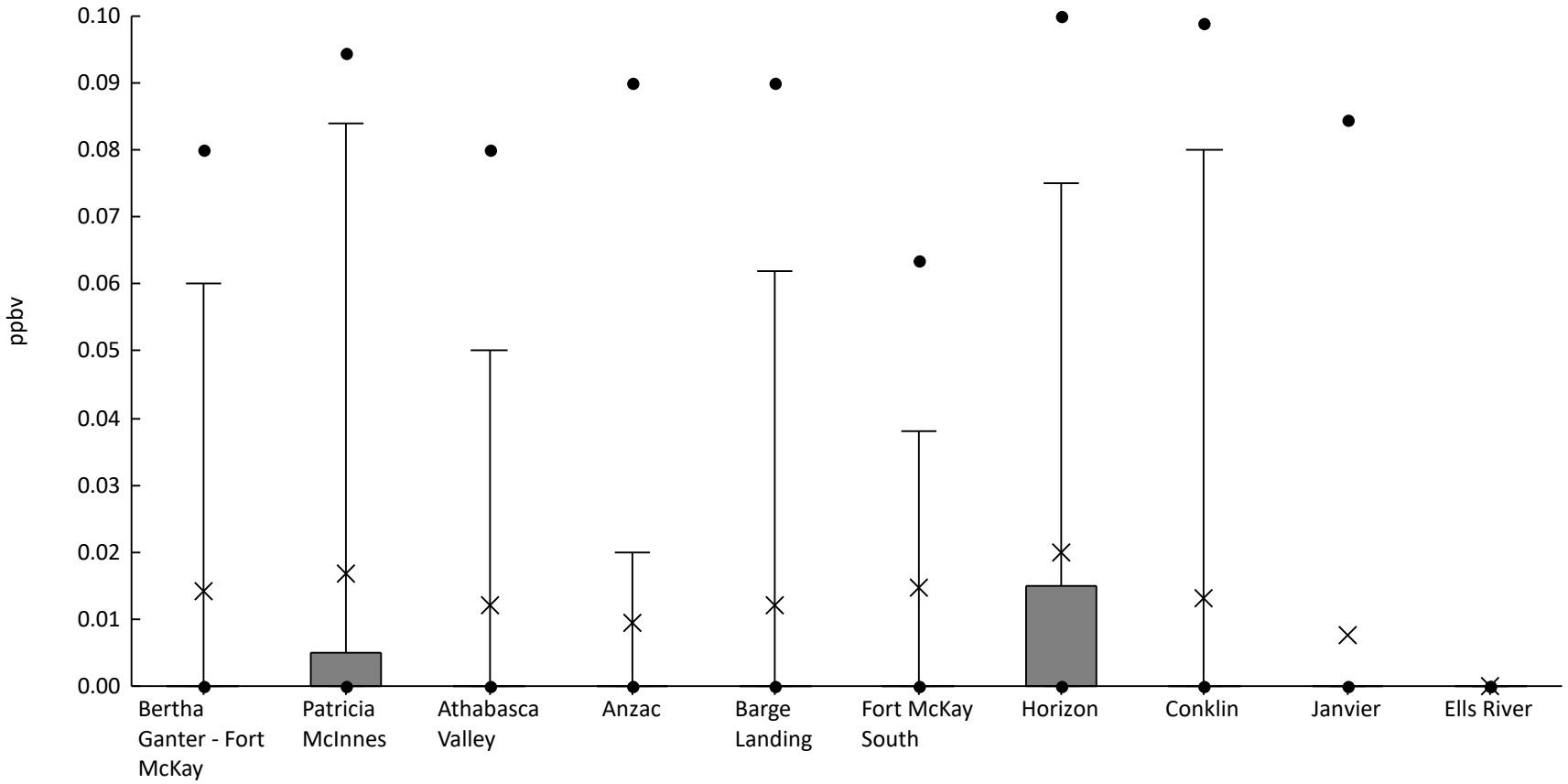
Volatile Organic Compound Canister - trans-2-Hexene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	3%	0	0	0	0	0	0	0	0	0.09	2E-3	0.012
AMS06	Patricia McInnes	61	2%	0	0	0	0	0	0	0	0	0.06	9.8E-4	7.7E-3
AMS07	Athabasca Valley	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS09	Barge Landing	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS13	Fort McKay South	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS15	Horizon	40	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



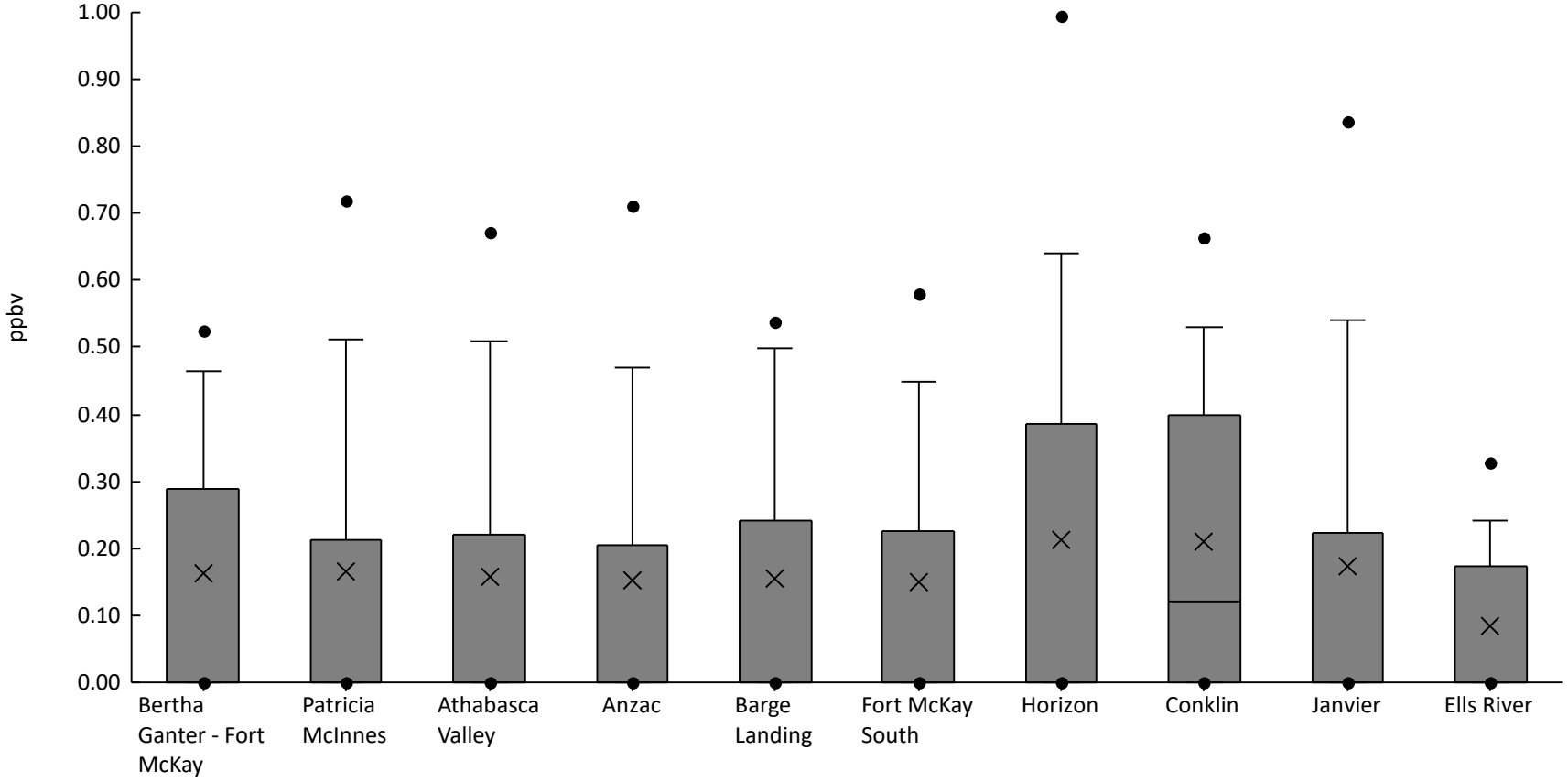
Volatile Organic Compound Canister - trans-2-Pentene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	23%	0	0	0	0	0	0	0.06	0.08	0.11	0.014	0.028
AMS06	Patricia McInnes	61	25%	0	0	0	0	0	5E-3	0.084	0.095	0.12	0.017	0.034
AMS07	Athabasca Valley	61	18%	0	0	0	0	0	0	0.05	0.08	0.13	0.012	0.028
AMS14	Anzac	60	10%	0	0	0	0	0	0	0.02	0.09	0.21	9.5E-3	0.034
AMS09	Barge Landing	61	16%	0	0	0	0	0	0	0.062	0.09	0.1	0.012	0.029
AMS13	Fort McKay South	61	15%	0	0	0	0	0	0	0.038	0.063	0.46	0.015	0.062
AMS15	Horizon	40	25%	0	0	0	0	0	0.015	0.075	0.1	0.23	0.02	0.045
AMS21	Conklin	31	13%	0	0	0	0	0	0	0.08	0.099	0.15	0.013	0.036
AMS22	Janvier	61	8%	0	0	0	0	0	0	0	0.085	0.14	7.7E-3	0.028
AMS30	Ells River	17	0%	0	0	0	0	0	0	0	0	0	0	0



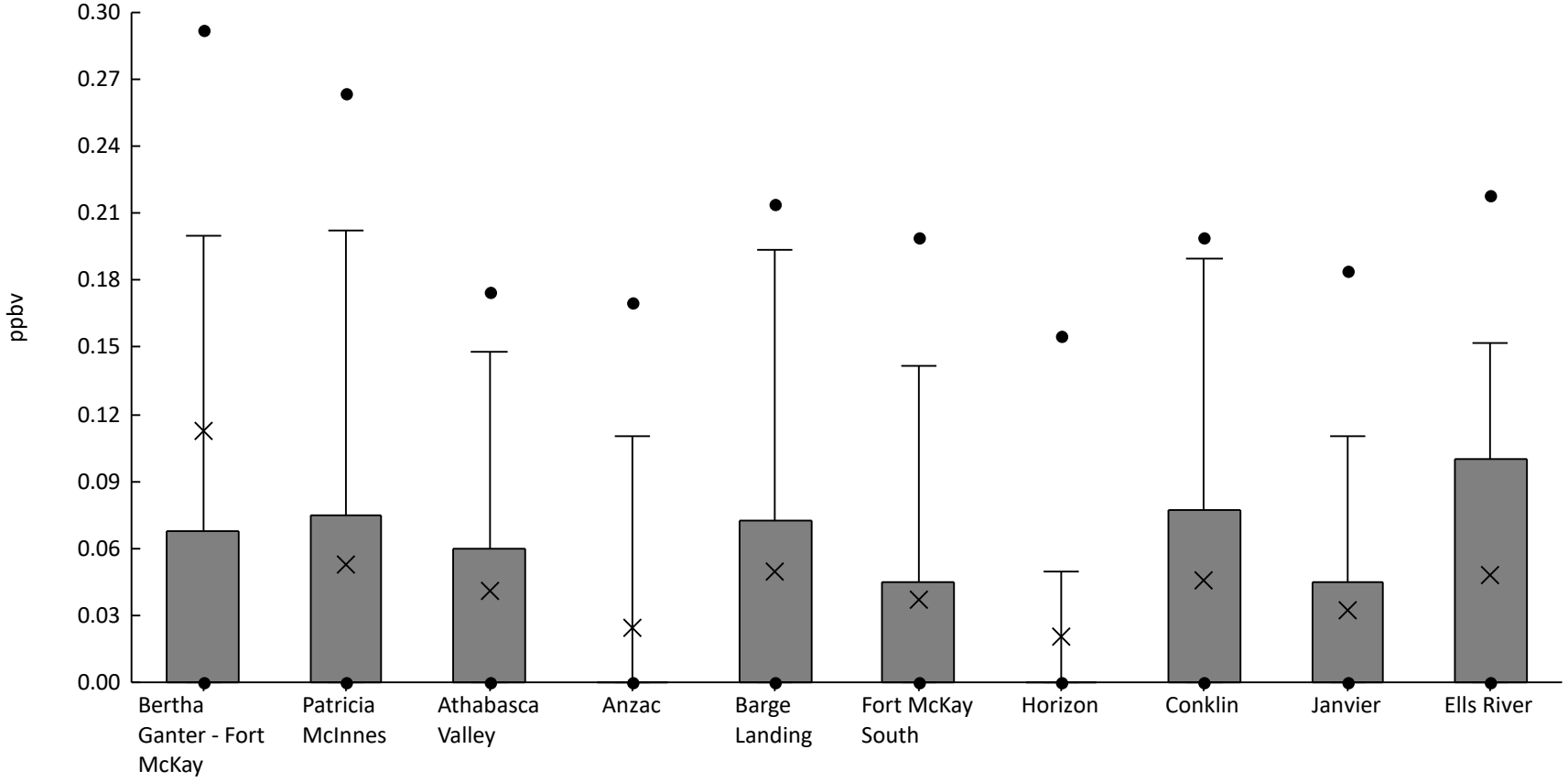
Volatile Organic Compound Canister - Methylvinylketone (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	46%	0	0	0	0	0	0.29	0.46	0.52	1.1	0.16	0.24
AMS06	Patricia McInnes	61	43%	0	0	0	0	0	0.21	0.51	0.72	1.5	0.16	0.28
AMS07	Athabasca Valley	61	48%	0	0	0	0	0	0.22	0.51	0.67	1.2	0.16	0.24
AMS14	Anzac	60	45%	0	0	0	0	0	0.21	0.47	0.71	1.1	0.15	0.24
AMS09	Barge Landing	61	44%	0	0	0	0	0	0.24	0.5	0.54	1.3	0.15	0.24
AMS13	Fort McKay South	61	46%	0	0	0	0	0	0.23	0.45	0.58	1	0.15	0.22
AMS15	Horizon	40	48%	0	0	0	0	0	0.39	0.64	1	1.3	0.21	0.33
AMS21	Conklin	31	52%	0	0	0	0	0.12	0.4	0.53	0.66	0.99	0.21	0.26
AMS22	Janvier	61	49%	0	0	0	0	0	0.22	0.54	0.84	1.2	0.17	0.28
AMS30	Ells River	17	41%	0	0	0	0	0	0.17	0.24	0.33	0.37	0.085	0.12



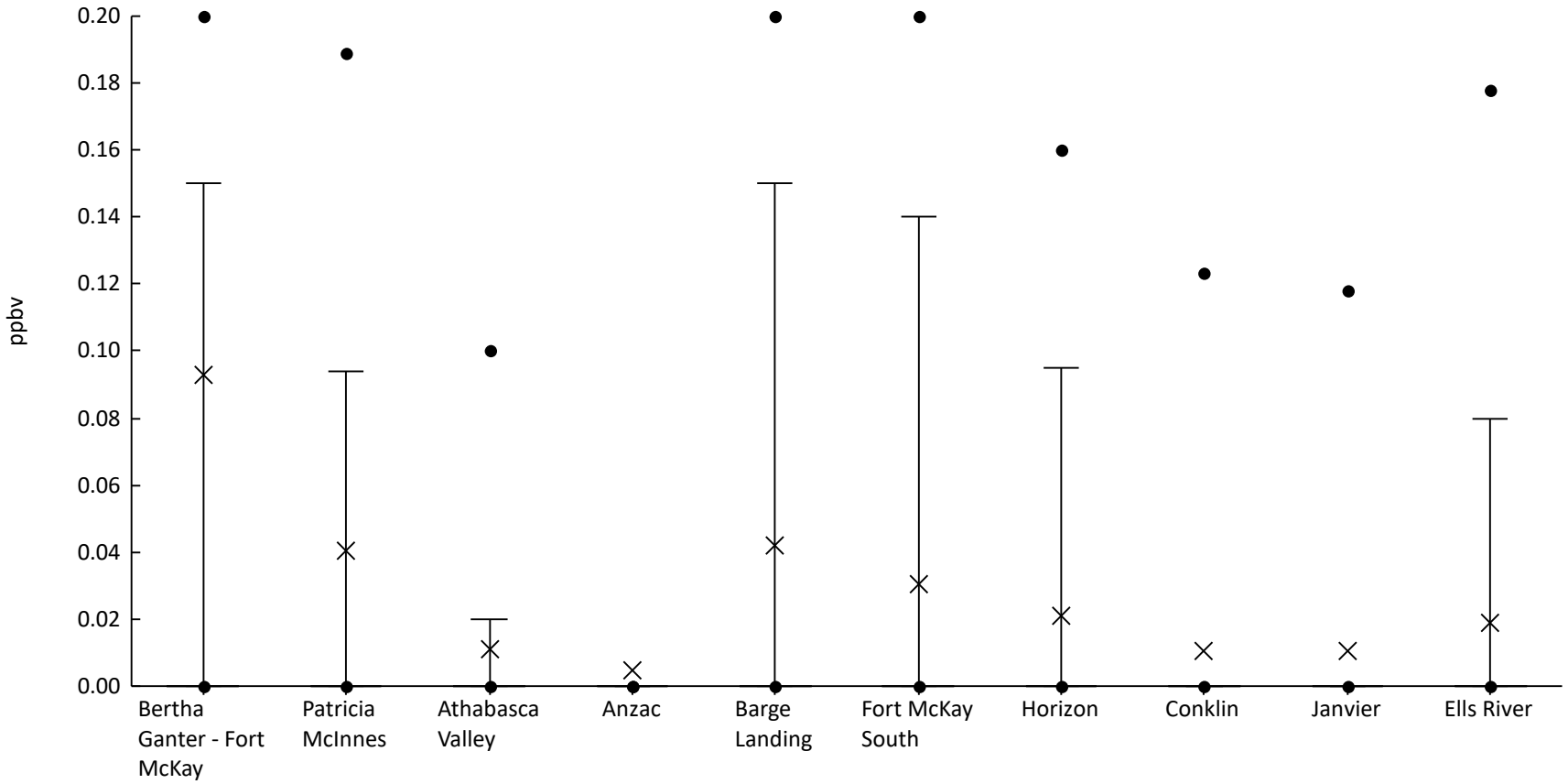
Volatile Organic Compound Canister - 1-Butene/Isobutylene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	38%	0	0	0	0	0	0.068	0.2	0.29	3.7	0.11	0.47
AMS06	Patricia McInnes	61	36%	0	0	0	0	0	0.075	0.2	0.26	0.48	0.053	0.097
AMS07	Athabasca Valley	61	34%	0	0	0	0	0	0.06	0.15	0.17	0.41	0.041	0.077
AMS14	Anzac	60	23%	0	0	0	0	0	0	0.11	0.17	0.21	0.025	0.053
AMS09	Barge Landing	61	33%	0	0	0	0	0	0.073	0.19	0.21	0.34	0.05	0.087
AMS13	Fort McKay South	61	30%	0	0	0	0	0	0.045	0.14	0.2	0.29	0.037	0.07
AMS15	Horizon	40	20%	0	0	0	0	0	0	0.05	0.16	0.31	0.021	0.062
AMS21	Conklin	31	32%	0	0	0	0	0	0.078	0.19	0.2	0.23	0.045	0.075
AMS22	Janvier	61	30%	0	0	0	0	0	0.045	0.11	0.18	0.25	0.032	0.061
AMS30	Ells River	17	35%	0	0	0	0	0	0.1	0.15	0.22	0.25	0.048	0.075



Volatile Organic Compound Canister - 1-Hexene/2-Methyl-1-pentene (ppbv) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	21%	0	0	0	0	0	0	0.15	0.2	4	0.093	0.51
AMS06	Patricia McInnes	61	13%	0	0	0	0	0	0	0.094	0.19	1.5	0.04	0.19
AMS07	Athabasca Valley	61	10%	0	0	0	0	0	0	0.02	0.1	0.2	0.011	0.037
AMS14	Anzac	60	3%	0	0	0	0	0	0	0	0	0.2	4.8E-3	0.028
AMS09	Barge Landing	61	21%	0	0	0	0	0	0	0.15	0.2	0.85	0.042	0.12
AMS13	Fort McKay South	61	21%	0	0	0	0	0	0	0.14	0.2	0.22	0.03	0.064
AMS15	Horizon	40	18%	0	0	0	0	0	0	0.095	0.16	0.2	0.021	0.051
AMS21	Conklin	31	6%	0	0	0	0	0	0	0	0.12	0.19	0.01	0.041
AMS22	Janvier	61	7%	0	0	0	0	0	0	0	0.12	0.2	0.01	0.041
AMS30	Ells River	17	12%	0	0	0	0	0	0	0.08	0.18	0.22	0.019	0.057



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

PARTICULATE MATTER 2.5 – IONS
PARTICULATE MATTER 10 – IONS
PARTICULATE MATTER 2.5 – ELEMENTS
PARTICULATE MATTER 10 – ELEMENTS
DATA SUMMARY 2020

Prepared
March 2021

SAMPLE COLLECTION AND DATA COMPILATION BY:

Wood Buffalo Environmental Association
Fort McMurray, Alberta

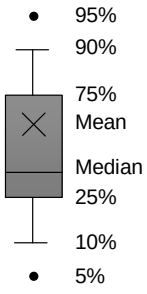
LABORATORY ANALYSIS BY:

PM: Desert Research Institute
Reno, NV

CONTENTS DESCRIPTION	Annual Summary of Partisol Sampler Measurements of Mass, Ions by IC and Elements by ICP-MS
SAMPLE PERIOD	24 hour
SAMPLING INTERVAL	Once every 6 days
EXPLANATION OF ZERO VALUES	Zero values are contained in this file and should be treated as values below detection - Method Detection Limits (MDL) are provided with each observation
UNITS	µg/m^3 (microgram per cubic meter)
OBSERVATION TYPE	Particles
FIELD SAMPLING OR MEASUREMENT PRINCIPLE	Filtration with PM_{10} Inlet for PM_{10} and with PM_{10} Inlet/Very Sharp Cut Cyclone for $PM_{2.5}$
PARTICLE DIAMETER	< 2.5 µm or < 10 µm
MEDIUM	47 mm Teflon Filter
ANALYTICALMETHODS	MASS by Microbalance
	ELEMENTS by Inductively Coupled Plasma Mass Spectrometry (ICP/MS)
	IONS by Ion Chromatography (IC)
SAMPLE PREPARATION	DI Water extraction for IC analysis and Acid Digestion for ICP/MS Analysis
ANALYTICAL LABORATORY	Desert Research Institute
USER NOTE 1	Data are not blank corrected
USER NOTE 2	Volume is given at actual conditions of temperature and pressure during sampling as measured by the sampler
USER NOTE 3	Blank sample concentration (µg/m^3) is calculated using expected actual volume of sampler
USER NOTE 4	Partisols for PM2.5 at AMS 15 occasionally samples 24.1 m3 despite being set for 24 m3. Flow has been calibrated. Reason for this behaviour is unknown.
USER NOTE 5	Data flags must be valid(V#) to be included in summary table
VOLUME STANDARDIZATION	Actual Volume at Ambient Conditions (since 01-Jan-2011)
SAMPLING INSTRUMENT TYPE	For PM_{10} FRM Partisol PM_{10} sampler
	For $PM_{2.5}$ FRM Partisol $PM_{2.5}$ sampler

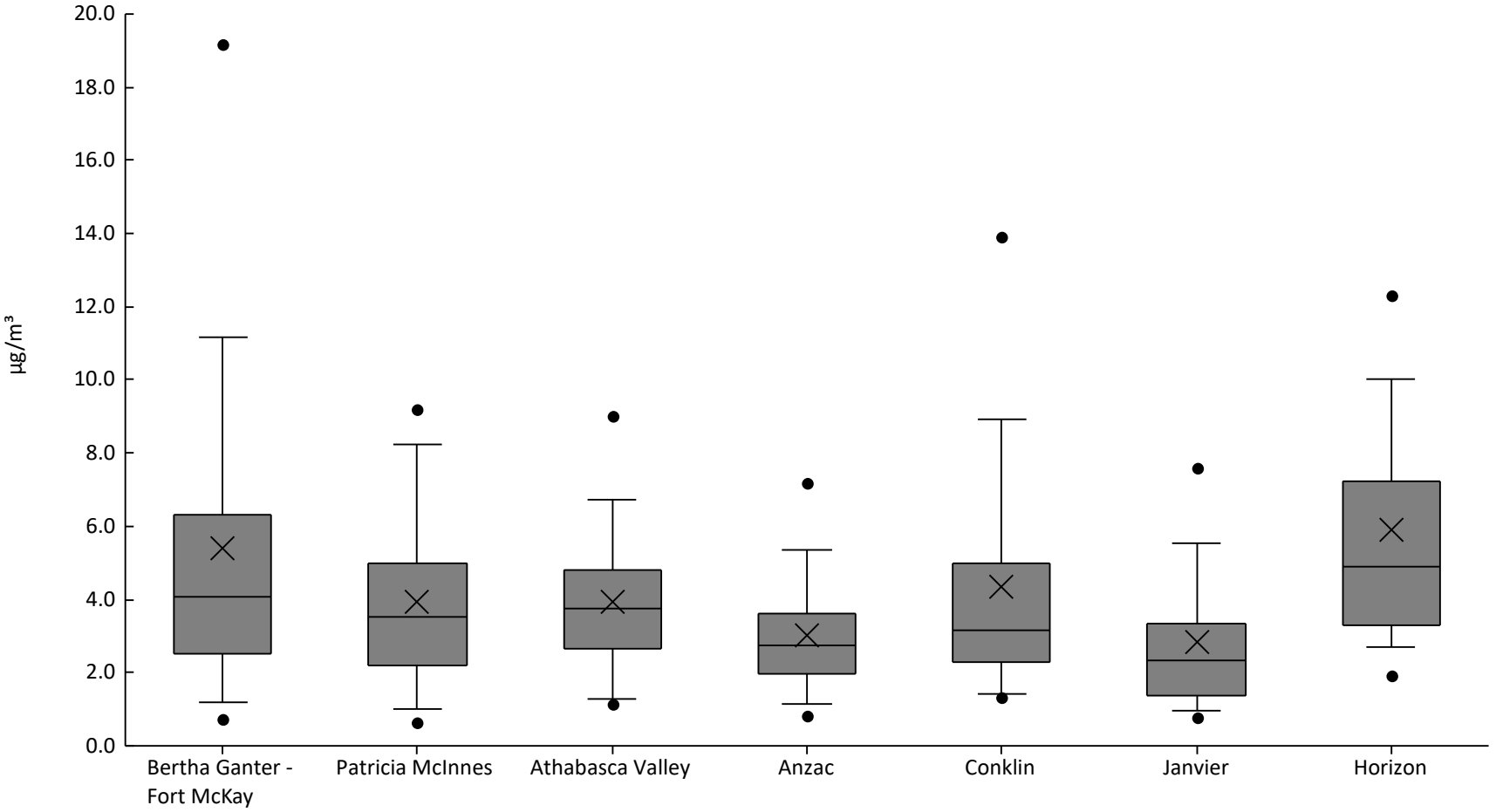
FLAGS USED	
V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination
V6	Valid value but qualified due to non-standard sampling conditions
M1	Missing value because no value is available
M2	Missing value because invalidated by Data Originator

Legend



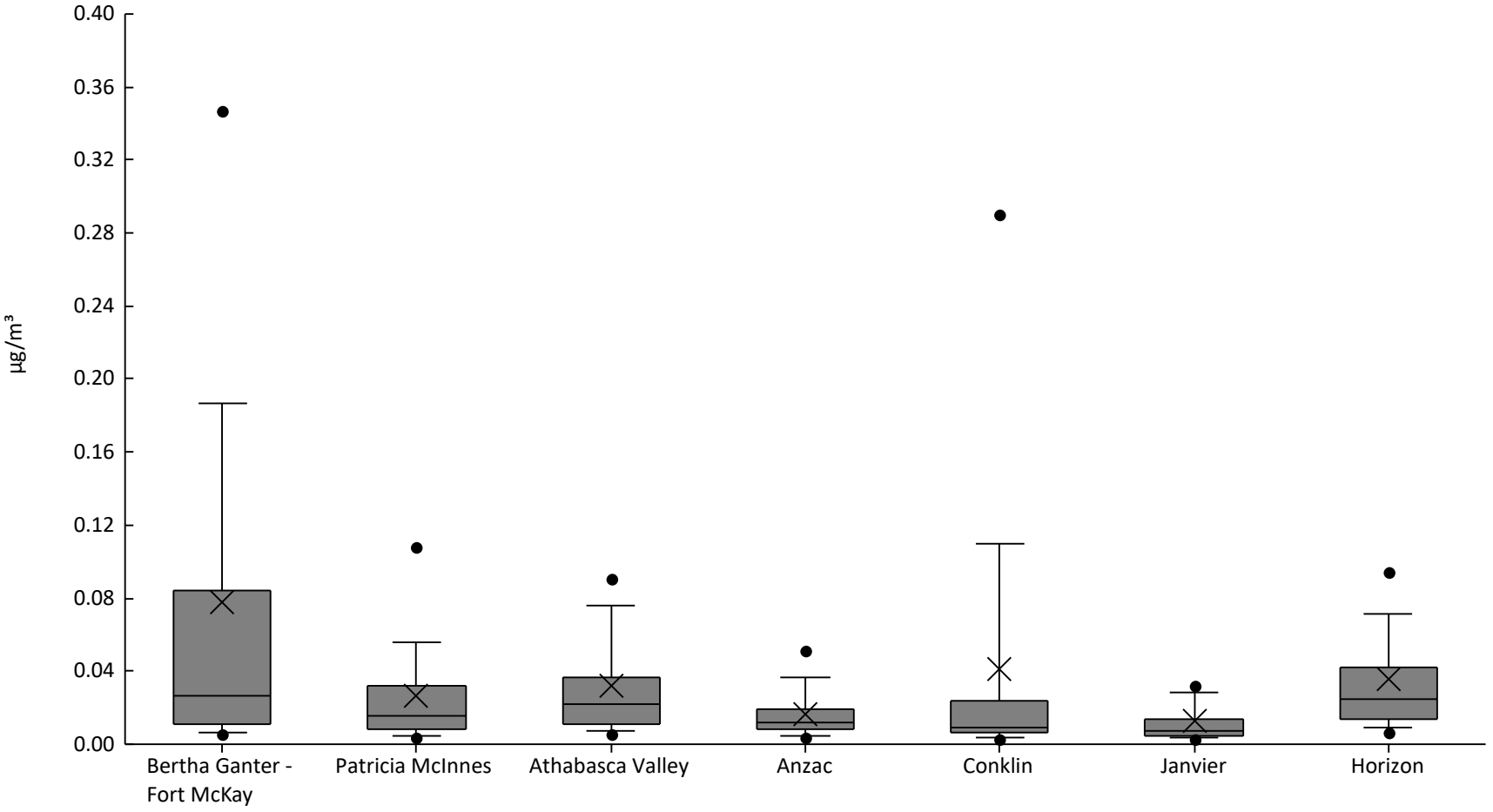
Particulate Matter <2.5µm Tested For Ions - Particulate Matter (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.29	0.75	1.2	2.5	4.1	6.3	11	19	22	5.4	4.9
AMS06	Patricia McInnes	61	100%	0.54	0.63	0.99	2.2	3.5	5	8.3	9.2	11	3.9	2.4
AMS07	Athabasca Valley	61	100%	0.79	1.1	1.3	2.7	3.7	4.8	6.7	9	10	3.9	2.2
AMS14	Anzac	60	100%	0.29	0.83	1.1	2	2.8	3.6	5.3	7.2	11	3	1.9
AMS21	Conklin	31	100%	0.92	1.3	1.4	2.3	3.2	5	8.9	14	17	4.3	3.7
AMS22	Janvier	31	100%	0.46	0.8	0.98	1.4	2.3	3.3	5.5	7.6	10	2.8	2.1
AMS15	Horizon	32	100%	1.2	1.9	2.7	3.3	4.9	7.2	10	12	24	5.9	4.3



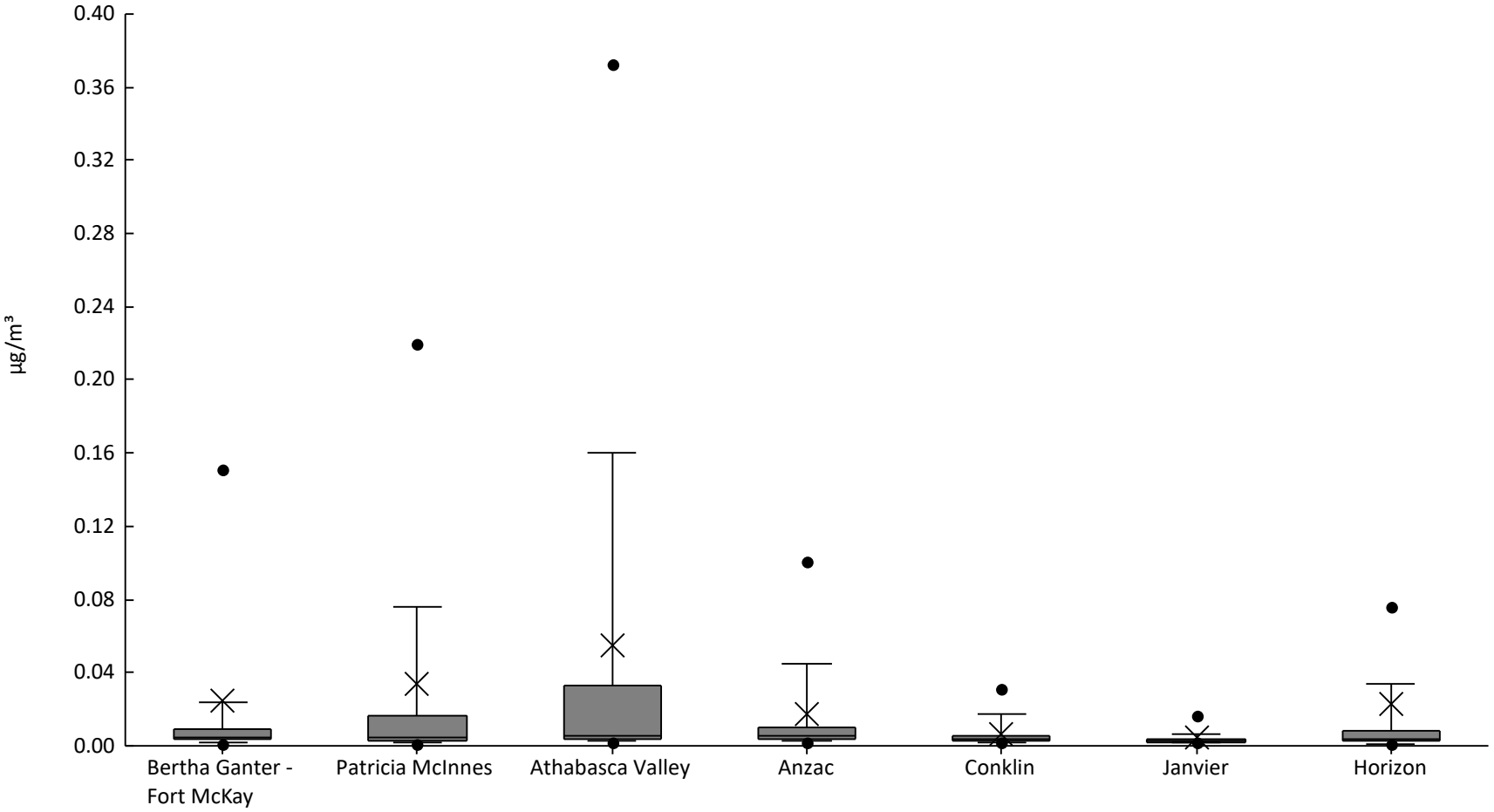
Particulate Matter <2.5µm Tested For Ions - Calcium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.4E-3	5.3E-3	6.6E-3	0.011	0.027	0.084	0.19	0.35	0.78	0.078	0.14
AMS06	Patricia McInnes	61	97%	1.8E-3	3.7E-3	4.8E-3	8.6E-3	0.016	0.032	0.056	0.11	0.19	0.027	0.032
AMS07	Athabasca Valley	61	98%	1.7E-3	5.4E-3	6.9E-3	0.011	0.022	0.037	0.076	0.091	0.18	0.032	0.033
AMS14	Anzac	60	100%	3.2E-3	3.9E-3	4.7E-3	7.9E-3	0.012	0.019	0.037	0.051	0.1	0.017	0.017
AMS21	Conklin	31	100%	2.5E-3	2.8E-3	3.4E-3	6.2E-3	8.7E-3	0.024	0.11	0.29	0.44	0.041	0.094
AMS22	Janvier	31	100%	2.4E-3	2.6E-3	3.7E-3	4.8E-3	7.5E-3	0.014	0.028	0.032	0.075	0.013	0.014
AMS15	Horizon	32	100%	4.5E-3	6.6E-3	9.2E-3	0.013	0.025	0.042	0.072	0.094	0.23	0.036	0.042



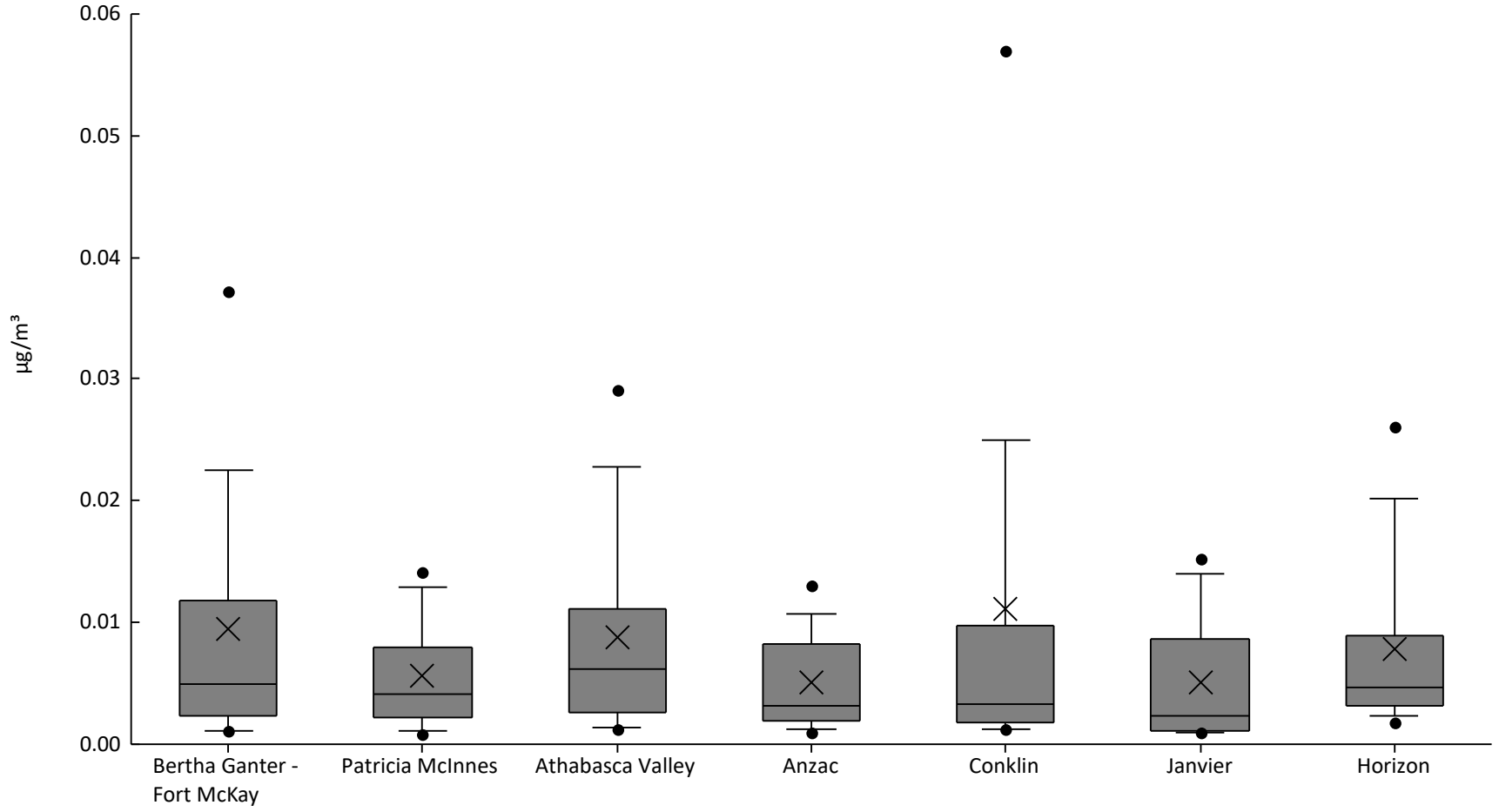
Particulate Matter <2.5µm Tested For Ions - Chloride Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	93%	0	1.2E-3	2E-3	3.3E-3	4.8E-3	9.5E-3	0.024	0.15	0.43	0.025	0.075
AMS06	Patricia McInnes	61	95%	0	1.3E-3	1.9E-3	3E-3	4.5E-3	0.017	0.076	0.22	0.47	0.034	0.081
AMS07	Athabasca Valley	61	100%	1.8E-3	2.1E-3	2.6E-3	4.1E-3	5.9E-3	0.033	0.16	0.37	0.65	0.055	0.13
AMS14	Anzac	60	98%	0	1.9E-3	2.3E-3	3.7E-3	5.7E-3	0.01	0.045	0.1	0.2	0.018	0.037
AMS21	Conklin	31	100%	1.6E-3	1.8E-3	2.2E-3	2.5E-3	4.1E-3	5.4E-3	0.018	0.031	0.034	6.5E-3	8E-3
AMS22	Janvier	31	100%	1.6E-3	1.7E-3	1.8E-3	2.2E-3	3.1E-3	4E-3	6.8E-3	0.017	0.036	4.7E-3	6.4E-3
AMS15	Horizon	32	88%	8E-4	9.1E-4	1.2E-3	2.4E-3	3.7E-3	8.3E-3	0.034	0.076	0.43	0.023	0.076



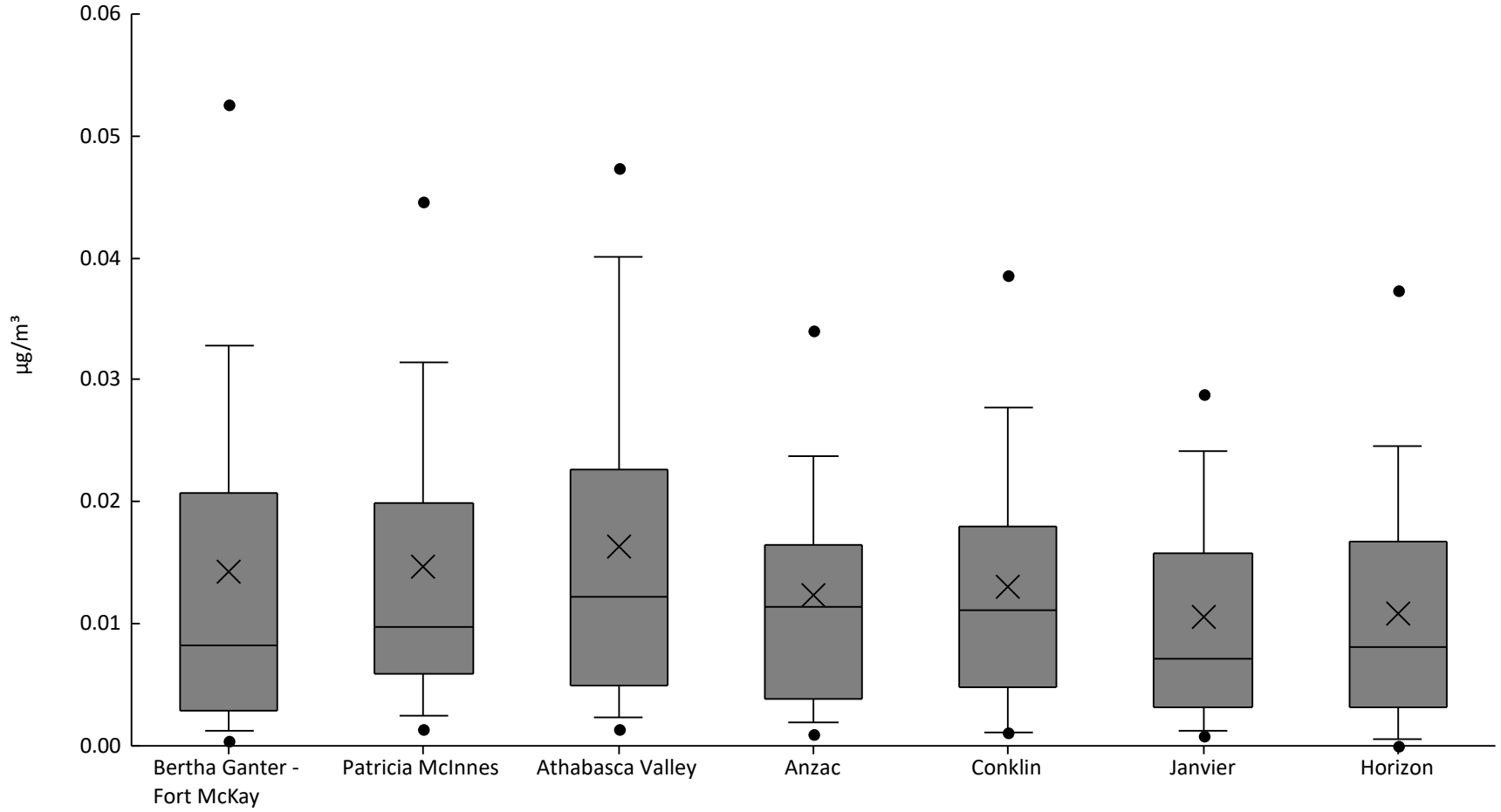
Particulate Matter <2.5µm Tested For Ions - Magnesium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	8E-4	1.1E-3	1.2E-3	2.4E-3	5E-3	0.012	0.023	0.037	0.048	9.4E-3	0.011
AMS06	Patricia McInnes	61	98%	0	8E-4	1.1E-3	2.2E-3	4.1E-3	7.9E-3	0.013	0.014	0.022	5.7E-3	4.7E-3
AMS07	Athabasca Valley	61	100%	7E-4	1.2E-3	1.4E-3	2.6E-3	6.2E-3	0.011	0.023	0.029	0.038	8.8E-3	8.9E-3
AMS14	Anzac	60	100%	8E-4	9.5E-4	1.3E-3	2E-3	3.1E-3	8.3E-3	0.011	0.013	0.015	5.1E-3	3.9E-3
AMS21	Conklin	31	100%	1.2E-3	1.2E-3	1.3E-3	1.7E-3	3.3E-3	9.8E-3	0.025	0.057	0.1	0.011	0.021
AMS22	Janvier	31	100%	6E-4	9E-4	9.6E-4	1.1E-3	2.4E-3	8.6E-3	0.014	0.015	0.016	5E-3	5E-3
AMS15	Horizon	32	100%	1.5E-3	1.8E-3	2.3E-3	3.2E-3	4.7E-3	9E-3	0.02	0.026	0.03	7.8E-3	7.4E-3



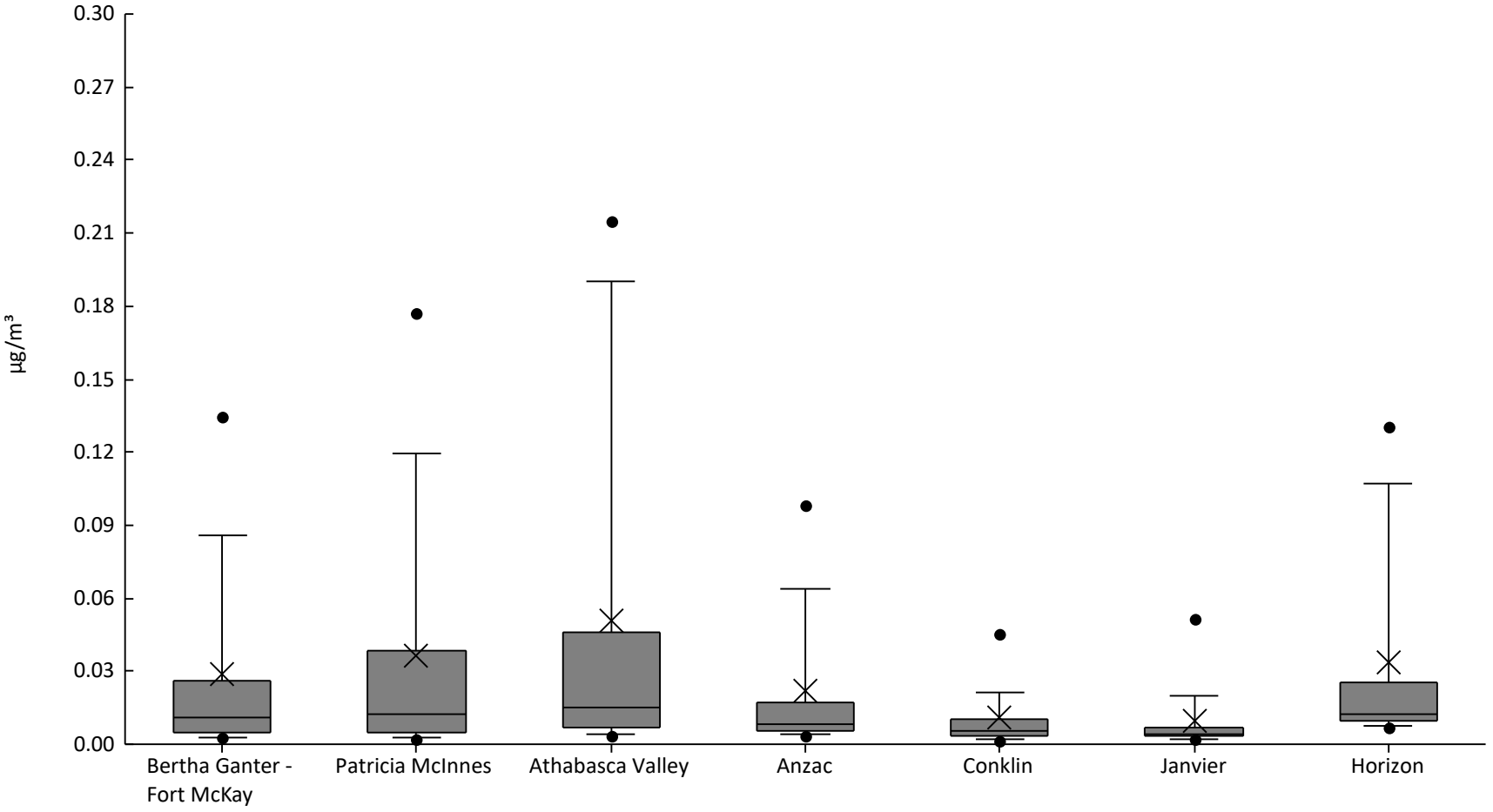
Particulate Matter <2.5µm Tested For Ions - Potassium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	95%	0	3.9E-4	1.2E-3	2.9E-3	8.3E-3	0.021	0.033	0.053	0.095	0.014	0.018
AMS06	Patricia McInnes	61	100%	6E-4	1.4E-3	2.5E-3	5.9E-3	9.7E-3	0.02	0.031	0.045	0.063	0.015	0.014
AMS07	Athabasca Valley	61	100%	8E-4	1.3E-3	2.3E-3	5E-3	0.012	0.023	0.04	0.047	0.055	0.016	0.014
AMS14	Anzac	60	98%	0	9E-4	1.9E-3	3.8E-3	0.011	0.017	0.024	0.034	0.063	0.012	0.012
AMS21	Conklin	31	100%	7E-4	1.1E-3	1.2E-3	4.9E-3	0.011	0.018	0.028	0.039	0.049	0.013	0.011
AMS22	Janvier	31	100%	7E-4	8.2E-4	1.2E-3	3.1E-3	7.2E-3	0.016	0.024	0.029	0.037	0.011	9.4E-3
AMS15	Horizon	32	91%	0	1E-5	5.2E-4	3.2E-3	8.1E-3	0.017	0.025	0.037	0.041	0.011	0.011



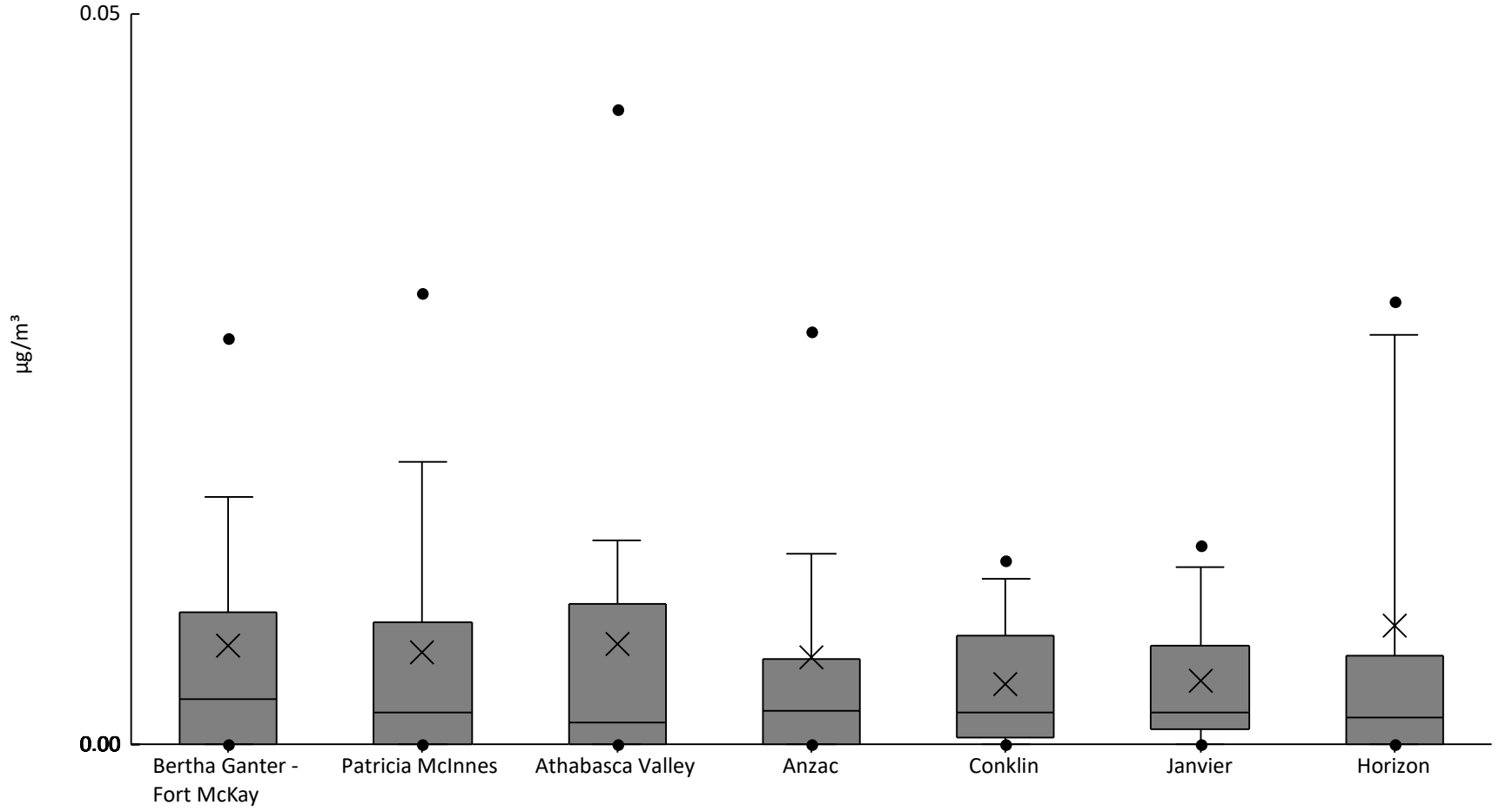
Particulate Matter <2.5µm Tested For Ions - Sodium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.1E-3	2.6E-3	3.1E-3	4.6E-3	0.011	0.026	0.086	0.13	0.24	0.029	0.046
AMS06	Patricia McInnes	61	100%	1.7E-3	2.1E-3	2.9E-3	5E-3	0.013	0.038	0.12	0.18	0.28	0.036	0.057
AMS07	Athabasca Valley	61	100%	2.1E-3	3.3E-3	4E-3	6.6E-3	0.015	0.046	0.19	0.21	0.4	0.051	0.083
AMS14	Anzac	60	100%	1.9E-3	3.5E-3	3.9E-3	5.7E-3	8.6E-3	0.017	0.064	0.098	0.15	0.022	0.032
AMS21	Conklin	31	100%	1.7E-3	1.7E-3	2.1E-3	3.4E-3	5.4E-3	0.011	0.021	0.045	0.097	0.011	0.018
AMS22	Janvier	31	100%	1.5E-3	1.9E-3	2.1E-3	3.2E-3	3.9E-3	6.7E-3	0.02	0.051	0.08	9.4E-3	0.016
AMS15	Horizon	32	100%	4E-3	6.6E-3	7.3E-3	9.5E-3	0.012	0.025	0.11	0.13	0.25	0.034	0.051



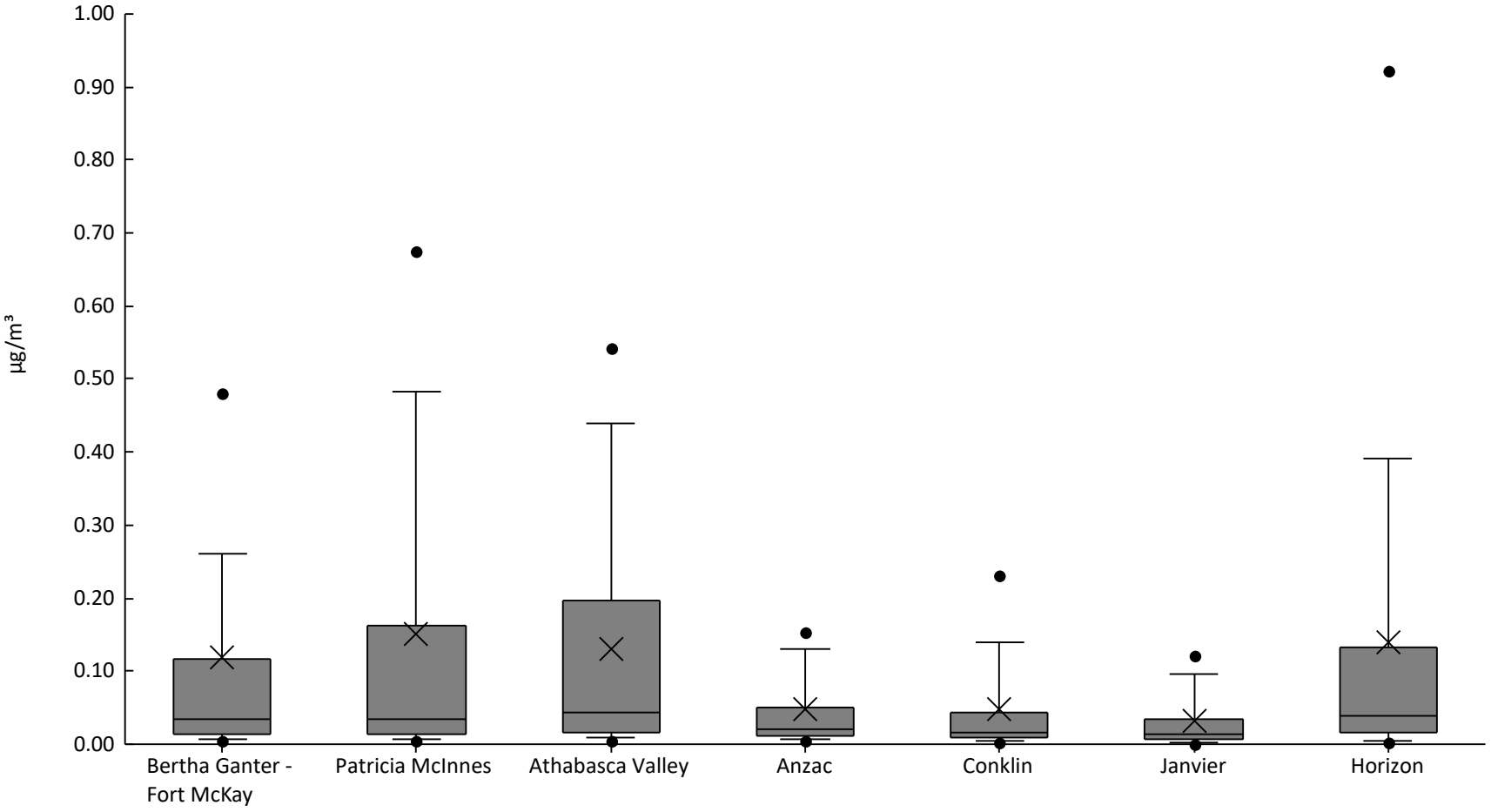
Particulate Matter <2.5µm Tested For Ions - Fluoride Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	74%	0	0	0	0	3.1E-3	9E-3	0.017	0.028	0.046	6.8E-3	9.7E-3
AMS06	Patricia McInnes	61	64%	0	0	0	0	2.2E-3	8.4E-3	0.019	0.031	0.046	6.3E-3	9.6E-3
AMS07	Athabasca Valley	61	64%	0	0	0	0	1.5E-3	9.6E-3	0.014	0.044	0.059	6.9E-3	0.013
AMS14	Anzac	60	62%	0	0	0	0	2.3E-3	5.9E-3	0.013	0.028	0.069	5.9E-3	0.012
AMS21	Conklin	31	77%	0	0	0	4.8E-4	2.2E-3	7.5E-3	0.011	0.013	0.013	4.1E-3	4.4E-3
AMS22	Janvier	31	84%	0	0	0	1.1E-3	2.2E-3	6.8E-3	0.012	0.014	0.016	4.4E-3	4.5E-3
AMS15	Horizon	32	59%	0	0	0	0	1.9E-3	6.1E-3	0.028	0.03	0.084	8.2E-3	0.017



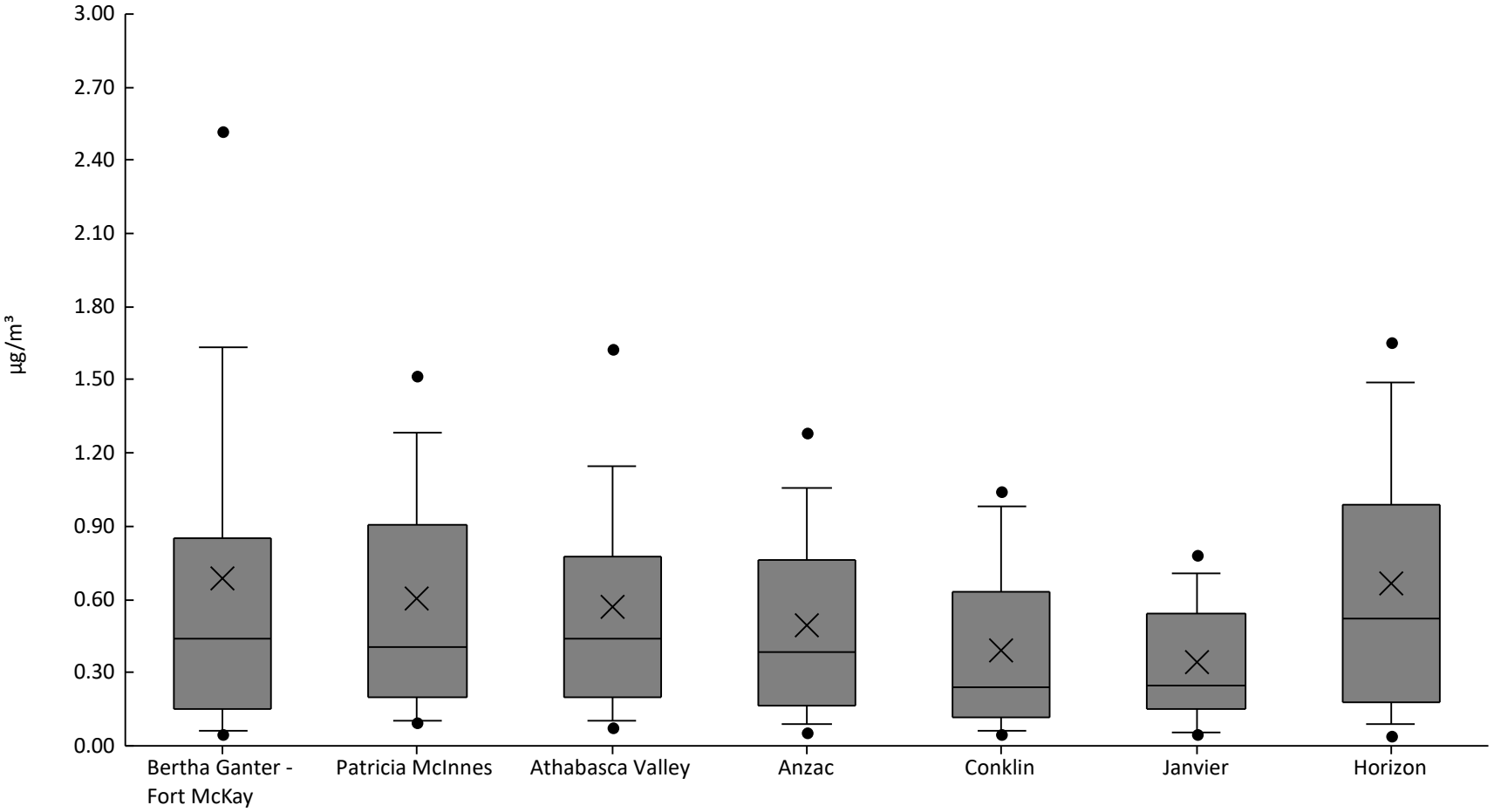
Particulate Matter <2.5µm Tested For Ions - Nitrate Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.7E-3	4.7E-3	5.8E-3	0.015	0.035	0.12	0.26	0.48	1.7	0.12	0.25
AMS06	Patricia McInnes	61	100%	1.3E-3	3.5E-3	6.3E-3	0.014	0.035	0.16	0.48	0.68	1.3	0.15	0.26
AMS07	Athabasca Valley	61	100%	1.4E-3	3.9E-3	8.6E-3	0.016	0.043	0.2	0.44	0.54	0.56	0.13	0.17
AMS14	Anzac	60	98%	0	4E-3	6.5E-3	0.011	0.021	0.051	0.13	0.15	0.5	0.047	0.075
AMS21	Conklin	31	100%	7E-4	3.2E-3	4.5E-3	8.4E-3	0.015	0.043	0.14	0.23	0.38	0.049	0.081
AMS22	Janvier	31	97%	1E-4	1E-3	1.8E-3	7.8E-3	0.014	0.035	0.097	0.12	0.2	0.032	0.044
AMS15	Horizon	32	100%	5E-4	1.3E-3	4.2E-3	0.016	0.039	0.13	0.39	0.92	1.2	0.14	0.26



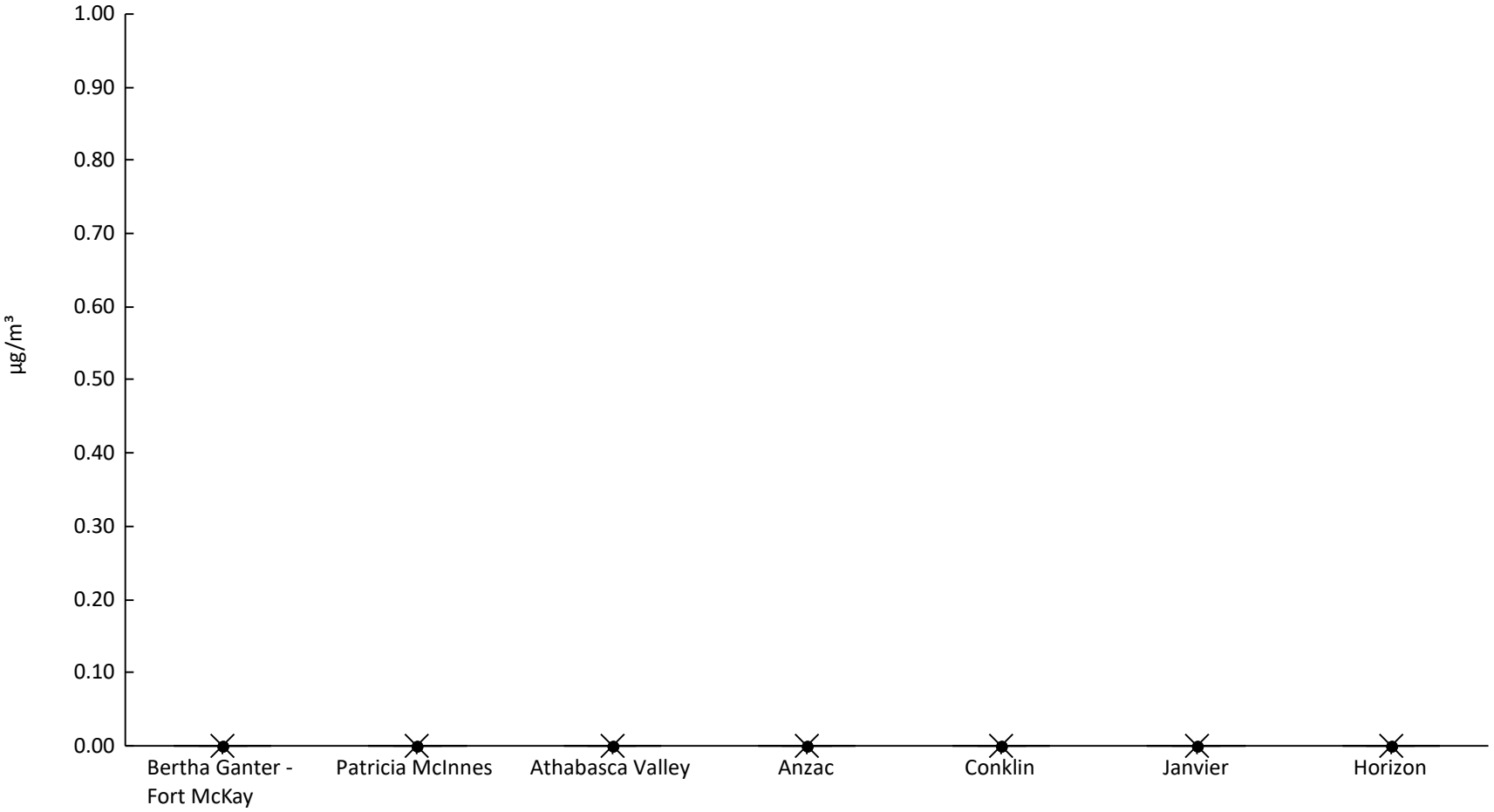
Particulate Matter <2.5µm Tested For Ions - Sulphate Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.015	0.045	0.062	0.15	0.44	0.85	1.6	2.5	4.8	0.69	0.89
AMS06	Patricia McInnes	61	100%	0.048	0.097	0.11	0.2	0.41	0.91	1.3	1.5	3.3	0.6	0.57
AMS07	Athabasca Valley	61	100%	0.012	0.077	0.1	0.2	0.44	0.78	1.1	1.6	2.3	0.57	0.47
AMS14	Anzac	60	100%	0.024	0.055	0.091	0.16	0.39	0.76	1.1	1.3	1.5	0.49	0.4
AMS21	Conklin	31	100%	0.047	0.05	0.058	0.12	0.24	0.63	0.98	1	1.3	0.39	0.36
AMS22	Janvier	31	100%	0.04	0.045	0.054	0.15	0.25	0.54	0.71	0.78	1	0.34	0.26
AMS15	Horizon	32	100%	8E-3	0.038	0.09	0.18	0.52	0.99	1.5	1.7	2	0.67	0.55



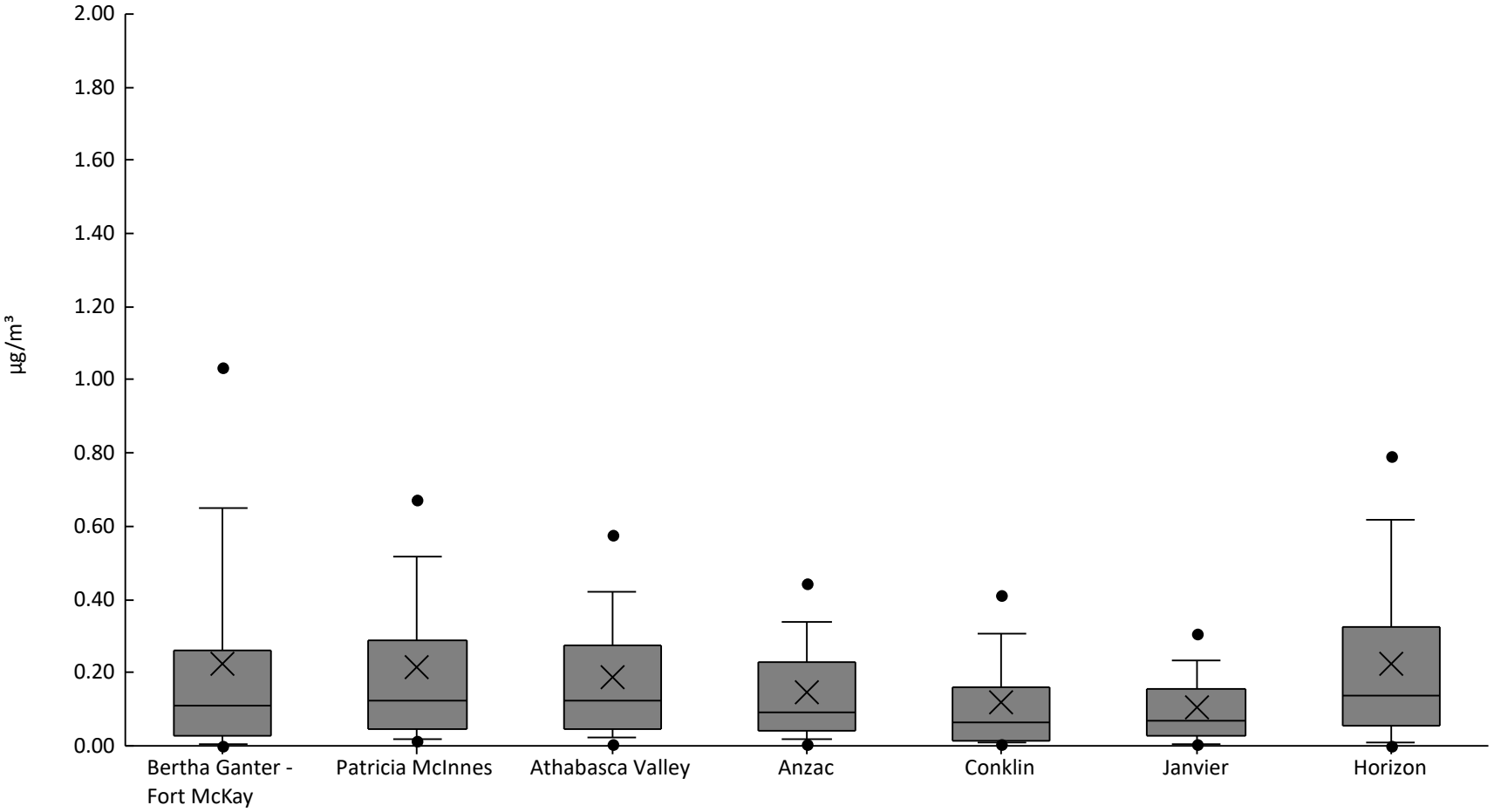
Particulate Matter <2.5µm Tested For Ions - Phosphate Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS06	Patricia McInnes	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS07	Athabasca Valley	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS14	Anzac	60	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS15	Horizon	32	0%	0	0	0	0	0	0	0	0	0	0	0



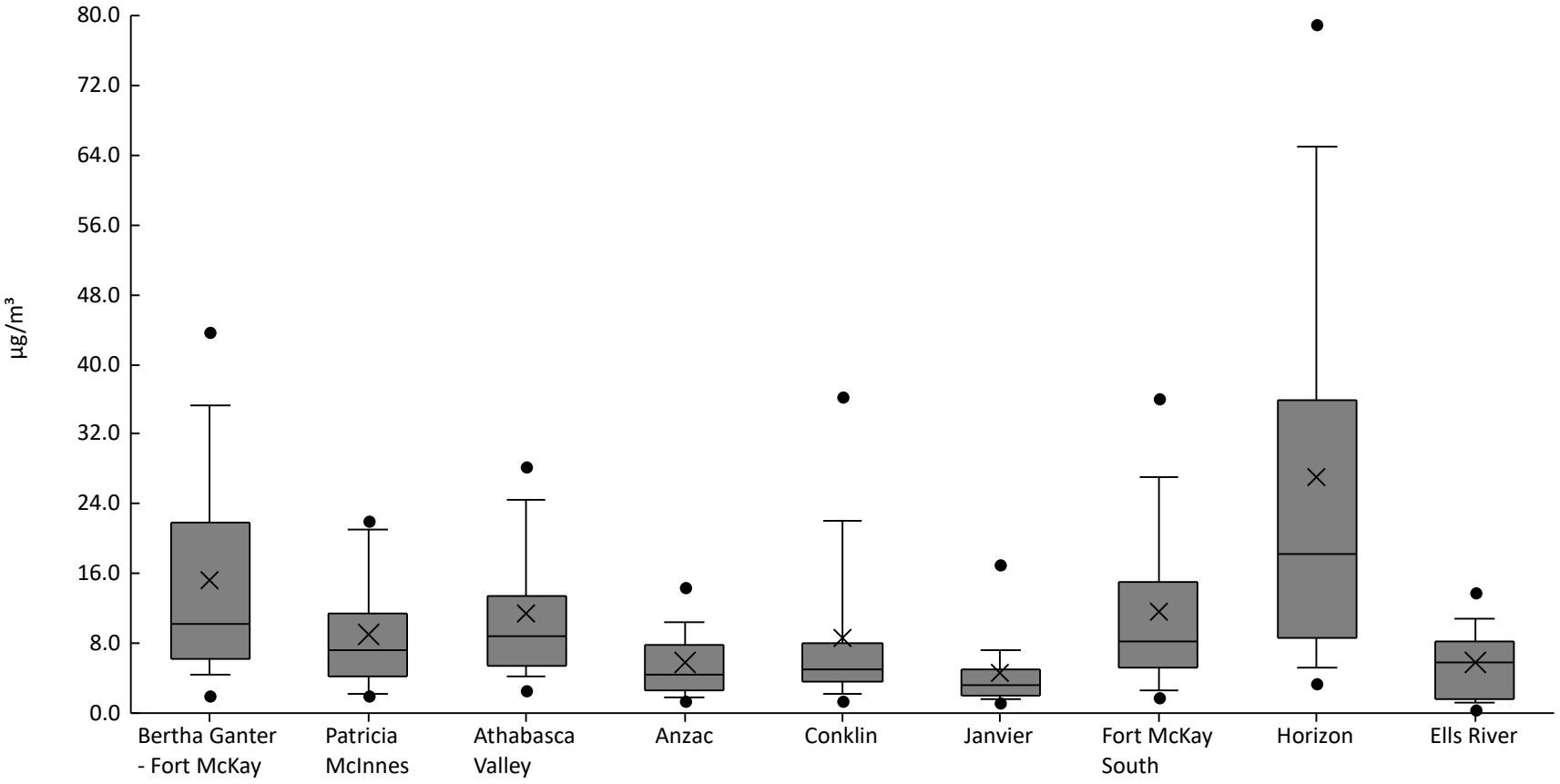
Particulate Matter <2.5µm Tested For Ions - Ammonium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	1.1E-3	6.2E-3	0.026	0.11	0.26	0.65	1	1.6	0.23	0.34
AMS06	Patricia McInnes	61	97%	0	0.013	0.02	0.048	0.12	0.29	0.52	0.67	1.4	0.22	0.24
AMS07	Athabasca Valley	61	98%	0	6.2E-3	0.022	0.045	0.13	0.27	0.42	0.58	0.85	0.19	0.18
AMS14	Anzac	60	100%	1E-4	6.2E-3	0.019	0.039	0.093	0.23	0.34	0.44	0.51	0.15	0.13
AMS21	Conklin	31	100%	1.2E-3	4.2E-3	7.1E-3	0.013	0.064	0.16	0.31	0.41	0.51	0.12	0.13
AMS22	Janvier	31	100%	2.8E-3	3.2E-3	5.2E-3	0.028	0.067	0.16	0.23	0.31	0.4	0.1	0.099
AMS15	Horizon	32	97%	0	7.1E-4	9.2E-3	0.057	0.14	0.32	0.62	0.79	0.95	0.23	0.25



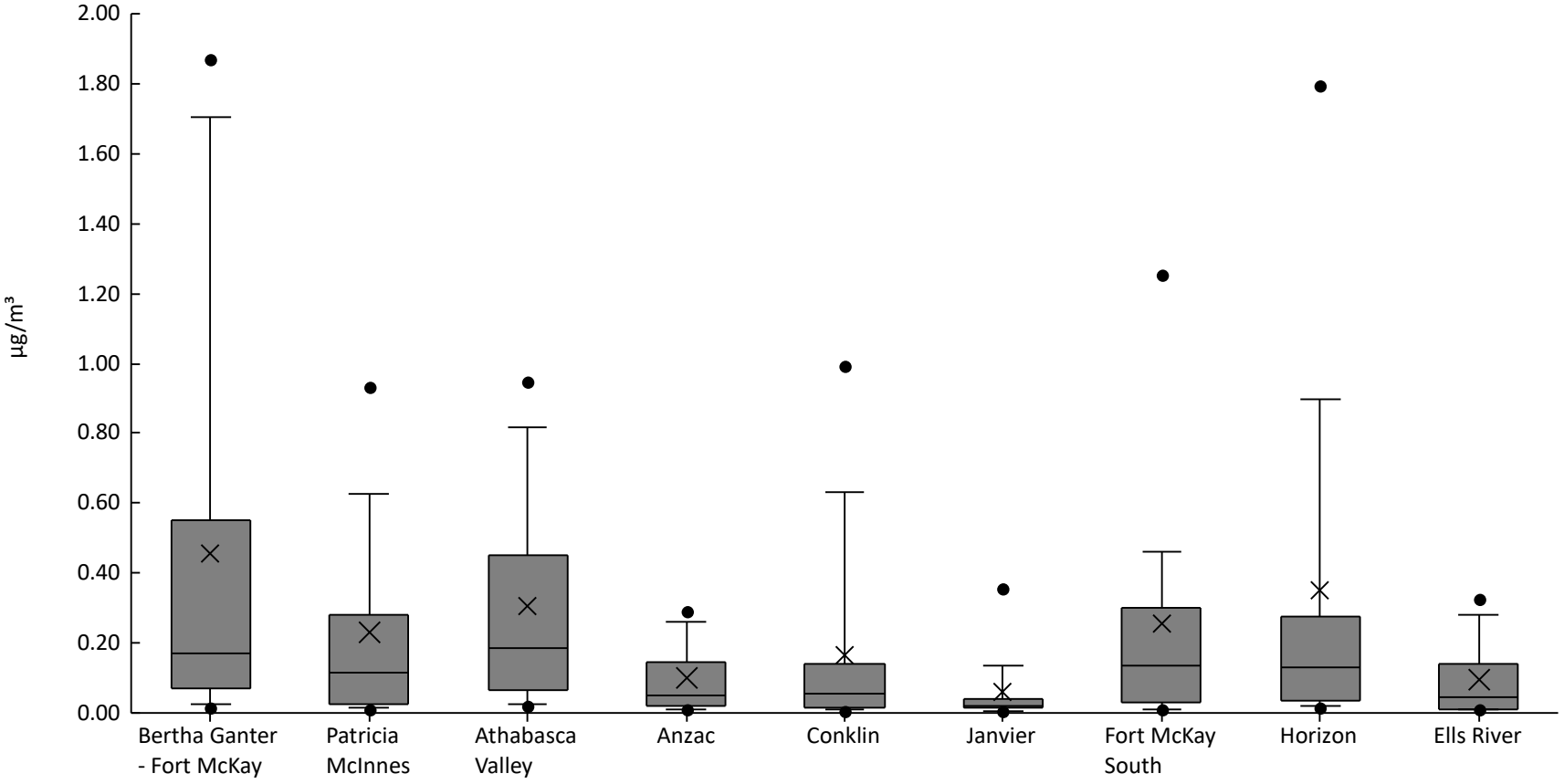
Particulate Matter <10µm Tested For Ions - Particulate Matter (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.1	2	4.5	6.3	10	22	35	44	64	15	13
AMS06	Patricia McInnes	61	100%	1	2	2.2	4.2	7.2	11	21	22	31	9.1	6.9
AMS07	Athabasca Valley	61	100%	1.8	2.5	4.1	5.3	8.8	13	25	28	36	12	8.4
AMS14	Anzac	61	100%	0.29	1.4	1.9	2.7	4.4	7.8	10	14	38	5.9	5.5
AMS21	Conklin	31	100%	1.2	1.5	2.2	3.6	5.1	8	22	36	41	8.7	9.8
AMS22	Janvier	21	100%	0.92	1.1	1.5	2	3.2	4.9	7.3	17	28	4.7	5.7
AMS13	Fort McKay South	61	100%	0.92	1.9	2.7	5.1	8.3	15	27	36	38	12	9.7
AMS15	Horizon	41	100%	1.7	3.3	5.2	8.6	18	36	65	79	117	27	26
AMS30	Ells River	18	94%	0	0.38	1.1	1.6	5.8	8.1	11	14	15	5.8	4.1



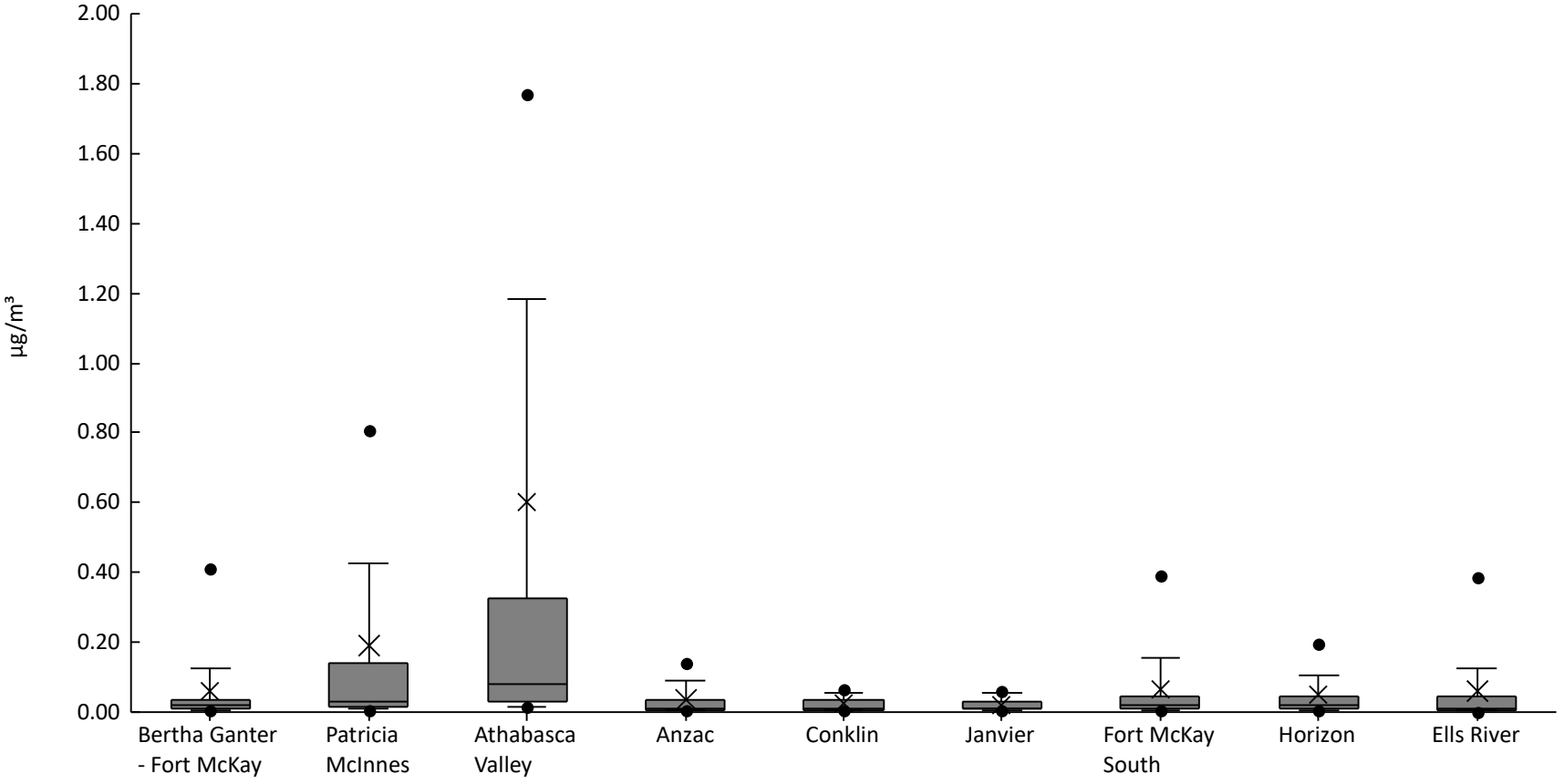
Particulate Matter <10µm Tested For Ions - Calcium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	5.1E-3	0.017	0.026	0.068	0.17	0.55	1.7	1.9	2.3	0.46	0.61
AMS06	Patricia McInnes	61	100%	3.7E-3	9E-3	0.015	0.027	0.12	0.28	0.63	0.93	1.9	0.23	0.34
AMS07	Athabasca Valley	61	100%	0.011	0.019	0.027	0.065	0.18	0.45	0.81	0.95	2	0.31	0.36
AMS14	Anzac	61	100%	3E-3	7.9E-3	0.012	0.018	0.049	0.15	0.26	0.29	0.91	0.1	0.14
AMS21	Conklin	31	100%	3.9E-3	6.9E-3	0.011	0.017	0.055	0.14	0.63	0.99	1.1	0.17	0.29
AMS22	Janvier	21	100%	4.9E-3	5E-3	5.8E-3	0.014	0.021	0.039	0.13	0.36	0.62	0.063	0.13
AMS13	Fort McKay South	61	100%	4.9E-3	8.3E-3	0.011	0.031	0.13	0.3	0.46	1.3	2	0.25	0.39
AMS15	Horizon	41	100%	0.012	0.017	0.021	0.036	0.13	0.27	0.9	1.8	3.6	0.35	0.68
AMS30	Ells River	18	100%	8.1E-3	8.1E-3	8.5E-3	0.012	0.044	0.14	0.28	0.33	0.35	0.096	0.11



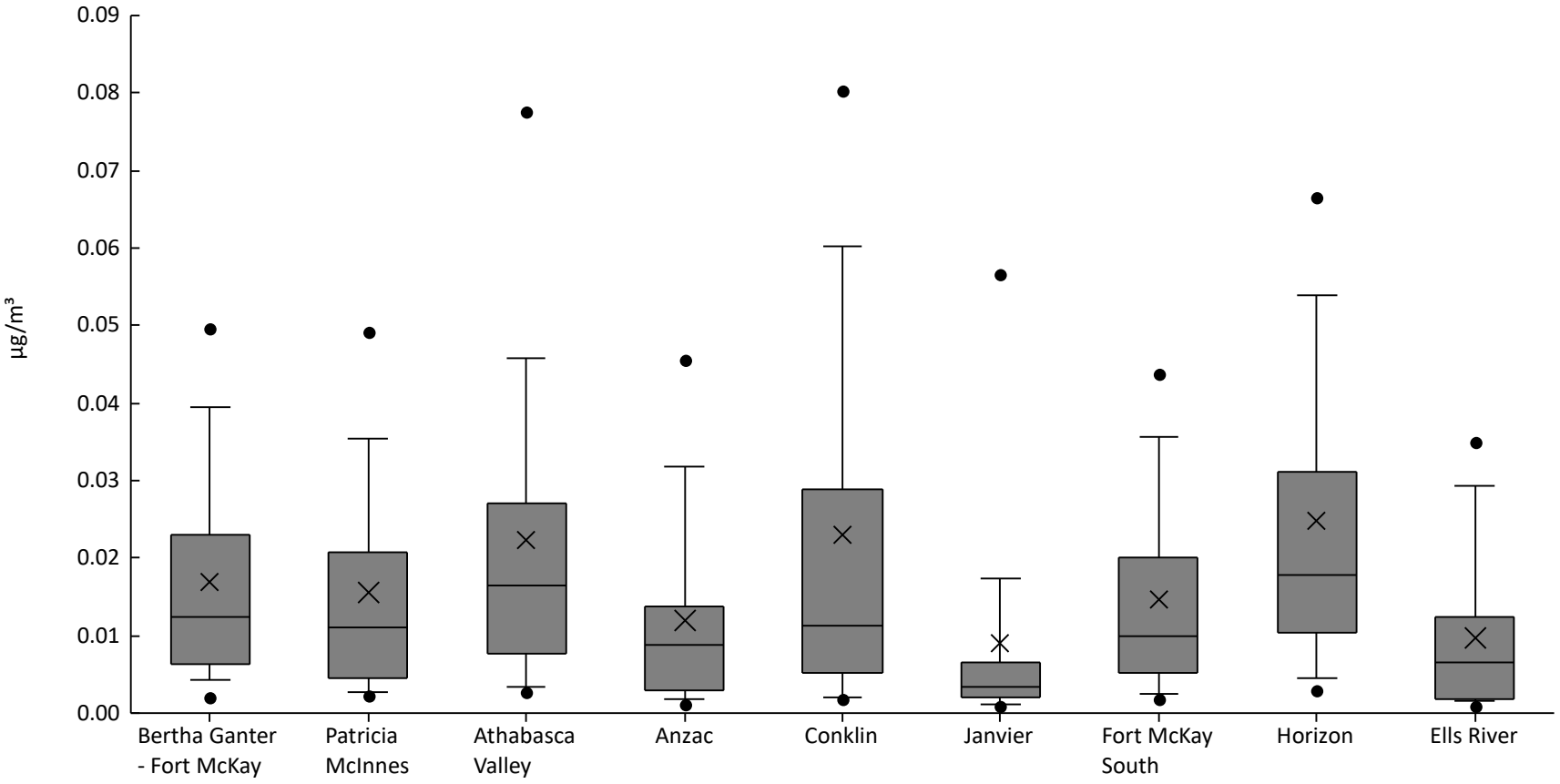
Particulate Matter <10µm Tested For Ions - Chloride Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	3.4E-3	4.8E-3	6.5E-3	0.011	0.018	0.036	0.12	0.41	0.57	0.061	0.12
AMS06	Patricia McInnes	61	100%	2.5E-3	5.4E-3	0.01	0.015	0.03	0.14	0.42	0.81	4.2	0.19	0.57
AMS07	Athabasca Valley	61	100%	4.2E-3	0.013	0.016	0.028	0.078	0.33	1.2	1.8	12	0.6	1.8
AMS14	Anzac	61	100%	2.8E-3	3.4E-3	4.4E-3	6.8E-3	0.012	0.037	0.089	0.14	0.3	0.036	0.059
AMS21	Conklin	31	100%	3.2E-3	3.3E-3	3.8E-3	4.9E-3	0.012	0.035	0.053	0.064	0.16	0.024	0.031
AMS22	Janvier	21	100%	3.1E-3	3.4E-3	3.8E-3	8.1E-3	0.011	0.029	0.055	0.062	0.065	0.02	0.019
AMS13	Fort McKay South	61	100%	2.7E-3	4E-3	4.1E-3	8.7E-3	0.019	0.046	0.16	0.39	0.68	0.063	0.13
AMS15	Horizon	41	100%	3.4E-3	4.9E-3	5.5E-3	0.01	0.02	0.043	0.1	0.19	0.62	0.051	0.1
AMS30	Ells River	18	94%	8E-4	1.5E-3	3.1E-3	6.3E-3	0.011	0.045	0.12	0.38	0.56	0.059	0.13



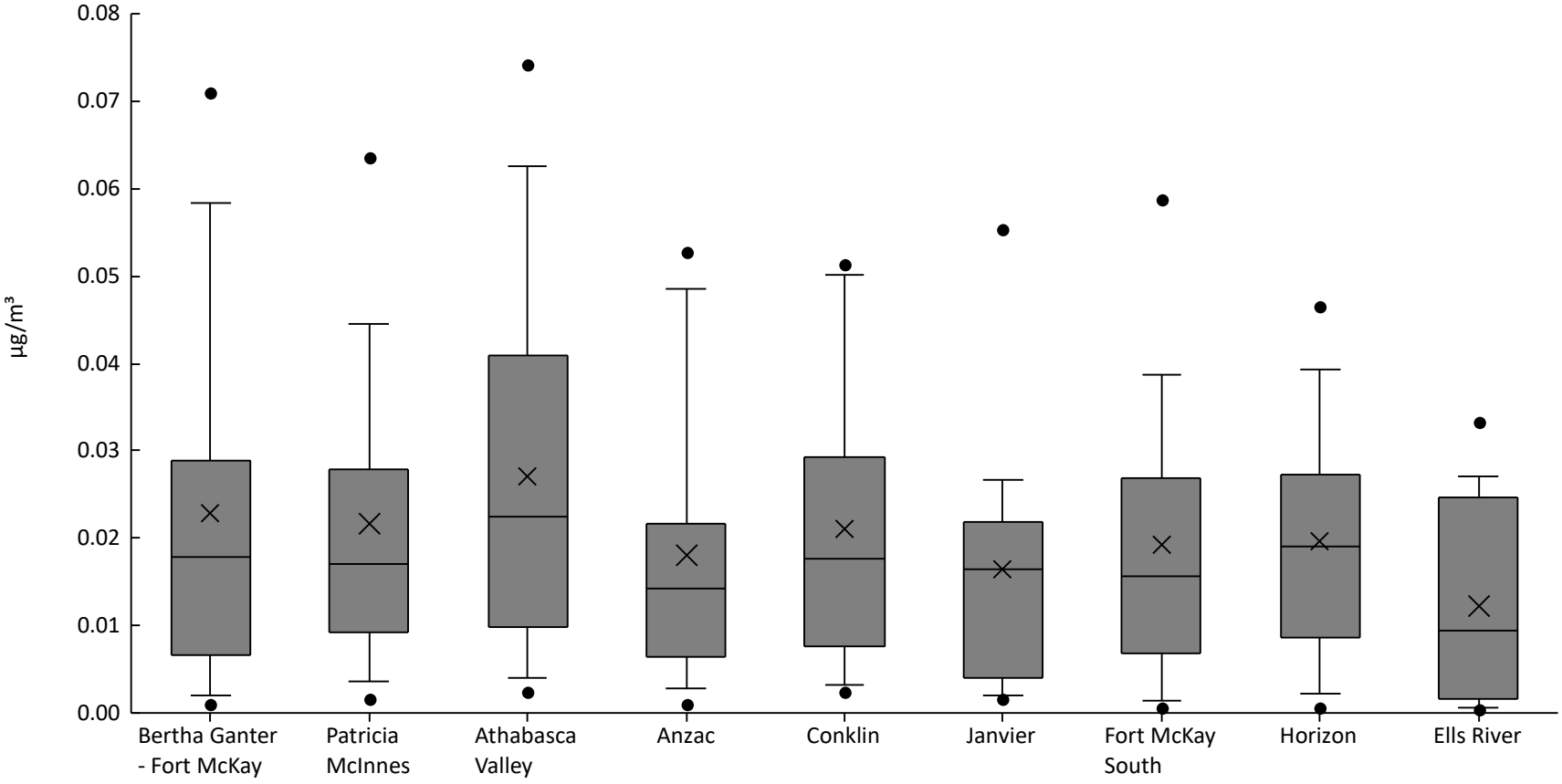
Particulate Matter <10µm Tested For Ions - Magnesium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	8E-4	2.1E-3	4.3E-3	6.3E-3	0.012	0.023	0.04	0.05	0.064	0.017	0.014
AMS06	Patricia McInnes	61	100%	6E-4	2.3E-3	2.8E-3	4.6E-3	0.011	0.021	0.035	0.049	0.068	0.015	0.015
AMS07	Athabasca Valley	61	100%	1.4E-3	2.8E-3	3.4E-3	7.7E-3	0.017	0.027	0.046	0.078	0.13	0.022	0.023
AMS14	Anzac	61	100%	8E-4	1.2E-3	1.8E-3	2.9E-3	8.8E-3	0.014	0.032	0.045	0.056	0.012	0.013
AMS21	Conklin	31	100%	1.1E-3	1.7E-3	2.1E-3	5.1E-3	0.011	0.029	0.06	0.08	0.16	0.023	0.032
AMS22	Janvier	21	100%	1E-3	1E-3	1.2E-3	2E-3	3.3E-3	6.6E-3	0.017	0.057	0.09	9E-3	0.02
AMS13	Fort McKay South	61	100%	5E-4	1.7E-3	2.5E-3	5.3E-3	0.01	0.02	0.036	0.044	0.061	0.015	0.014
AMS15	Horizon	41	100%	2.2E-3	3E-3	4.5E-3	0.01	0.018	0.031	0.054	0.067	0.11	0.025	0.023
AMS30	Ells River	18	100%	5E-4	9E-4	1.5E-3	1.8E-3	6.5E-3	0.012	0.029	0.035	0.036	9.8E-3	0.011



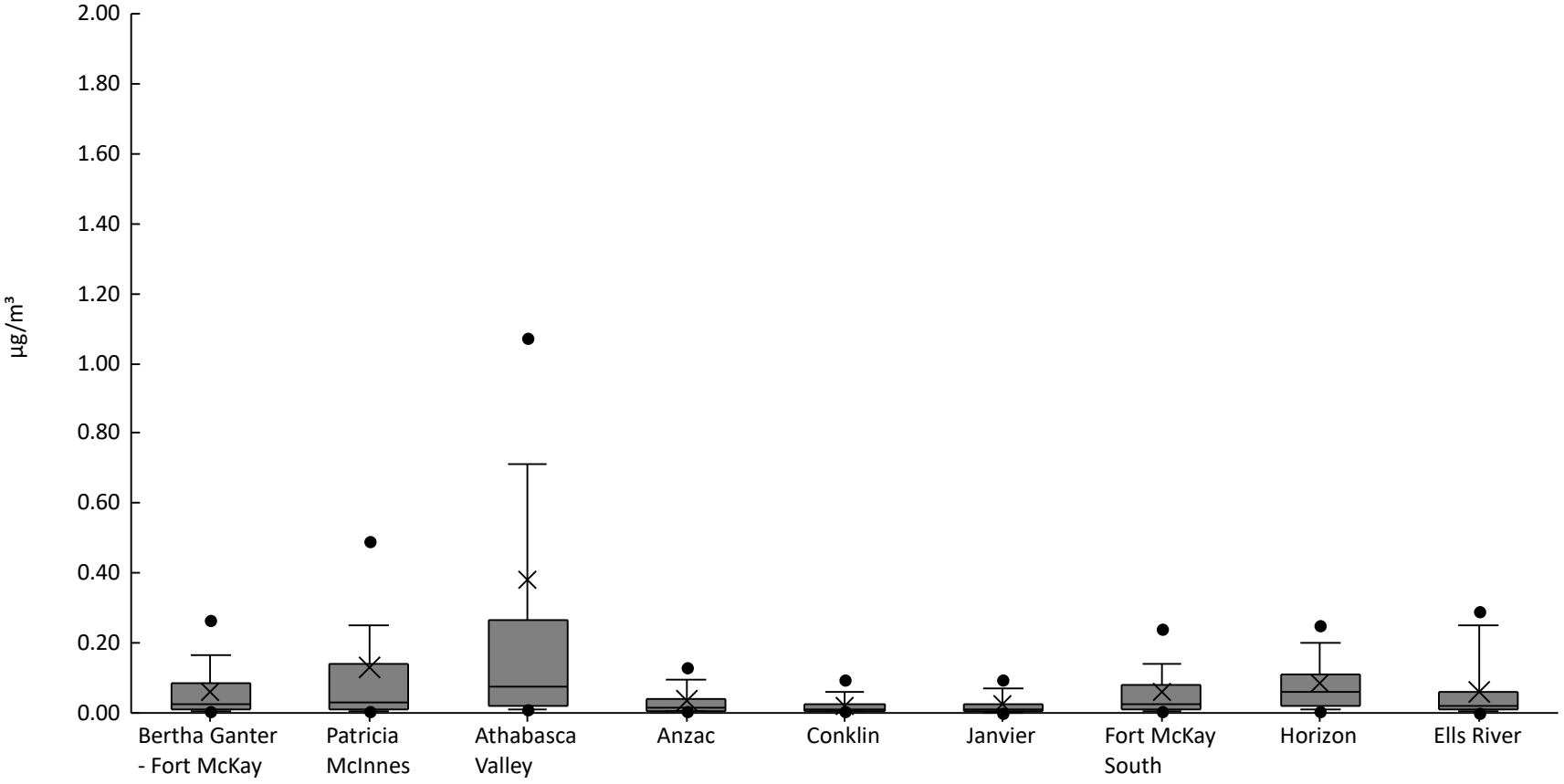
Particulate Matter <10µm Tested For Ions - Potassium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	1E-3	2E-3	6.7E-3	0.018	0.029	0.058	0.071	0.1	0.023	0.022
AMS06	Patricia McInnes	61	100%	9E-4	1.6E-3	3.5E-3	9.2E-3	0.017	0.028	0.045	0.064	0.094	0.022	0.018
AMS07	Athabasca Valley	61	100%	2E-4	2.5E-3	4E-3	9.9E-3	0.023	0.041	0.063	0.074	0.079	0.027	0.022
AMS14	Anzac	61	98%	1E-4	1E-3	2.8E-3	6.5E-3	0.014	0.022	0.049	0.053	0.079	0.018	0.017
AMS21	Conklin	31	100%	2.1E-3	2.3E-3	3.2E-3	7.7E-3	0.018	0.029	0.05	0.051	0.077	0.021	0.017
AMS22	Janvier	21	100%	1.6E-3	1.7E-3	1.9E-3	4.1E-3	0.017	0.022	0.027	0.055	0.087	0.016	0.019
AMS13	Fort McKay South	61	98%	0	5.6E-4	1.5E-3	6.8E-3	0.016	0.027	0.039	0.059	0.073	0.019	0.017
AMS15	Horizon	41	98%	0	5.6E-4	2.2E-3	8.6E-3	0.019	0.027	0.039	0.047	0.056	0.02	0.015
AMS30	Ells River	18	100%	5E-4	5E-4	6.8E-4	1.6E-3	9.4E-3	0.025	0.027	0.033	0.037	0.012	0.012



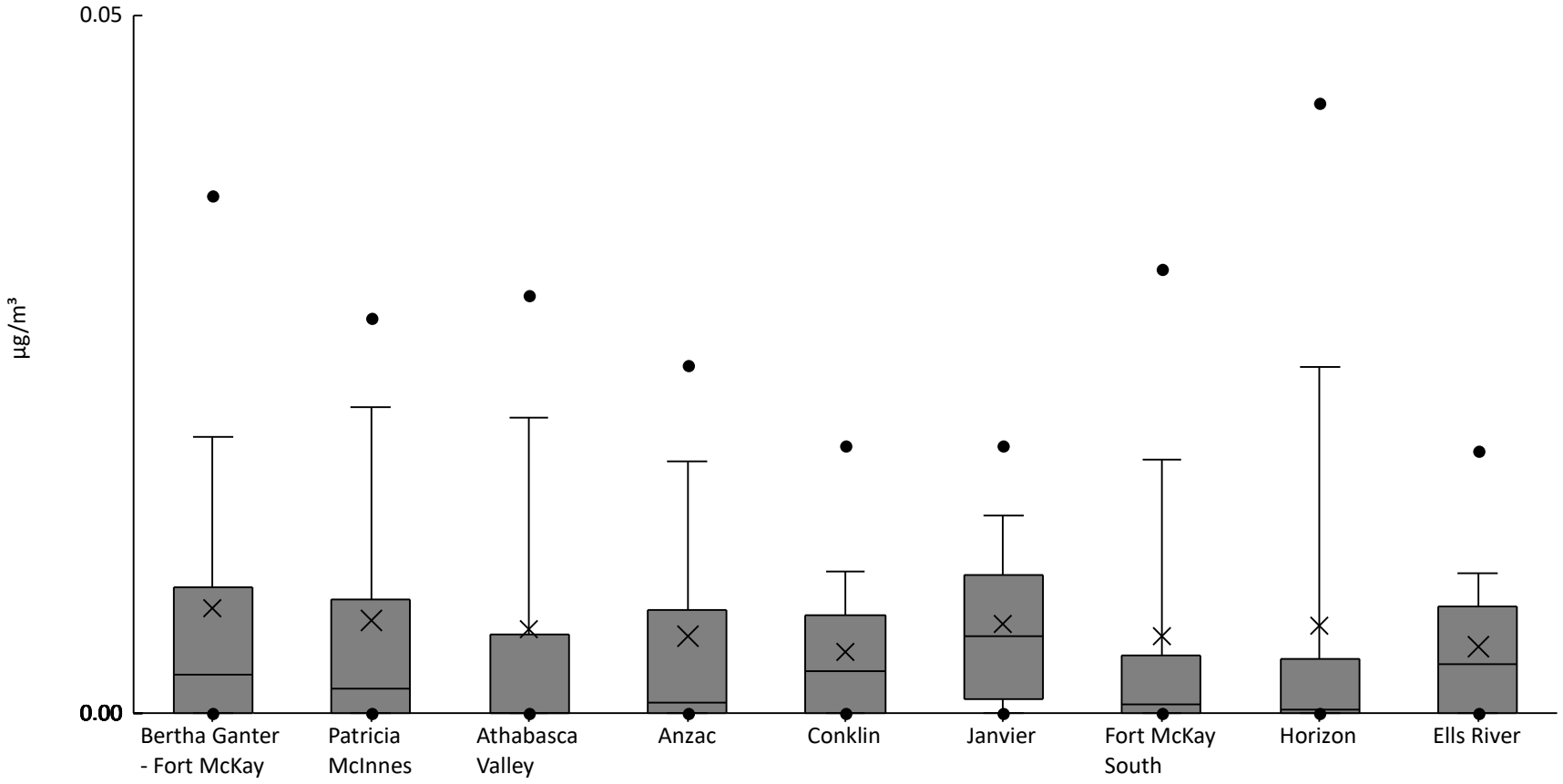
Particulate Matter <10µm Tested For Ions - Sodium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.7E-3	3.6E-3	4.7E-3	0.01	0.027	0.084	0.17	0.27	0.34	0.061	0.079
AMS06	Patricia McInnes	61	100%	1.6E-3	3.6E-3	5.1E-3	0.011	0.03	0.14	0.25	0.49	2.5	0.13	0.34
AMS07	Athabasca Valley	61	100%	2.2E-3	8.8E-3	0.011	0.021	0.075	0.27	0.71	1.1	7.1	0.38	1.1
AMS14	Anzac	61	100%	1.6E-3	3E-3	3.4E-3	7.3E-3	0.013	0.039	0.097	0.13	0.2	0.033	0.044
AMS21	Conklin	31	100%	2.1E-3	3E-3	3.5E-3	5.7E-3	0.011	0.027	0.06	0.096	0.11	0.022	0.027
AMS22	Janvier	21	100%	1.7E-3	2E-3	2.4E-3	4.6E-3	0.012	0.027	0.07	0.094	0.1	0.023	0.028
AMS13	Fort McKay South	61	100%	1.7E-3	3.4E-3	4.9E-3	9.7E-3	0.023	0.079	0.14	0.24	0.41	0.058	0.079
AMS15	Horizon	41	100%	3E-3	5.4E-3	0.01	0.019	0.059	0.11	0.2	0.25	0.46	0.084	0.09
AMS30	Ells River	18	100%	1.6E-3	1.9E-3	2.9E-3	8.8E-3	0.022	0.059	0.25	0.29	0.29	0.062	0.093



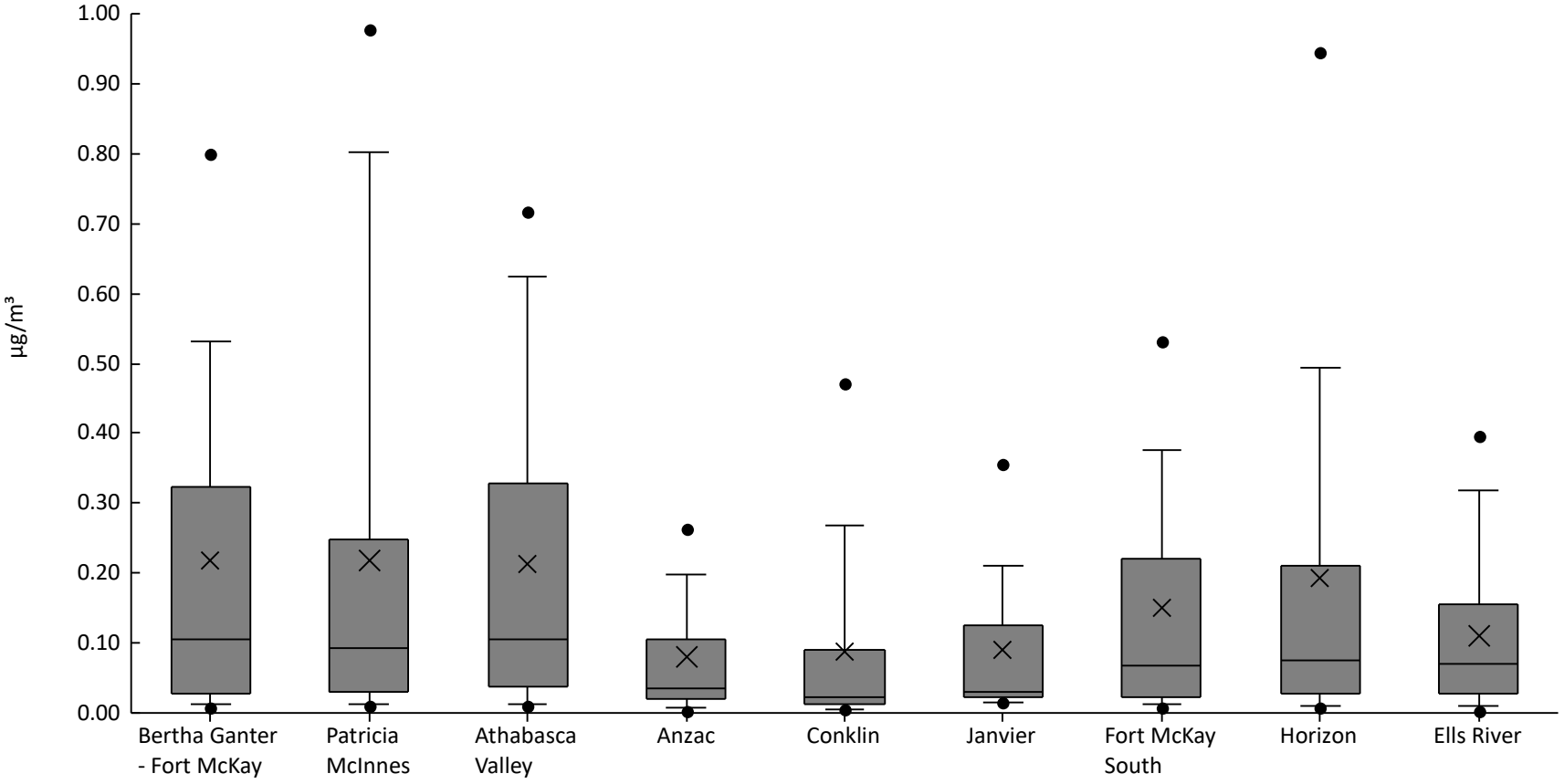
Particulate Matter <10µm Tested For Ions - Fluoride Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	69%	0	0	0	0	2.7E-3	9E-3	0.02	0.037	0.074	7.5E-3	0.014
AMS06	Patricia McInnes	61	57%	0	0	0	0	1.7E-3	8.2E-3	0.022	0.028	0.056	6.6E-3	0.012
AMS07	Athabasca Valley	61	49%	0	0	0	0	0	5.7E-3	0.021	0.03	0.063	6.1E-3	0.012
AMS14	Anzac	61	51%	0	0	0	0	8E-4	7.4E-3	0.018	0.025	0.058	5.5E-3	0.01
AMS21	Conklin	31	65%	0	0	0	0	3E-3	7E-3	0.01	0.019	0.023	4.4E-3	5.7E-3
AMS22	Janvier	21	76%	0	0	0	1.1E-3	5.5E-3	9.9E-3	0.014	0.019	0.022	6.5E-3	6E-3
AMS13	Fort McKay South	61	54%	0	0	0	0	6E-4	4.2E-3	0.018	0.032	0.057	5.6E-3	0.012
AMS15	Horizon	41	56%	0	0	0	0	3E-4	3.9E-3	0.025	0.044	0.056	6.3E-3	0.013
AMS30	Ells River	18	61%	0	0	0	0	3.6E-3	7.7E-3	0.01	0.019	0.025	4.8E-3	6.2E-3



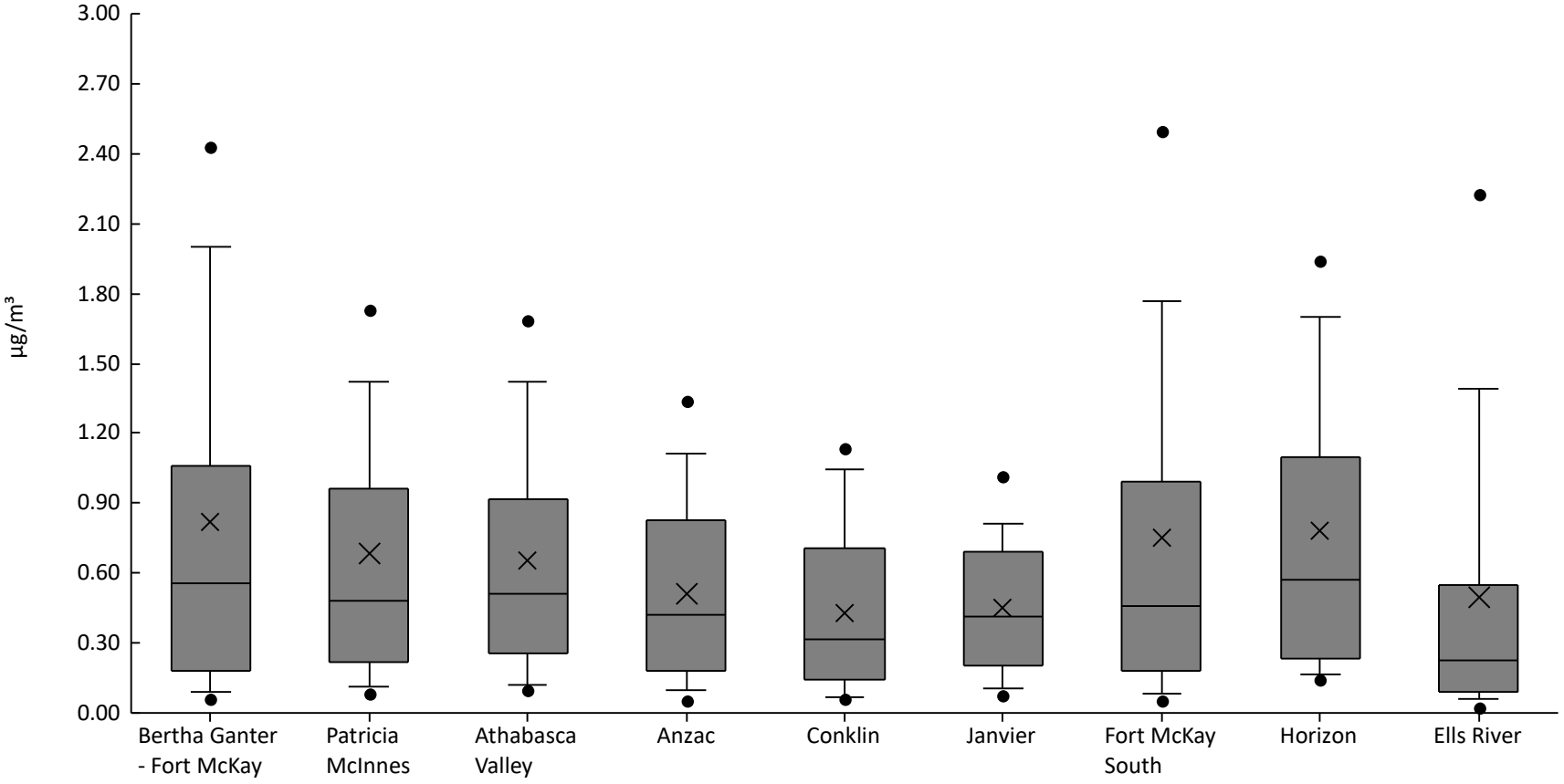
Particulate Matter <10µm Tested For Ions - Nitrate Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	4.8E-3	8.2E-3	0.012	0.028	0.1	0.32	0.53	0.8	1.7	0.22	0.29
AMS06	Patricia McInnes	61	98%	0	9.9E-3	0.014	0.029	0.092	0.25	0.8	0.98	1.3	0.22	0.31
AMS07	Athabasca Valley	61	100%	1E-3	0.01	0.013	0.039	0.1	0.33	0.62	0.72	0.79	0.21	0.23
AMS14	Anzac	61	98%	0	3.3E-3	6.7E-3	0.019	0.035	0.11	0.2	0.26	0.52	0.081	0.1
AMS21	Conklin	31	97%	0	4E-3	5.6E-3	0.012	0.021	0.09	0.27	0.47	0.66	0.088	0.15
AMS22	Janvier	21	100%	0.013	0.014	0.015	0.021	0.031	0.12	0.21	0.36	0.51	0.089	0.12
AMS13	Fort McKay South	61	98%	0	7.9E-3	0.014	0.022	0.067	0.22	0.37	0.53	1.1	0.15	0.2
AMS15	Horizon	41	98%	0	7.5E-3	9.2E-3	0.027	0.075	0.21	0.49	0.95	1.2	0.19	0.28
AMS30	Ells River	18	94%	0	2.5E-3	9.1E-3	0.027	0.071	0.15	0.32	0.39	0.43	0.11	0.12



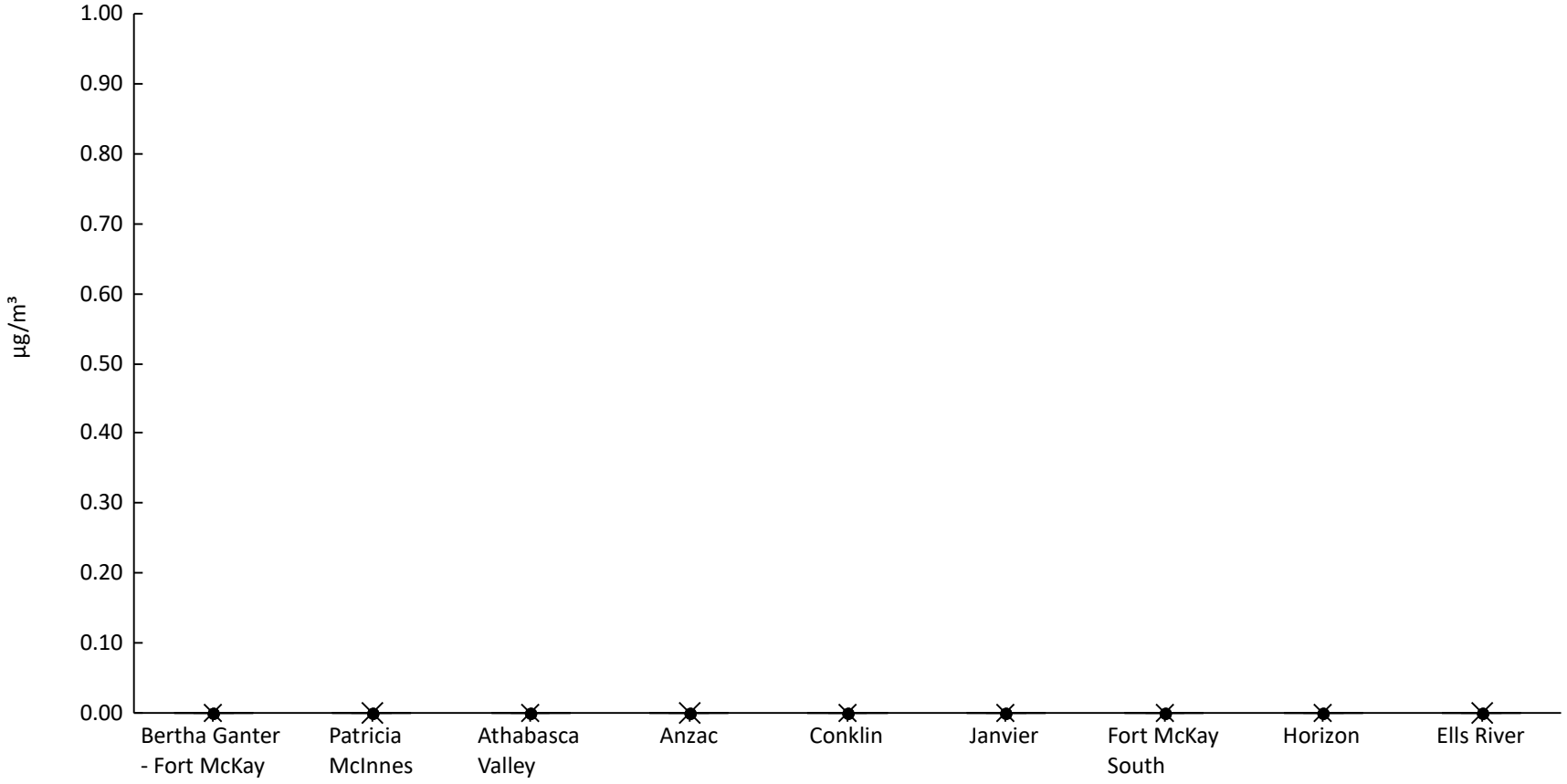
Particulate Matter <10µm Tested For Ions - Sulphate Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	7.6E-3	0.06	0.087	0.18	0.56	1.1	2	2.4	5.3	0.82	0.95
AMS06	Patricia McInnes	61	100%	0.016	0.083	0.11	0.22	0.48	0.96	1.4	1.7	4.5	0.68	0.7
AMS07	Athabasca Valley	61	100%	0.018	0.096	0.12	0.25	0.51	0.92	1.4	1.7	2.9	0.66	0.54
AMS14	Anzac	61	100%	0.012	0.055	0.095	0.18	0.42	0.83	1.1	1.3	1.8	0.51	0.42
AMS21	Conklin	31	100%	0.05	0.059	0.065	0.15	0.31	0.71	1	1.1	1.5	0.43	0.38
AMS22	Janvier	21	100%	0.059	0.077	0.11	0.2	0.41	0.69	0.81	1	1.2	0.45	0.31
AMS13	Fort McKay South	61	100%	7.6E-3	0.056	0.079	0.18	0.46	0.99	1.8	2.5	6.2	0.75	0.97
AMS15	Horizon	41	100%	6.7E-3	0.14	0.16	0.24	0.57	1.1	1.7	1.9	3.1	0.78	0.66
AMS30	Ells River	18	100%	3.8E-3	0.024	0.063	0.094	0.22	0.55	1.4	2.2	2.7	0.5	0.69



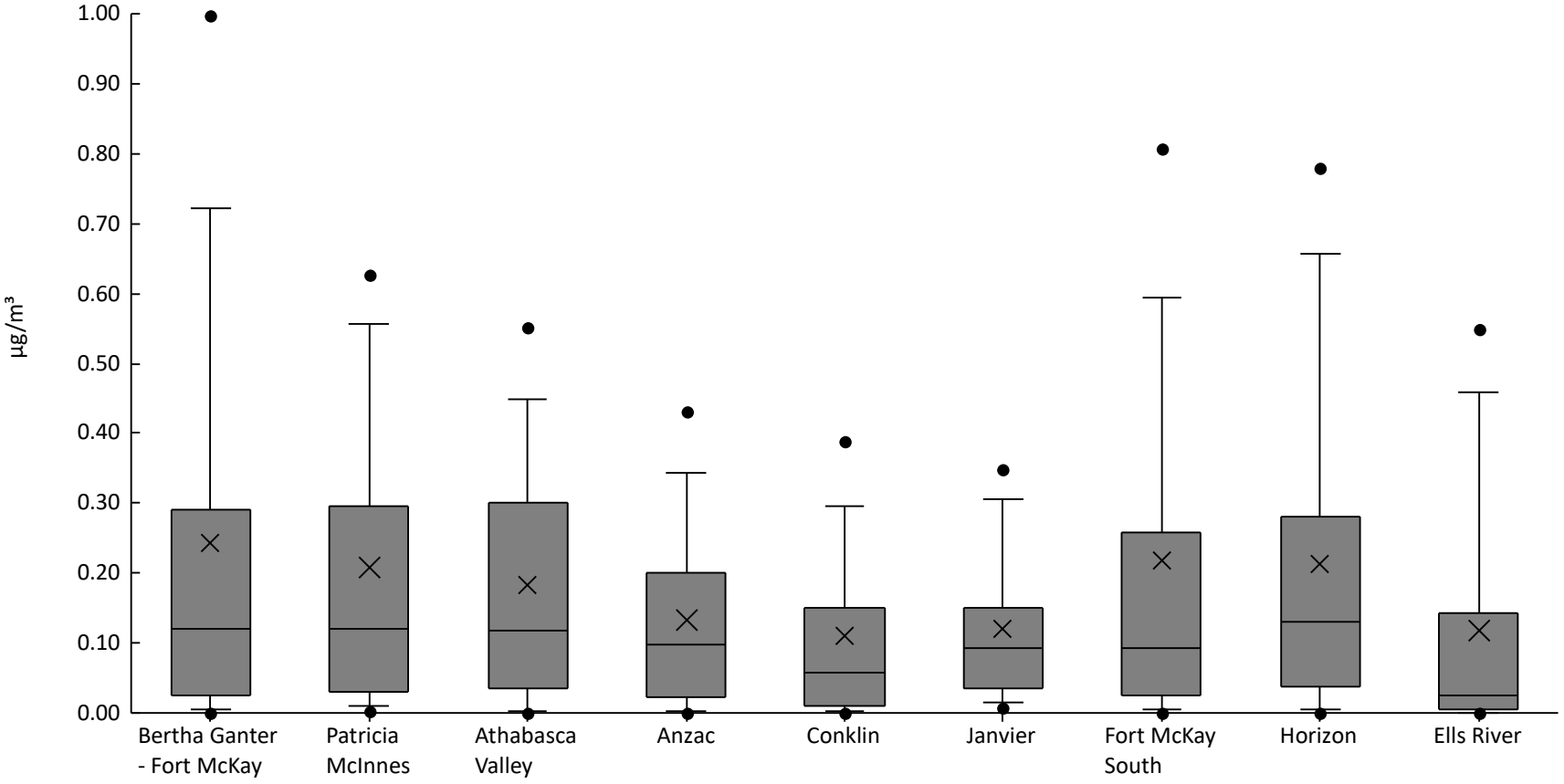
Particulate Matter <10µm Tested For Ions - Phosphate Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS06	Patricia McInnes	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS07	Athabasca Valley	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS14	Anzac	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS21	Conklin	31	0%	0	0	0	0	0	0	0	0	0	0	0
AMS22	Janvier	21	0%	0	0	0	0	0	0	0	0	0	0	0
AMS13	Fort McKay South	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS15	Horizon	41	0%	0	0	0	0	0	0	0	0	0	0	0
AMS30	Ells River	18	0%	0	0	0	0	0	0	0	0	0	0	0



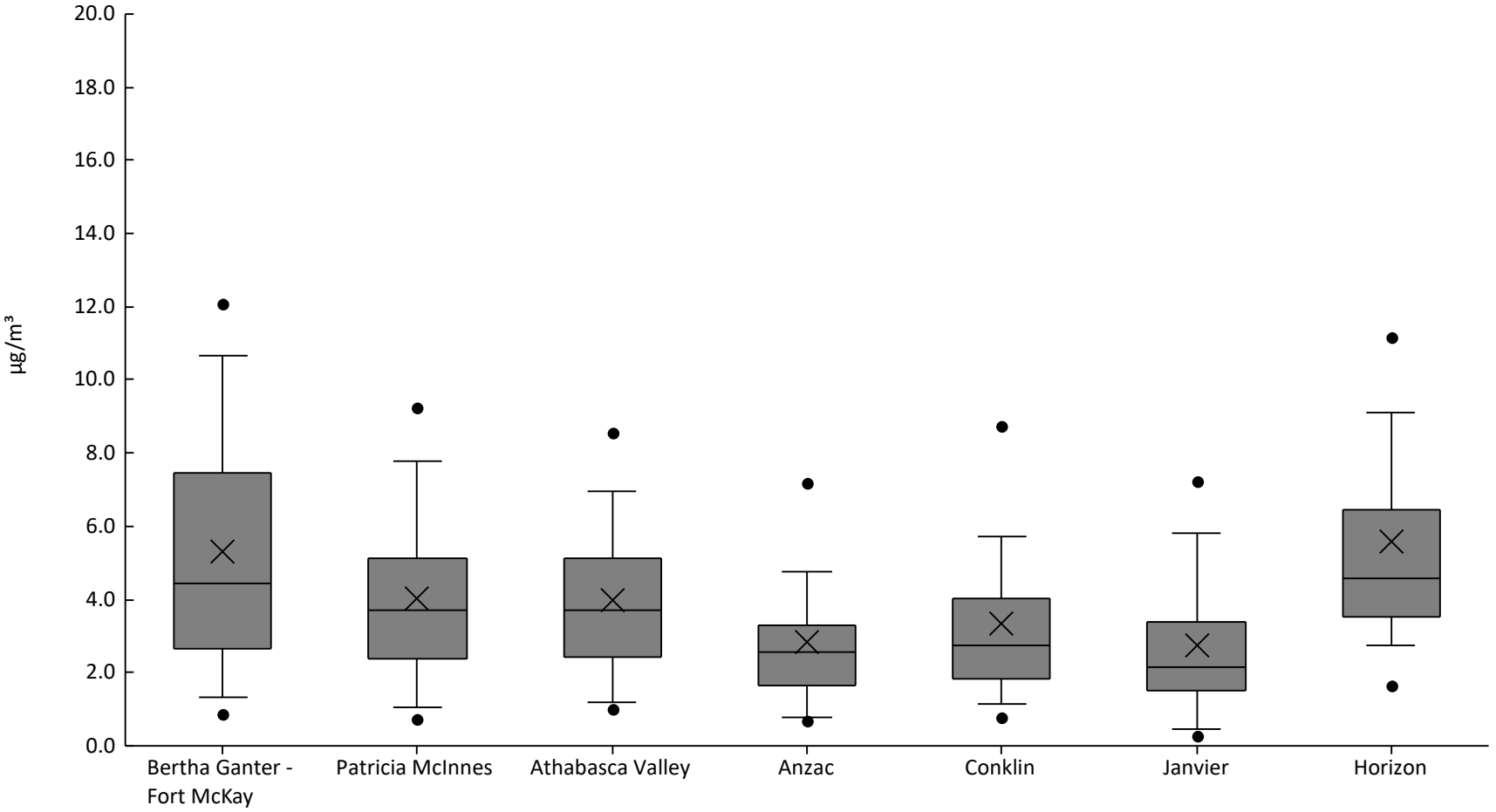
Particulate Matter <10µm Tested For Ions - Ammonium Ion (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	93%	0	0	6E-3	0.026	0.12	0.29	0.72	1	1.4	0.24	0.33
AMS06	Patricia McInnes	61	98%	0	1.4E-3	0.011	0.031	0.12	0.3	0.56	0.63	1.3	0.21	0.24
AMS07	Athabasca Valley	61	95%	0	3.9E-4	2.3E-3	0.035	0.12	0.3	0.45	0.55	0.86	0.18	0.19
AMS14	Anzac	61	95%	0	3.3E-4	2.8E-3	0.023	0.097	0.2	0.34	0.43	0.53	0.13	0.13
AMS21	Conklin	31	94%	0	6.5E-5	2.5E-3	9.9E-3	0.058	0.15	0.3	0.39	0.5	0.11	0.13
AMS22	Janvier	21	100%	3.8E-3	7.7E-3	0.015	0.035	0.093	0.15	0.3	0.35	0.39	0.12	0.11
AMS13	Fort McKay South	61	95%	0	1.7E-4	5.5E-3	0.024	0.094	0.26	0.59	0.81	2.3	0.22	0.35
AMS15	Horizon	41	93%	0	0	4.1E-3	0.037	0.13	0.28	0.66	0.78	0.98	0.21	0.25
AMS30	Ells River	18	94%	0	4E-5	1.9E-4	5.5E-3	0.024	0.14	0.46	0.55	0.55	0.12	0.18



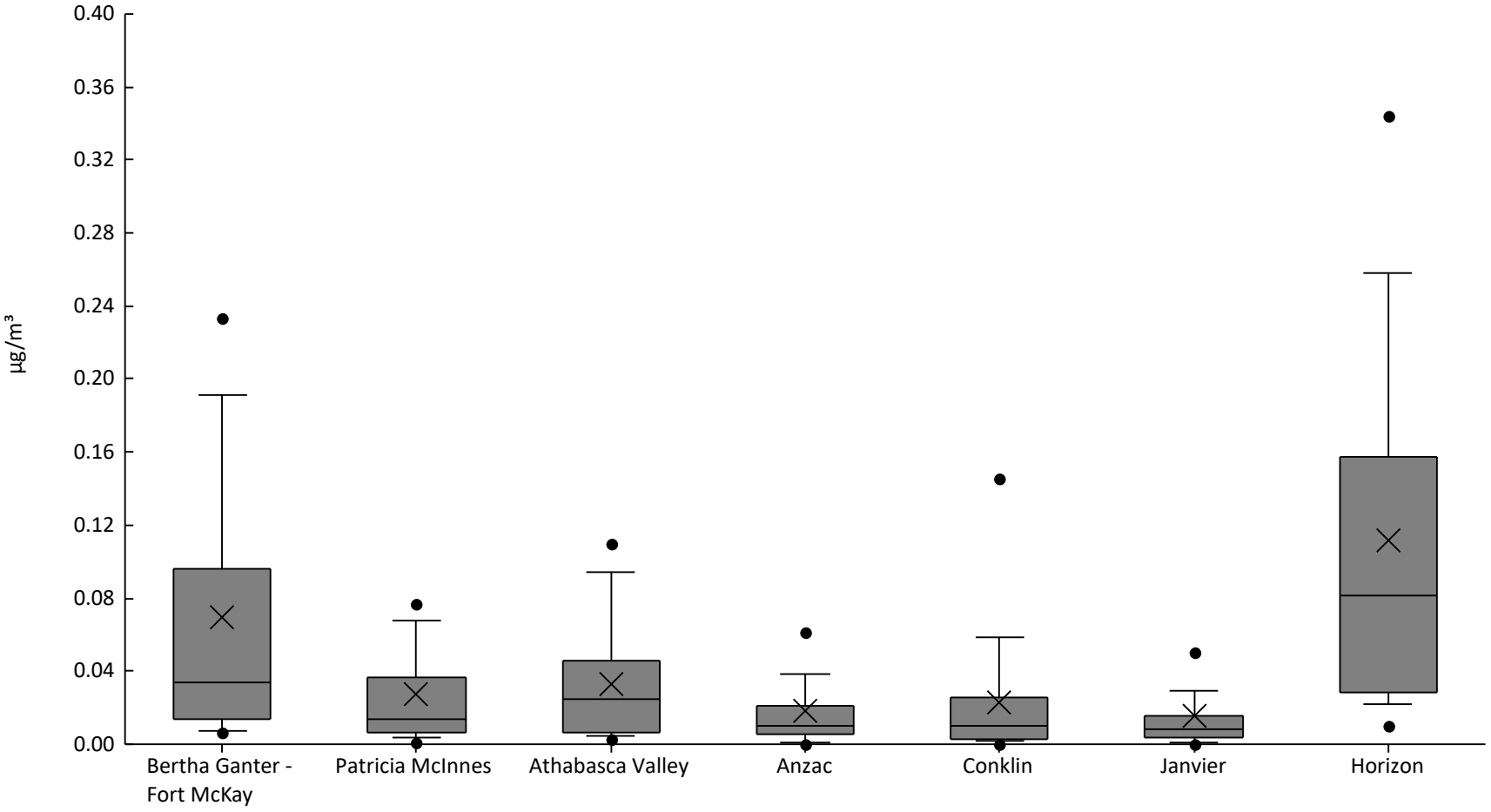
Particulate Matter <2.5µm Tested For Elements - Particulate Matter (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.46	0.86	1.3	2.7	4.4	7.5	11	12	17	5.3	3.7
AMS06	Patricia McInnes	61	100%	0.46	0.71	1.1	2.4	3.7	5.1	7.8	9.2	12	4	2.5
AMS07	Athabasca Valley	60	100%	0.71	1	1.2	2.4	3.7	5.1	7	8.5	12	4	2.3
AMS14	Anzac	61	100%	0.42	0.67	0.78	1.7	2.5	3.3	4.8	7.2	10	2.8	2
AMS21	Conklin	31	100%	0.67	0.8	1.2	1.8	2.8	4	5.7	8.8	12	3.3	2.3
AMS22	Janvier	31	100%	0.29	0.29	0.47	1.5	2.2	3.4	5.8	7.2	11	2.8	2.2
AMS15	Horizon	34	100%	0.21	1.7	2.7	3.5	4.6	6.5	9.1	11	23	5.6	3.9



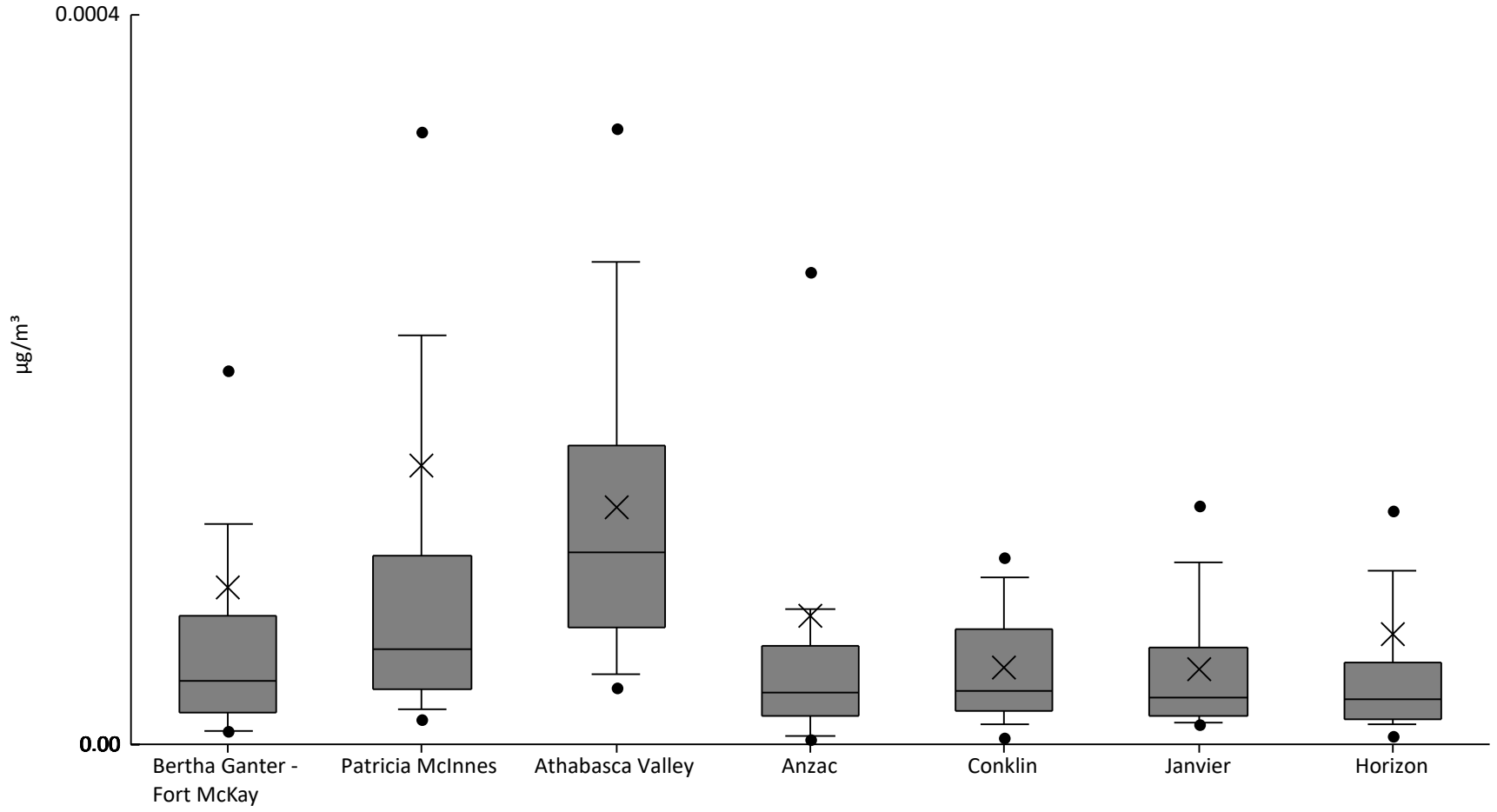
Particulate Matter <2.5µm Tested For Elements - Aluminum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	4.9E-3	6.3E-3	7.5E-3	0.014	0.034	0.096	0.19	0.23	0.42	0.069	0.084
AMS06	Patricia McInnes	61	93%	0	8.1E-4	3.6E-3	6.5E-3	0.014	0.037	0.068	0.077	0.2	0.027	0.033
AMS07	Athabasca Valley	60	95%	7.4E-4	2.6E-3	4.4E-3	6.5E-3	0.025	0.046	0.095	0.11	0.13	0.033	0.034
AMS14	Anzac	61	85%	0	2.8E-4	1.1E-3	5.6E-3	9.7E-3	0.021	0.038	0.061	0.16	0.018	0.024
AMS21	Conklin	31	74%	9.5E-5	2.3E-4	1.4E-3	3E-3	9.7E-3	0.026	0.059	0.15	0.15	0.023	0.038
AMS22	Janvier	31	84%	0	0	5.1E-4	3.7E-3	8.2E-3	0.016	0.03	0.051	0.12	0.016	0.023
AMS15	Horizon	34	100%	6.4E-3	9.7E-3	0.022	0.029	0.082	0.16	0.26	0.34	0.45	0.11	0.11



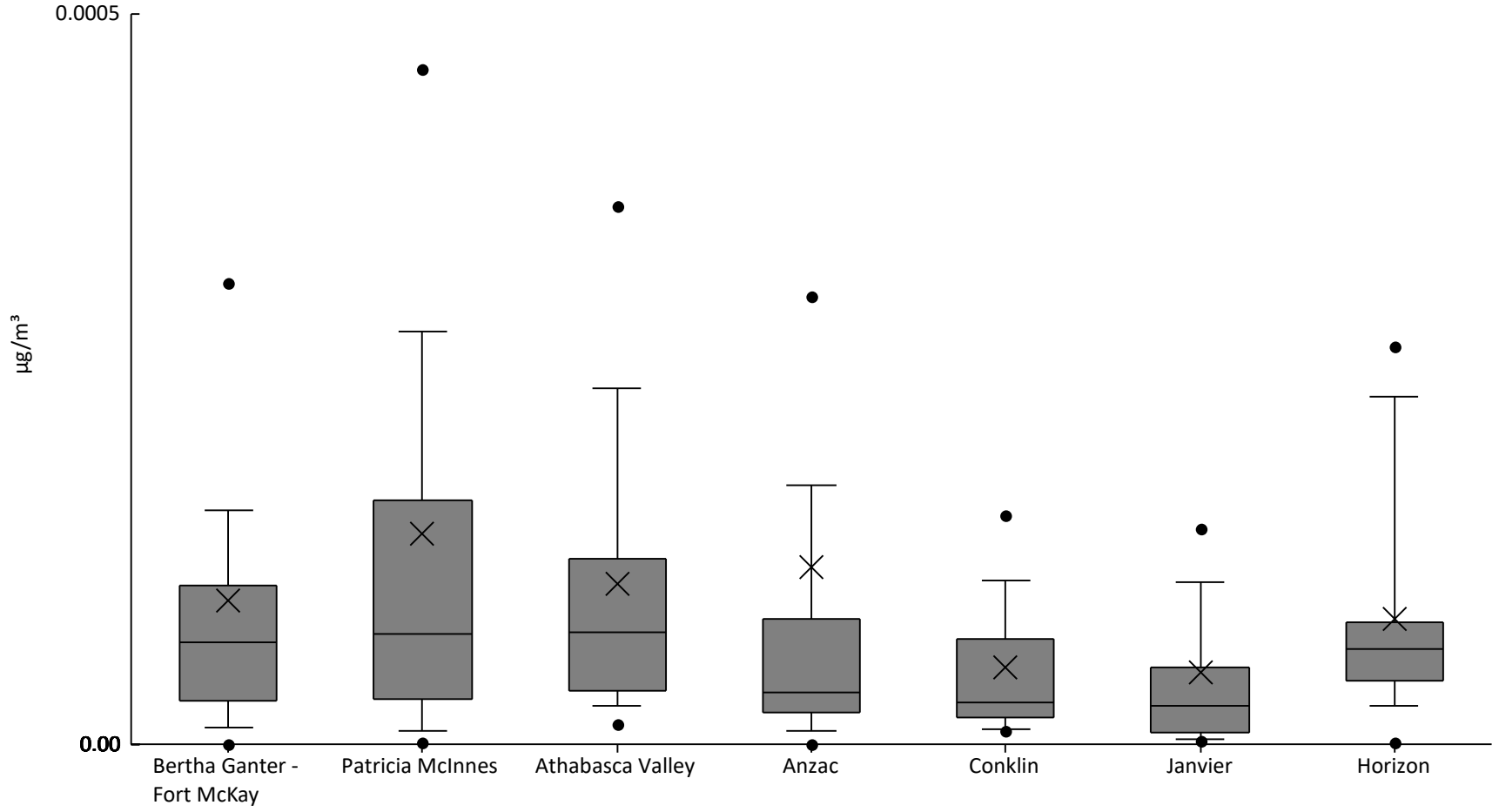
Particulate Matter <2.5µm Tested For Elements - Antimony (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	82%	4E-6	7E-6	7.6E-6	1.8E-5	3.5E-5	7E-5	1.2E-4	2E-4	2.2E-3	8.6E-5	2.8E-4
AMS06	Patricia McInnes	61	93%	6E-6	1.4E-5	1.9E-5	3E-5	5.2E-5	1E-4	2.2E-4	3.4E-4	4.3E-3	1.5E-4	5.4E-4
AMS07	Athabasca Valley	60	100%	2E-5	3.1E-5	3.8E-5	6.5E-5	1.1E-4	1.6E-4	2.6E-4	3.4E-4	4.7E-4	1.3E-4	9.4E-5
AMS14	Anzac	61	75%	0	2.6E-6	4.6E-6	1.6E-5	2.8E-5	5.4E-5	7.4E-5	2.6E-4	1.1E-3	7.1E-5	1.8E-4
AMS21	Conklin	31	84%	1E-6	3.3E-6	1.1E-5	1.8E-5	2.9E-5	6.3E-5	9.1E-5	1E-4	1.6E-4	4.2E-5	3.5E-5
AMS22	Janvier	31	77%	5E-6	1.1E-5	1.2E-5	1.6E-5	2.6E-5	5.4E-5	9.9E-5	1.3E-4	1.6E-4	4.1E-5	3.8E-5
AMS15	Horizon	34	68%	0	5E-6	1.1E-5	1.4E-5	2.5E-5	4.5E-5	9.6E-5	1.3E-4	9.4E-4	6.1E-5	1.6E-4



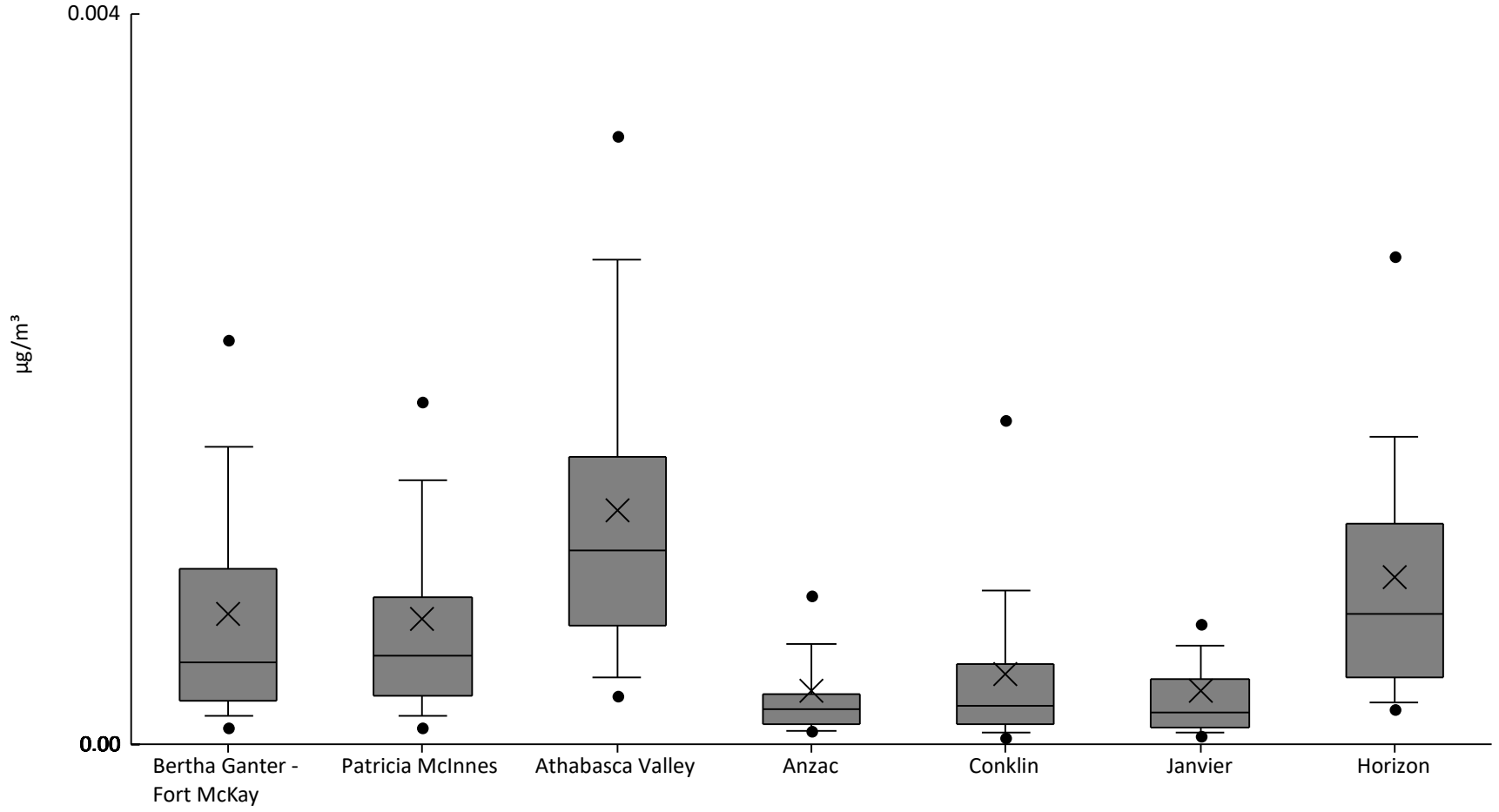
Particulate Matter <2.5µm Tested For Elements - Arsenic (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	92%	0	5.5E-7	1.1E-5	3E-5	7E-5	1.1E-4	1.6E-4	3.2E-4	1.1E-3	9.8E-5	1.5E-4
AMS06	Patricia McInnes	61	93%	0	1.7E-6	8.6E-6	3.1E-5	7.6E-5	1.7E-4	2.8E-4	4.6E-4	1.7E-3	1.4E-4	2.4E-4
AMS07	Athabasca Valley	60	98%	0	1.4E-5	2.6E-5	3.7E-5	7.7E-5	1.3E-4	2.4E-4	3.7E-4	5.5E-4	1.1E-4	1.1E-4
AMS14	Anzac	61	92%	0	0	9E-6	2.2E-5	3.6E-5	8.6E-5	1.8E-4	3.1E-4	2.3E-3	1.2E-4	3.5E-4
AMS21	Conklin	31	97%	0	9.1E-6	1E-5	1.8E-5	2.9E-5	7.2E-5	1.1E-4	1.6E-4	2.5E-4	5.2E-5	5.2E-5
AMS22	Janvier	31	81%	0	2.1E-6	3E-6	8E-6	2.6E-5	5.3E-5	1.1E-4	1.5E-4	4.1E-4	5E-5	7.7E-5
AMS15	Horizon	34	94%	0	1.4E-6	2.7E-5	4.3E-5	6.5E-5	8.3E-5	2.4E-4	2.7E-4	3.1E-4	8.6E-5	7.7E-5



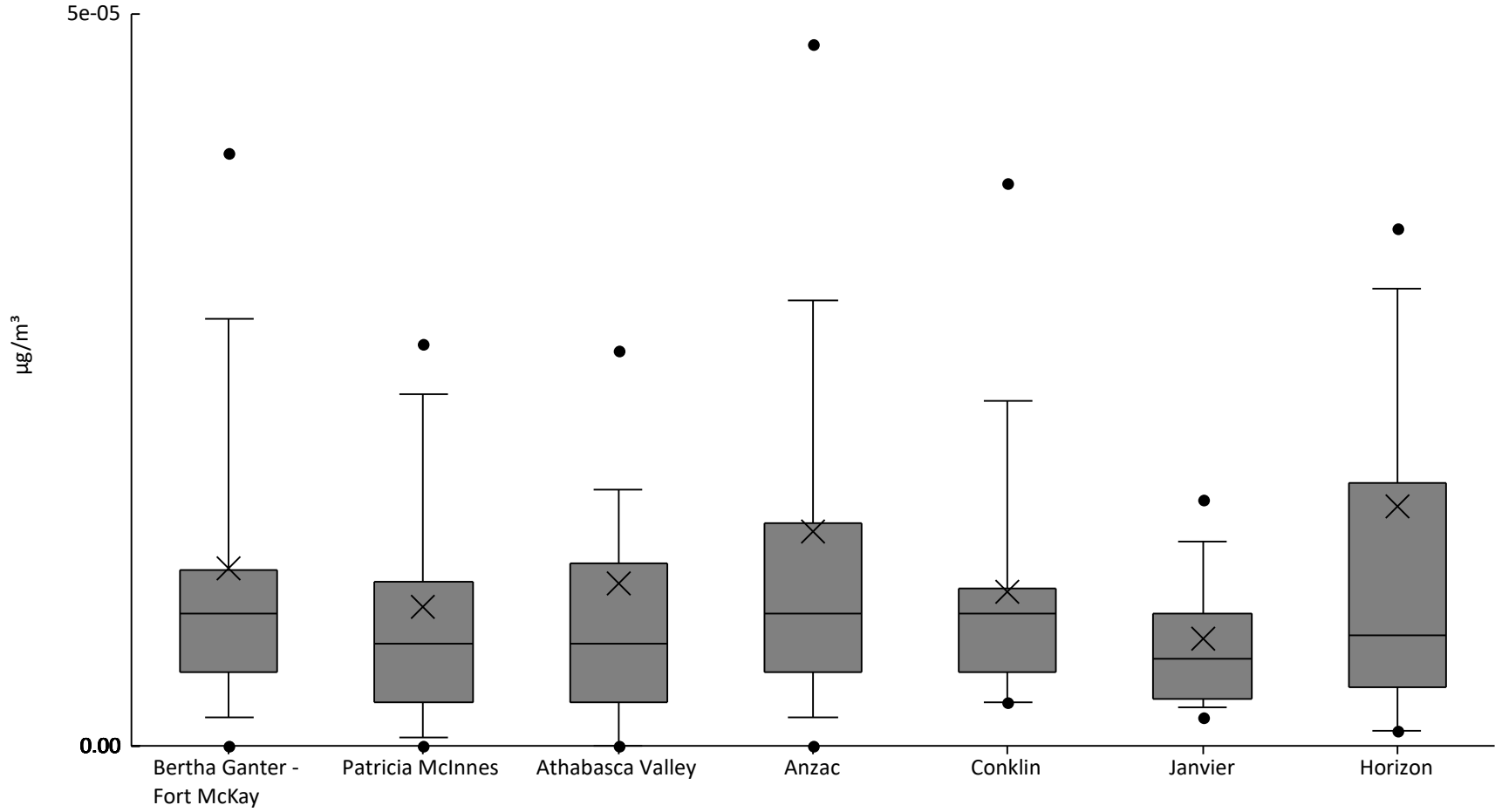
Particulate Matter <2.5µm Tested For Elements - Barium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	3.3E-5	8.9E-5	1.6E-4	2.4E-4	4.5E-4	9.6E-4	1.6E-3	2.2E-3	3E-3	7.1E-4	6.6E-4
AMS06	Patricia McInnes	61	100%	6.8E-5	8.9E-5	1.5E-4	2.7E-4	4.8E-4	8.1E-4	1.4E-3	1.9E-3	4.6E-3	6.9E-4	7.1E-4
AMS07	Athabasca Valley	60	100%	2.4E-4	2.7E-4	3.6E-4	6.5E-4	1.1E-3	1.6E-3	2.7E-3	3.3E-3	5.6E-3	1.3E-3	1E-3
AMS14	Anzac	61	97%	4.3E-5	6.9E-5	7.6E-5	1.1E-4	1.9E-4	2.7E-4	5.5E-4	8.2E-4	2.4E-3	3E-4	4E-4
AMS21	Conklin	31	90%	3.5E-5	3.7E-5	6.5E-5	1.1E-4	2.1E-4	4.4E-4	8.4E-4	1.8E-3	2.2E-3	3.9E-4	4.9E-4
AMS22	Janvier	31	90%	2.3E-5	4.5E-5	6.4E-5	9.4E-5	1.7E-4	3.6E-4	5.4E-4	6.5E-4	2.2E-3	2.9E-4	3.9E-4
AMS15	Horizon	34	97%	4.5E-5	1.9E-4	2.2E-4	3.6E-4	7.1E-4	1.2E-3	1.7E-3	2.7E-3	3.1E-3	9.1E-4	7.2E-4



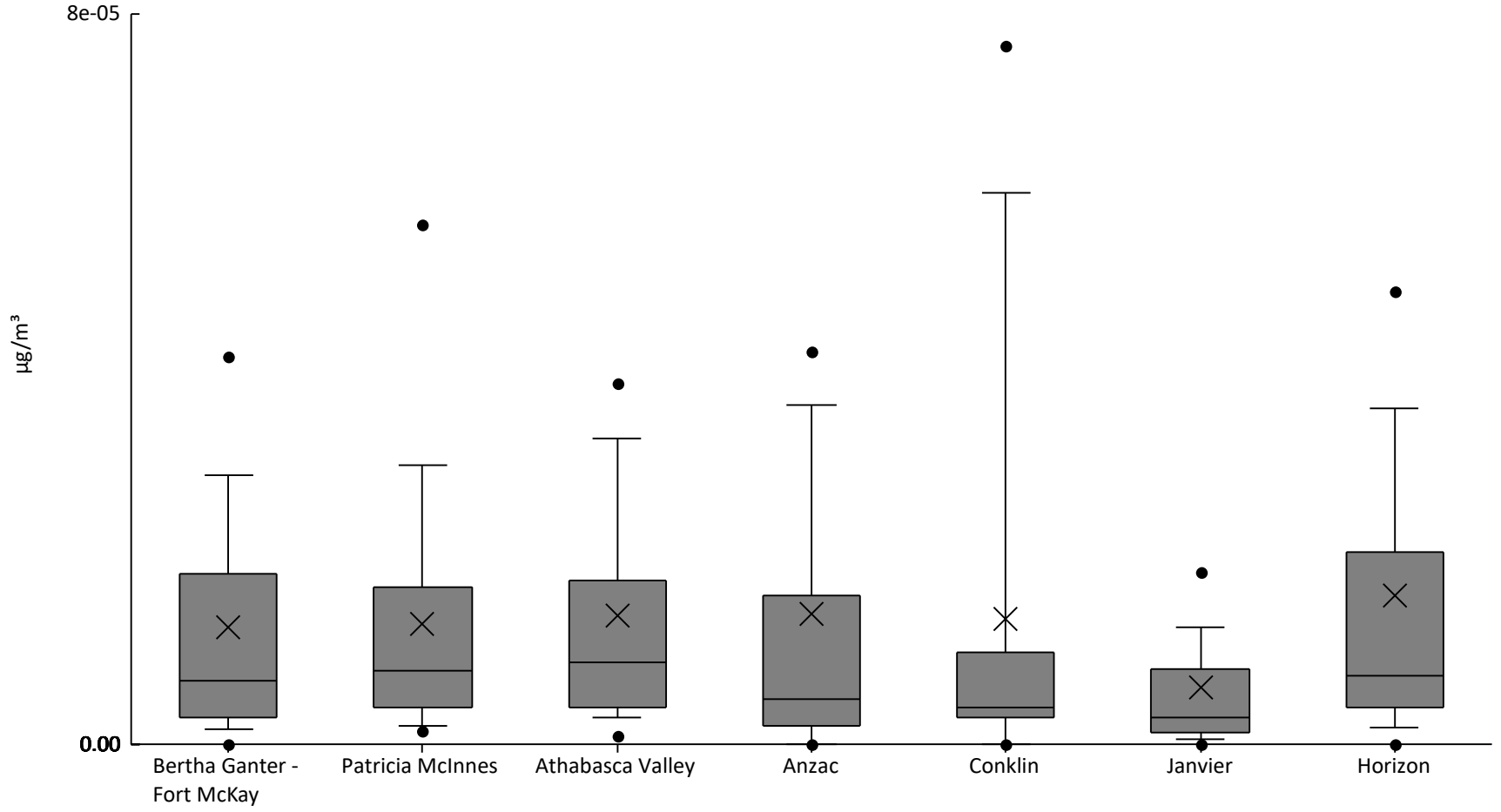
Particulate Matter <2.5µm Tested For Elements - Beryllium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	20%	0	0	2E-6	5E-6	9E-6	1.2E-5	2.9E-5	4E-5	5.2E-5	1.2E-5	1.2E-5
AMS06	Patricia McInnes	61	21%	0	0	6E-7	3E-6	7E-6	1.1E-5	2.4E-5	2.7E-5	6.8E-5	9.5E-6	1.1E-5
AMS07	Athabasca Valley	60	22%	0	0	0	3E-6	7E-6	1.3E-5	1.8E-5	2.7E-5	1.4E-4	1.1E-5	2E-5
AMS14	Anzac	61	31%	0	0	2E-6	5E-6	9E-6	1.5E-5	3E-5	4.8E-5	1.1E-4	1.5E-5	2E-5
AMS21	Conklin	31	13%	2E-6	3E-6	3E-6	5E-6	9E-6	1.1E-5	2.4E-5	3.9E-5	4.4E-5	1.1E-5	9.8E-6
AMS22	Janvier	31	13%	0	2E-6	2.6E-6	3.3E-6	6E-6	9E-6	1.4E-5	1.7E-5	2.8E-5	7.4E-6	5.5E-6
AMS15	Horizon	34	29%	0	1E-6	1E-6	4E-6	7.5E-6	1.8E-5	3.1E-5	3.5E-5	1.8E-4	1.6E-5	3.1E-5



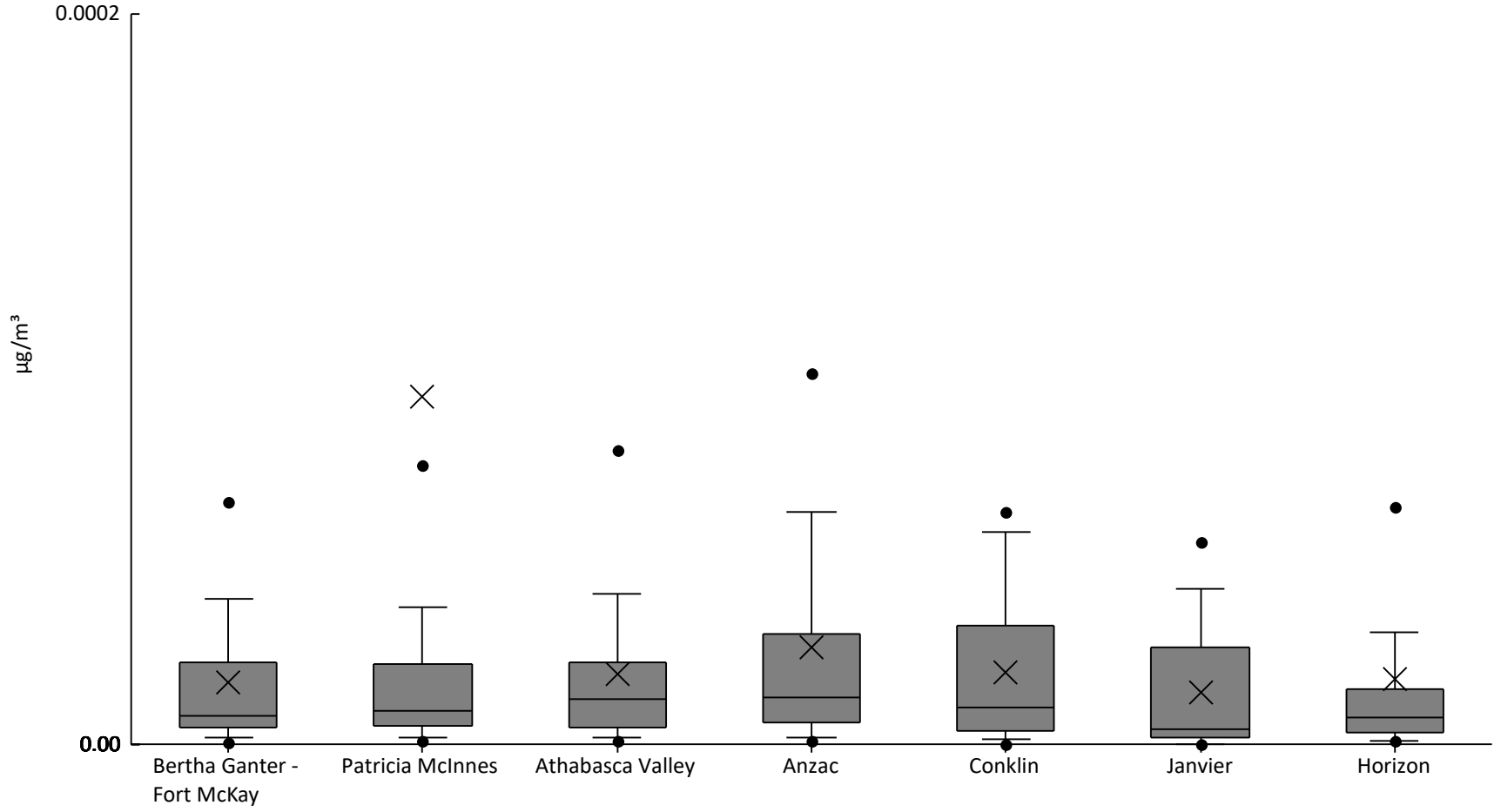
Particulate Matter <2.5µm Tested For Elements - Bismuth (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	66%	0	0	1.6E-6	3E-6	7E-6	1.9E-5	2.9E-5	4.2E-5	6.1E-5	1.3E-5	1.3E-5
AMS06	Patricia McInnes	61	67%	0	1.6E-6	2E-6	4E-6	8E-6	1.7E-5	3.1E-5	5.7E-5	5.9E-5	1.3E-5	1.5E-5
AMS07	Athabasca Valley	60	73%	0	1E-6	3E-6	4E-6	9E-6	1.8E-5	3.4E-5	4E-5	8.9E-5	1.4E-5	1.5E-5
AMS14	Anzac	61	54%	0	0	0	2E-6	5E-6	1.6E-5	3.7E-5	4.3E-5	1.3E-4	1.4E-5	2.3E-5
AMS21	Conklin	31	42%	0	0	0	3E-6	4E-6	1E-5	6E-5	7.7E-5	7.8E-5	1.4E-5	2.3E-5
AMS22	Janvier	31	35%	0	0	6E-7	1.3E-6	3E-6	8.3E-6	1.3E-5	1.9E-5	5.8E-5	6.3E-6	1.1E-5
AMS15	Horizon	34	68%	0	0	1.8E-6	4E-6	7.5E-6	2.1E-5	3.7E-5	5E-5	9.8E-5	1.6E-5	2E-5



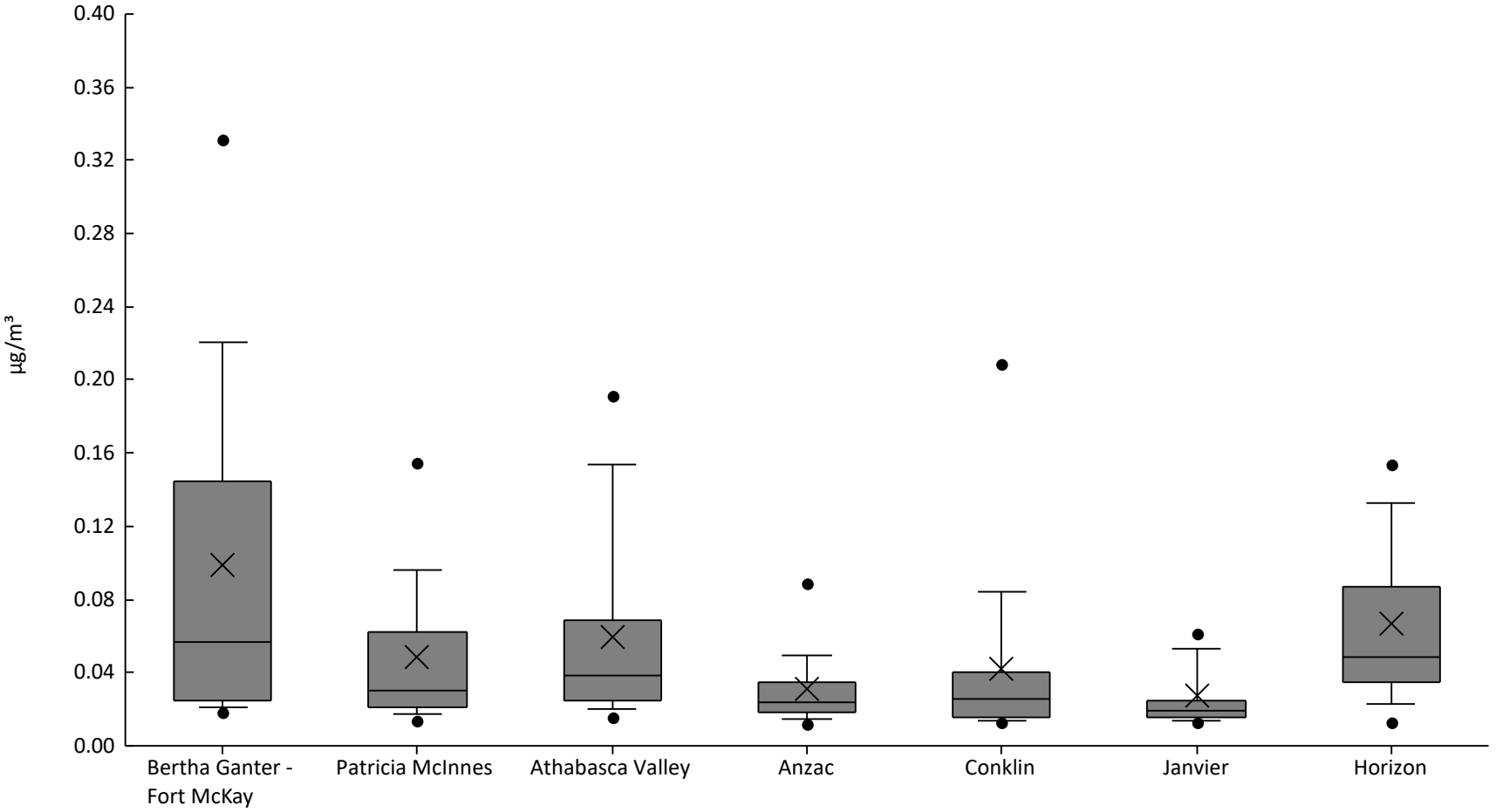
Particulate Matter <2.5µm Tested For Elements - Cadmium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	44%	0	5.5E-7	2E-6	4.8E-6	8E-6	2.3E-5	4E-5	6.6E-5	1.3E-4	1.7E-5	2.2E-5
AMS06	Patricia McInnes	61	48%	0	1E-6	2E-6	5E-6	9E-6	2.2E-5	3.8E-5	7.6E-5	4.8E-3	9.5E-5	6.1E-4
AMS07	Athabasca Valley	60	58%	0	1E-6	2E-6	4.5E-6	1.3E-5	2.3E-5	4.1E-5	8.1E-5	1.1E-4	1.9E-5	2.3E-5
AMS14	Anzac	61	59%	0	1E-6	2E-6	6E-6	1.3E-5	3E-5	6.3E-5	1E-4	2.1E-4	2.7E-5	4.1E-5
AMS21	Conklin	31	48%	0	5E-8	1.6E-6	3.5E-6	1E-5	3.3E-5	5.8E-5	6.4E-5	9.6E-5	2E-5	2.4E-5
AMS22	Janvier	31	35%	0	0	0	2E-6	4E-6	2.7E-5	4.2E-5	5.5E-5	6.2E-5	1.4E-5	1.8E-5
AMS15	Horizon	34	38%	0	1E-6	1E-6	3E-6	7.5E-6	1.5E-5	3.1E-5	6.5E-5	2.2E-4	1.8E-5	3.8E-5



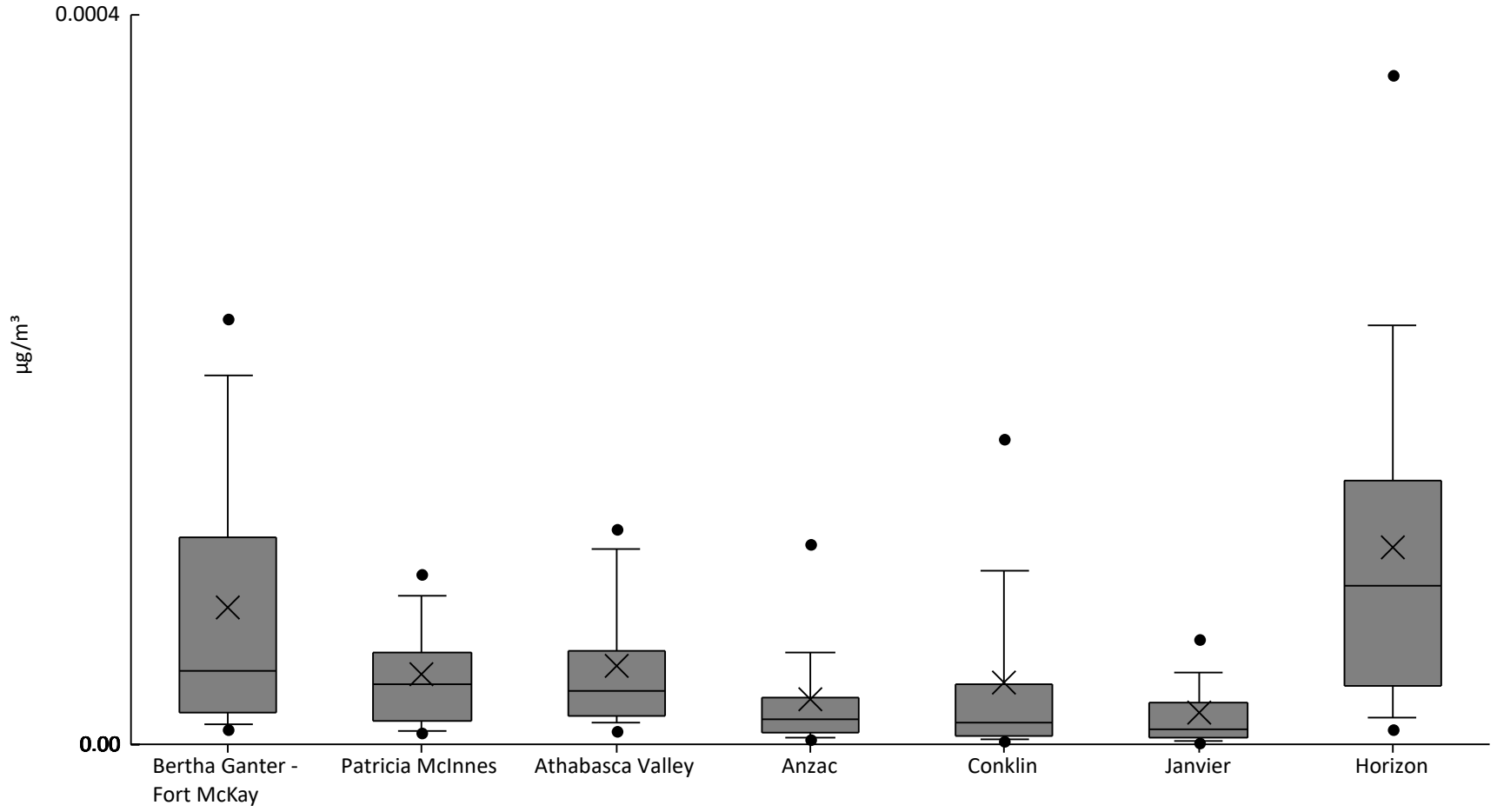
Particulate Matter <2.5µm Tested For Elements - Calcium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0.012	0.018	0.021	0.025	0.057	0.14	0.22	0.33	0.55	0.099	0.11
AMS06	Patricia McInnes	61	97%	8.4E-3	0.014	0.017	0.021	0.03	0.063	0.096	0.15	0.23	0.048	0.043
AMS07	Athabasca Valley	60	98%	7E-3	0.016	0.02	0.025	0.038	0.069	0.15	0.19	0.25	0.059	0.056
AMS14	Anzac	61	90%	7.5E-3	0.012	0.014	0.018	0.023	0.035	0.049	0.089	0.16	0.032	0.026
AMS21	Conklin	31	90%	0.013	0.013	0.013	0.015	0.025	0.04	0.084	0.21	0.25	0.042	0.055
AMS22	Janvier	31	94%	0.012	0.013	0.014	0.016	0.02	0.025	0.053	0.062	0.16	0.028	0.028
AMS15	Horizon	34	94%	9.1E-3	0.013	0.023	0.035	0.048	0.087	0.13	0.15	0.31	0.067	0.057



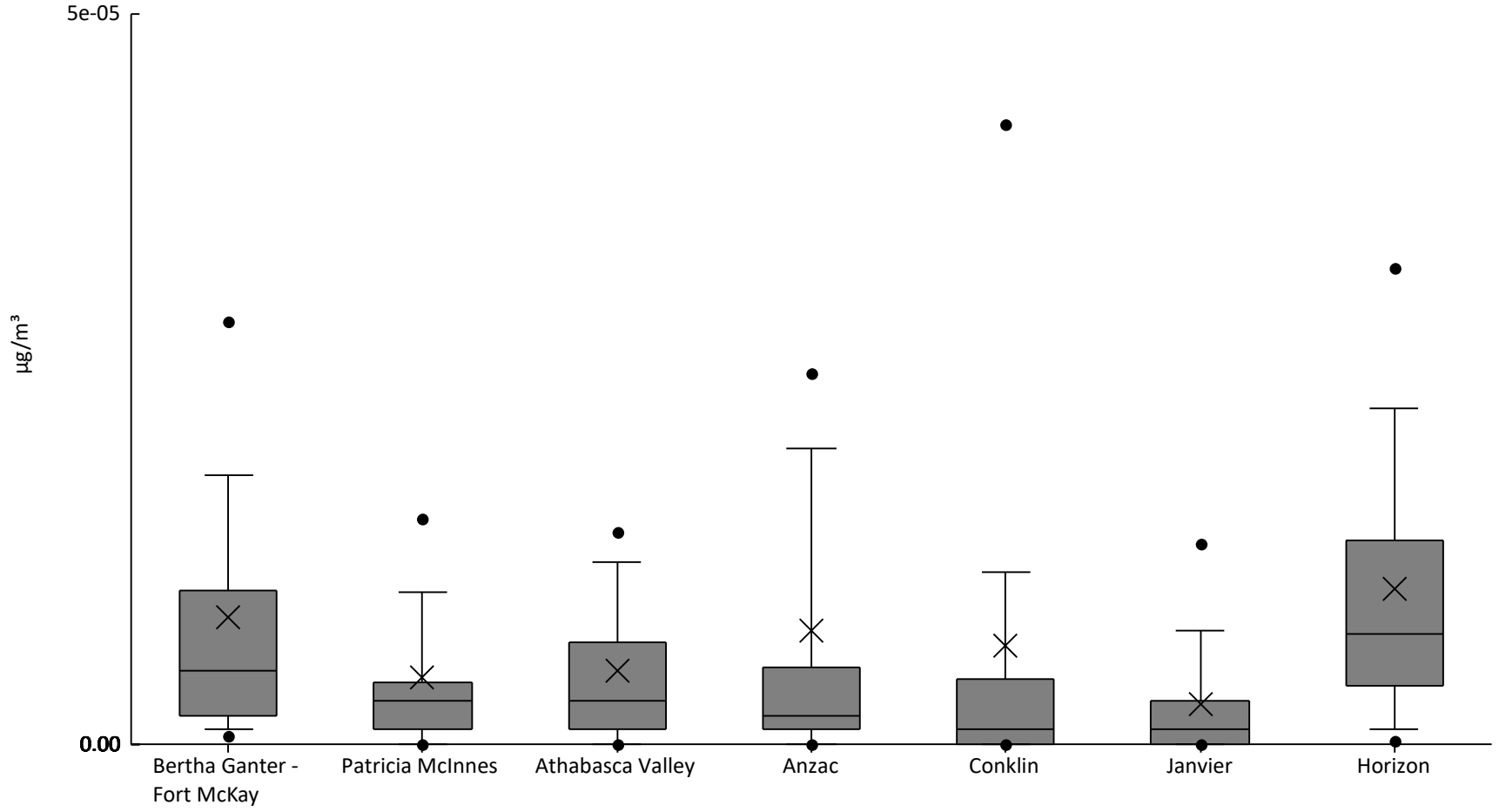
Particulate Matter <2.5µm Tested For Elements - Cerium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	79%	3E-6	8.6E-6	1.1E-5	1.8E-5	4E-5	1.1E-4	2E-4	2.3E-4	4.6E-4	7.5E-5	8.7E-5
AMS06	Patricia McInnes	61	74%	0	6.1E-6	7.6E-6	1.3E-5	3.3E-5	5.1E-5	8.1E-5	9.3E-5	2.2E-4	3.8E-5	3.5E-5
AMS07	Athabasca Valley	60	85%	4E-6	7E-6	1.2E-5	1.6E-5	3E-5	5.1E-5	1.1E-4	1.2E-4	1.6E-4	4.3E-5	3.7E-5
AMS14	Anzac	61	51%	1E-6	3E-6	3.6E-6	6.8E-6	1.4E-5	2.6E-5	5E-5	1.1E-4	1.8E-4	2.5E-5	3.4E-5
AMS21	Conklin	31	48%	2E-6	2.1E-6	3E-6	4.3E-6	1.2E-5	3.3E-5	9.5E-5	1.7E-4	2.6E-4	3.4E-5	5.6E-5
AMS22	Janvier	31	39%	0	1.1E-6	2E-6	3.3E-6	8E-6	2.3E-5	3.9E-5	5.7E-5	1.4E-4	1.8E-5	2.6E-5
AMS15	Horizon	34	91%	5E-6	8.4E-6	1.5E-5	3.2E-5	8.7E-5	1.5E-4	2.3E-4	3.7E-4	4.2E-4	1.1E-4	1E-4



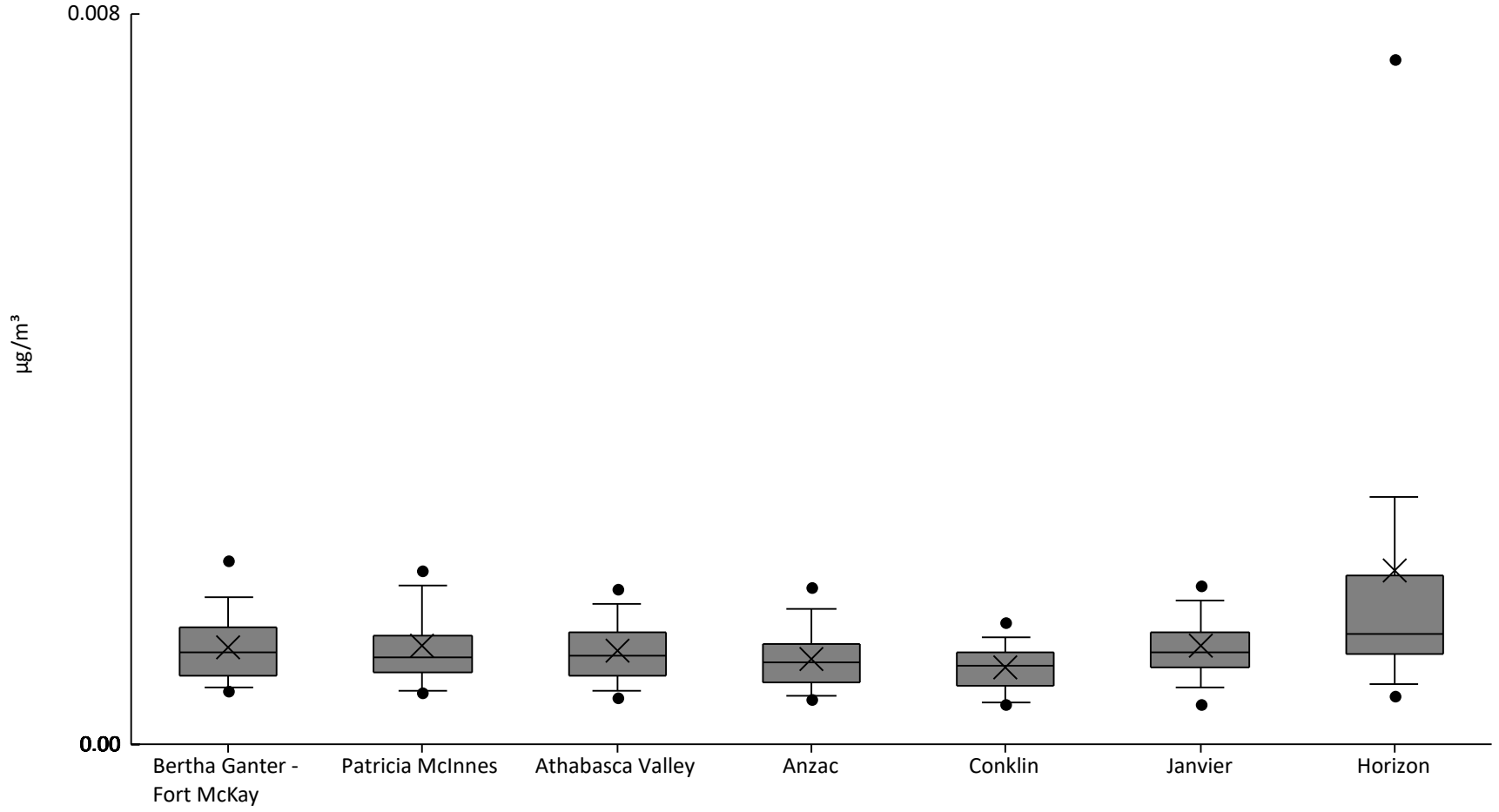
Particulate Matter <2.5µm Tested For Elements - Cesium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	57%	0	5.5E-7	1E-6	2E-6	5E-6	1.1E-5	1.8E-5	2.9E-5	8.1E-5	8.6E-6	1.2E-5
AMS06	Patricia McInnes	61	38%	0	0	0	1E-6	3E-6	4.3E-6	1E-5	1.5E-5	4.7E-5	4.5E-6	6.9E-6
AMS07	Athabasca Valley	60	47%	0	0	0	1E-6	3E-6	7E-6	1.3E-5	1.5E-5	3.2E-5	5.1E-6	5.7E-6
AMS14	Anzac	61	31%	0	0	0	1E-6	2E-6	5.3E-6	2E-5	2.5E-5	1.5E-4	7.8E-6	2.1E-5
AMS21	Conklin	31	26%	0	0	0	0	1E-6	4.5E-6	1.2E-5	4.2E-5	8.3E-5	6.7E-6	1.6E-5
AMS22	Janvier	31	16%	0	0	0	0	1E-6	3E-6	7.8E-6	1.4E-5	2E-5	2.7E-6	4.4E-6
AMS15	Horizon	34	76%	0	2E-7	1E-6	4E-6	7.5E-6	1.4E-5	2.3E-5	3.3E-5	4.2E-5	1.1E-5	9.8E-6



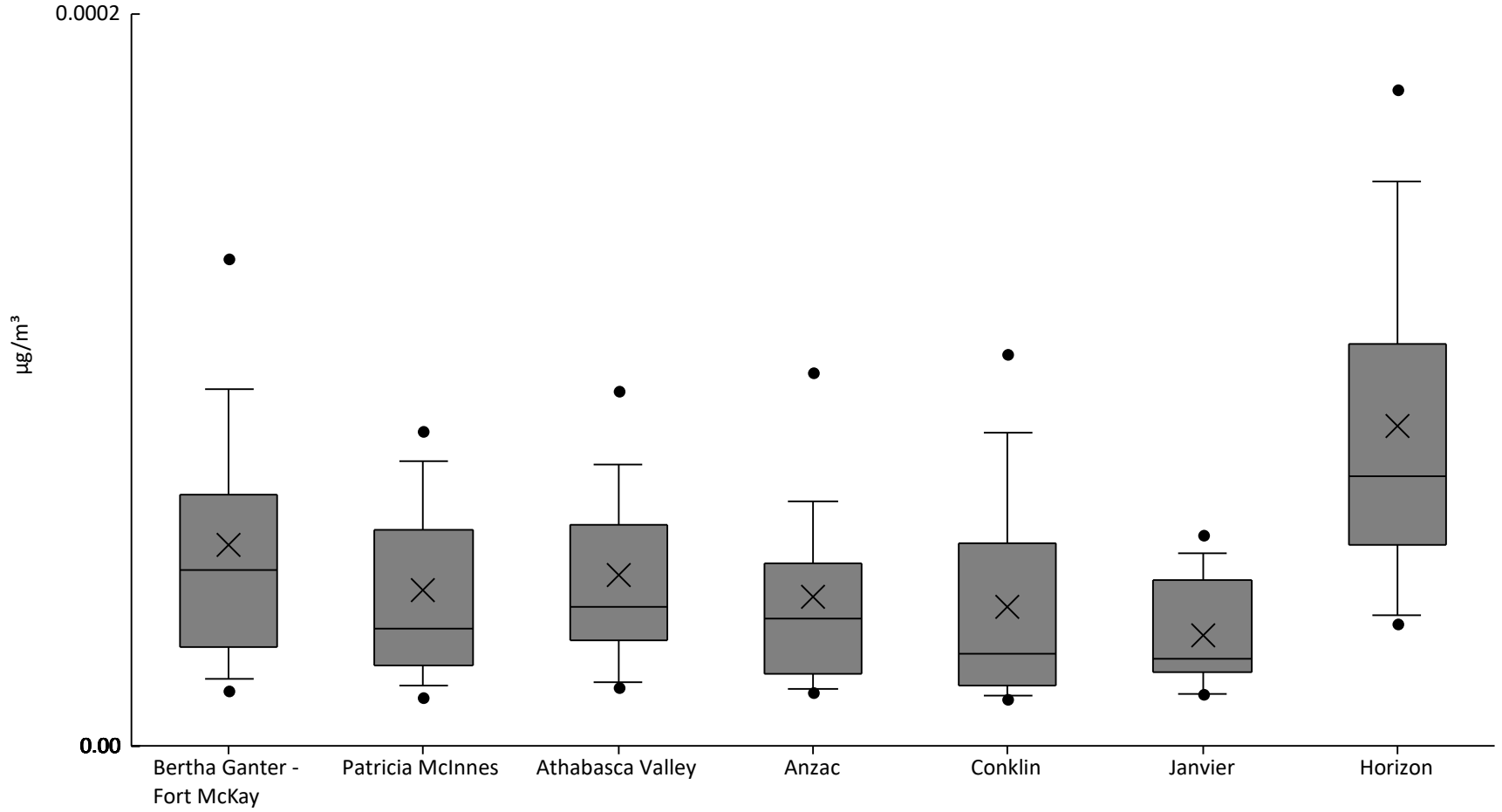
Particulate Matter <2.5µm Tested For Elements - Chromium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	5.3E-4	5.8E-4	6.2E-4	7.6E-4	1E-3	1.3E-3	1.6E-3	2E-3	2.2E-3	1.1E-3	4.1E-4
AMS06	Patricia McInnes	61	100%	5.1E-4	5.7E-4	5.9E-4	7.9E-4	9.6E-4	1.2E-3	1.7E-3	1.9E-3	3.1E-3	1.1E-3	4.7E-4
AMS07	Athabasca Valley	60	100%	2.6E-4	5.2E-4	5.9E-4	7.6E-4	9.7E-4	1.2E-3	1.5E-3	1.7E-3	1.9E-3	1E-3	3.6E-4
AMS14	Anzac	61	100%	4.2E-4	5E-4	5.4E-4	6.8E-4	9E-4	1.1E-3	1.5E-3	1.7E-3	2.1E-3	9.4E-4	3.7E-4
AMS21	Conklin	31	100%	4.3E-4	4.5E-4	4.6E-4	6.4E-4	8.6E-4	1E-3	1.2E-3	1.3E-3	1.5E-3	8.4E-4	2.7E-4
AMS22	Janvier	31	100%	3.4E-4	4.4E-4	6.3E-4	8.4E-4	1E-3	1.2E-3	1.6E-3	1.7E-3	2.7E-3	1.1E-3	4.4E-4
AMS15	Horizon	34	100%	5.2E-4	5.3E-4	6.7E-4	9.8E-4	1.2E-3	1.8E-3	2.7E-3	7.5E-3	0.012	1.9E-3	2.3E-3



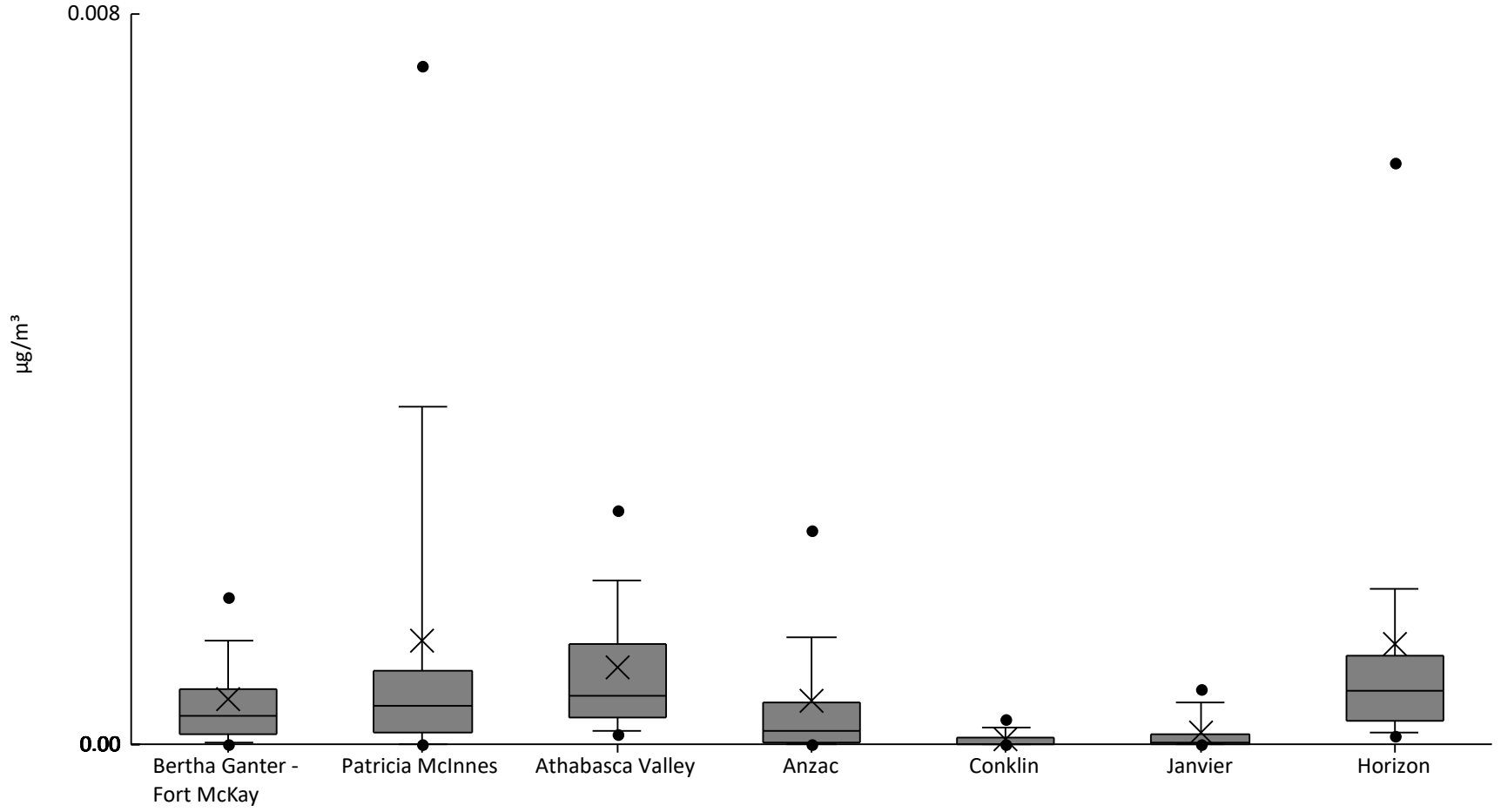
Particulate Matter <2.5µm Tested For Elements - Cobalt (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.3E-5	1.5E-5	1.8E-5	2.7E-5	4.8E-5	6.9E-5	9.7E-5	1.3E-4	2.4E-4	5.5E-5	4E-5
AMS06	Patricia McInnes	61	100%	8E-6	1.3E-5	1.7E-5	2.2E-5	3.2E-5	5.9E-5	7.8E-5	8.6E-5	1.8E-4	4.2E-5	2.9E-5
AMS07	Athabasca Valley	60	100%	1.2E-5	1.6E-5	1.8E-5	2.9E-5	3.8E-5	6.1E-5	7.7E-5	9.7E-5	1.9E-4	4.7E-5	3E-5
AMS14	Anzac	61	100%	8E-6	1.5E-5	1.6E-5	2E-5	3.5E-5	5E-5	6.7E-5	1E-4	2E-4	4.1E-5	3.2E-5
AMS21	Conklin	31	100%	1.3E-5	1.3E-5	1.4E-5	1.6E-5	2.5E-5	5.5E-5	8.6E-5	1.1E-4	1.1E-4	3.8E-5	2.8E-5
AMS22	Janvier	31	100%	1E-5	1.4E-5	1.4E-5	2E-5	2.4E-5	4.6E-5	5.3E-5	5.8E-5	6.8E-5	3E-5	1.5E-5
AMS15	Horizon	34	100%	3E-5	3.3E-5	3.6E-5	5.5E-5	7.4E-5	1.1E-4	1.5E-4	1.8E-4	2.9E-4	8.8E-5	5.2E-5



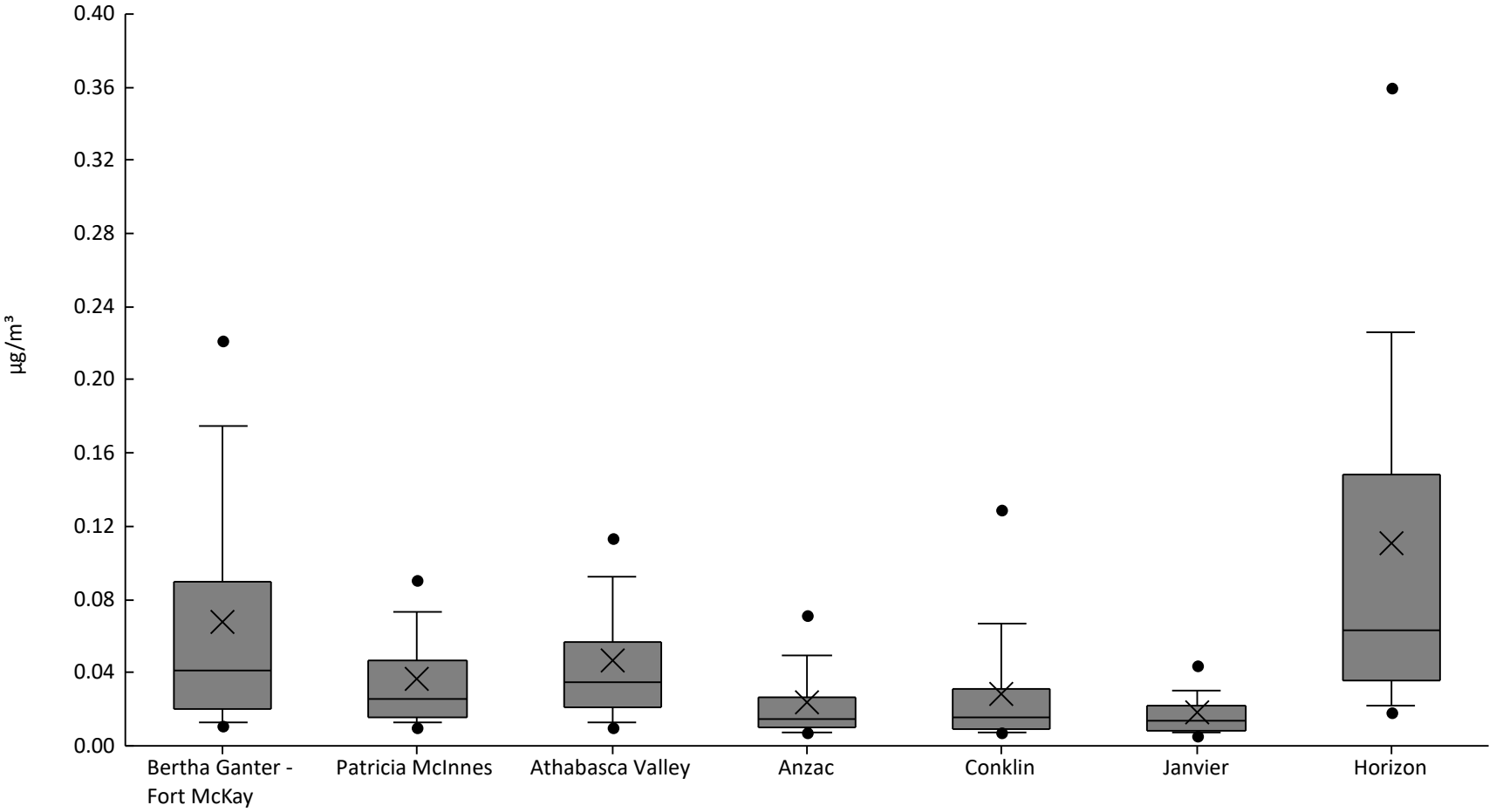
Particulate Matter <2.5µm Tested For Elements - Copper (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	89%	0	0	1.4E-5	1.1E-4	3.1E-4	6.1E-4	1.1E-3	1.6E-3	4.2E-3	5E-4	6.5E-4
AMS06	Patricia McInnes	61	80%	0	0	0	1.2E-4	4.1E-4	8E-4	3.7E-3	7.4E-3	9.2E-3	1.1E-3	2.1E-3
AMS07	Athabasca Valley	60	100%	4.4E-5	1.1E-4	1.5E-4	2.9E-4	5.3E-4	1.1E-3	1.8E-3	2.6E-3	5.1E-3	8.4E-4	9.2E-4
AMS14	Anzac	61	72%	0	0	0	1.6E-5	1.4E-4	4.6E-4	1.2E-3	2.3E-3	5.7E-3	4.8E-4	9.2E-4
AMS21	Conklin	31	39%	0	0	0	0	1E-6	7.5E-5	1.9E-4	2.7E-4	3.2E-4	5.3E-5	8.8E-5
AMS22	Janvier	31	45%	0	0	0	0	2.6E-5	1.1E-4	4.6E-4	6E-4	1.1E-3	1.2E-4	2.4E-4
AMS15	Horizon	34	97%	0	8.3E-5	1.3E-4	2.5E-4	5.9E-4	9.7E-4	1.7E-3	6.4E-3	0.01	1.1E-3	2E-3



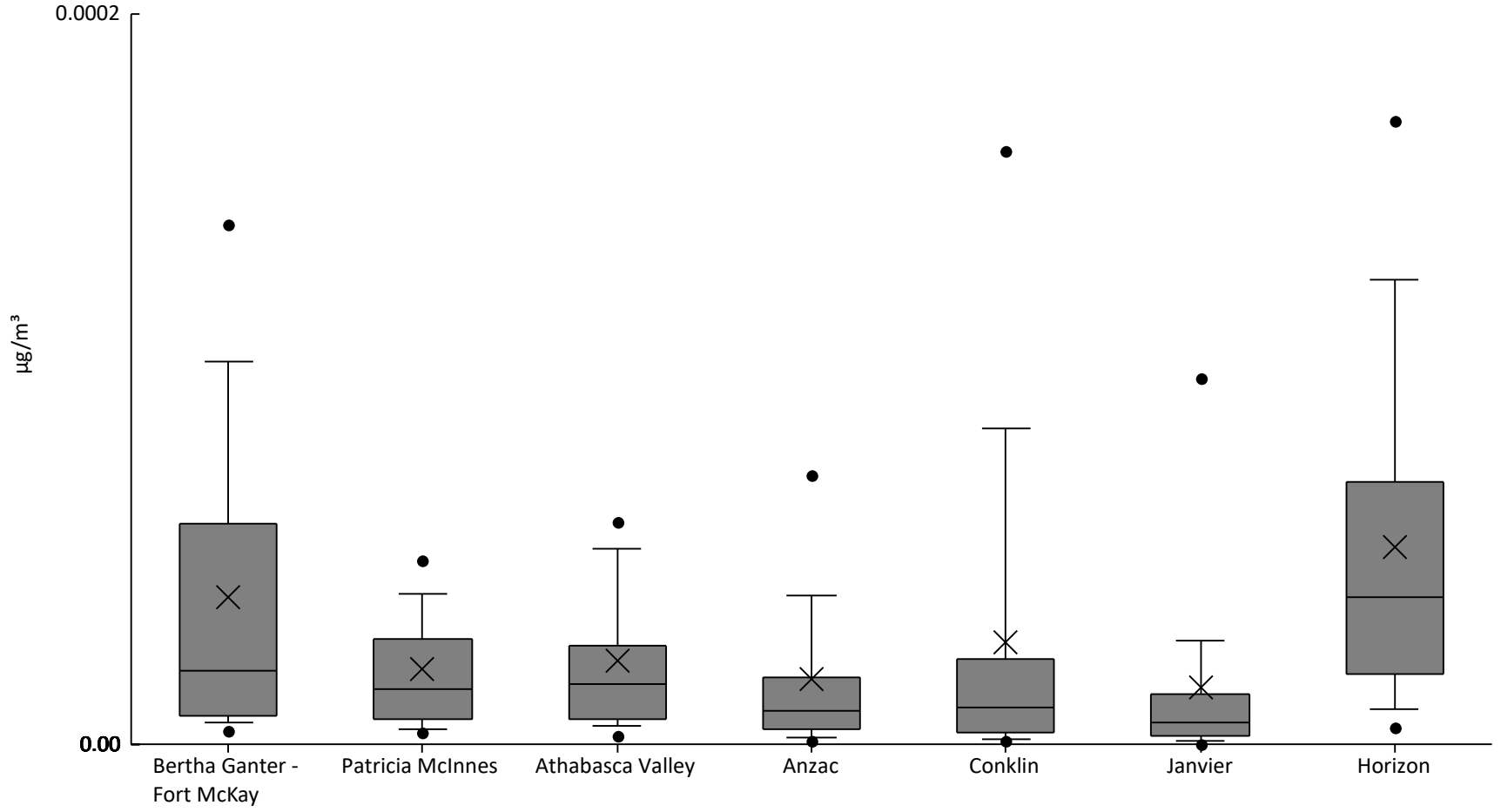
Particulate Matter <2.5µm Tested For Elements - Iron (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	9.2E-3	0.011	0.013	0.02	0.041	0.09	0.17	0.22	0.36	0.068	0.071
AMS06	Patricia McInnes	61	100%	4.9E-3	9.8E-3	0.013	0.016	0.026	0.046	0.074	0.09	0.19	0.036	0.031
AMS07	Athabasca Valley	60	100%	4.8E-3	0.01	0.013	0.021	0.035	0.057	0.093	0.11	0.2	0.046	0.037
AMS14	Anzac	61	100%	4.9E-3	6.9E-3	7.7E-3	9.8E-3	0.015	0.027	0.049	0.071	0.19	0.024	0.028
AMS21	Conklin	31	100%	4.8E-3	7.4E-3	7.7E-3	9.5E-3	0.016	0.031	0.067	0.13	0.15	0.028	0.036
AMS22	Janvier	31	100%	5E-3	5.4E-3	7.1E-3	8.3E-3	0.013	0.022	0.031	0.044	0.1	0.018	0.018
AMS15	Horizon	34	100%	0.014	0.018	0.022	0.036	0.063	0.15	0.23	0.36	0.51	0.11	0.11



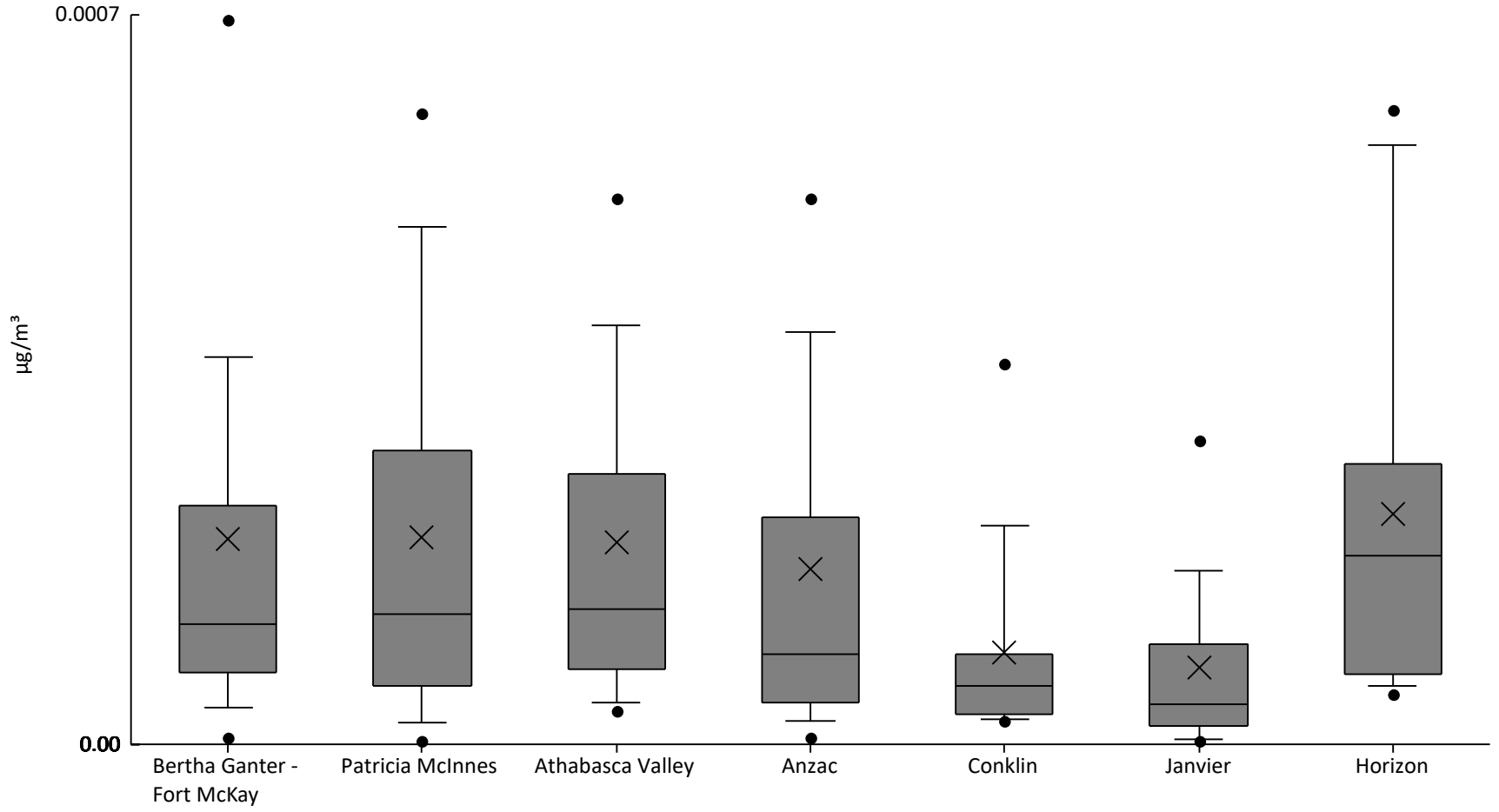
Particulate Matter <2.5µm Tested For Elements - Lanthanum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	95%	2E-6	3.7E-6	6E-6	8E-6	2E-5	6E-5	1.1E-4	1.4E-4	2.3E-4	4E-5	4.6E-5
AMS06	Patricia McInnes	61	95%	0	3.1E-6	4E-6	7E-6	1.5E-5	2.9E-5	4.1E-5	5E-5	1.8E-4	2.1E-5	2.5E-5
AMS07	Athabasca Valley	60	93%	0	2.5E-6	5E-6	7E-6	1.7E-5	2.7E-5	5.4E-5	6.1E-5	1.2E-4	2.3E-5	2.2E-5
AMS14	Anzac	61	79%	0	1E-6	2E-6	4E-6	9E-6	1.9E-5	4.1E-5	7.4E-5	1.4E-4	1.8E-5	2.8E-5
AMS21	Conklin	31	71%	1E-6	1E-6	1.6E-6	3E-6	1E-5	2.3E-5	8.7E-5	1.6E-4	2E-4	2.8E-5	4.8E-5
AMS22	Janvier	31	65%	0	5E-8	1E-6	2.3E-6	6E-6	1.4E-5	2.8E-5	1E-4	1.3E-4	1.5E-5	2.9E-5
AMS15	Horizon	34	97%	3E-6	4.4E-6	9.6E-6	1.9E-5	4.1E-5	7.2E-5	1.3E-4	1.7E-4	1.8E-4	5.4E-5	4.7E-5



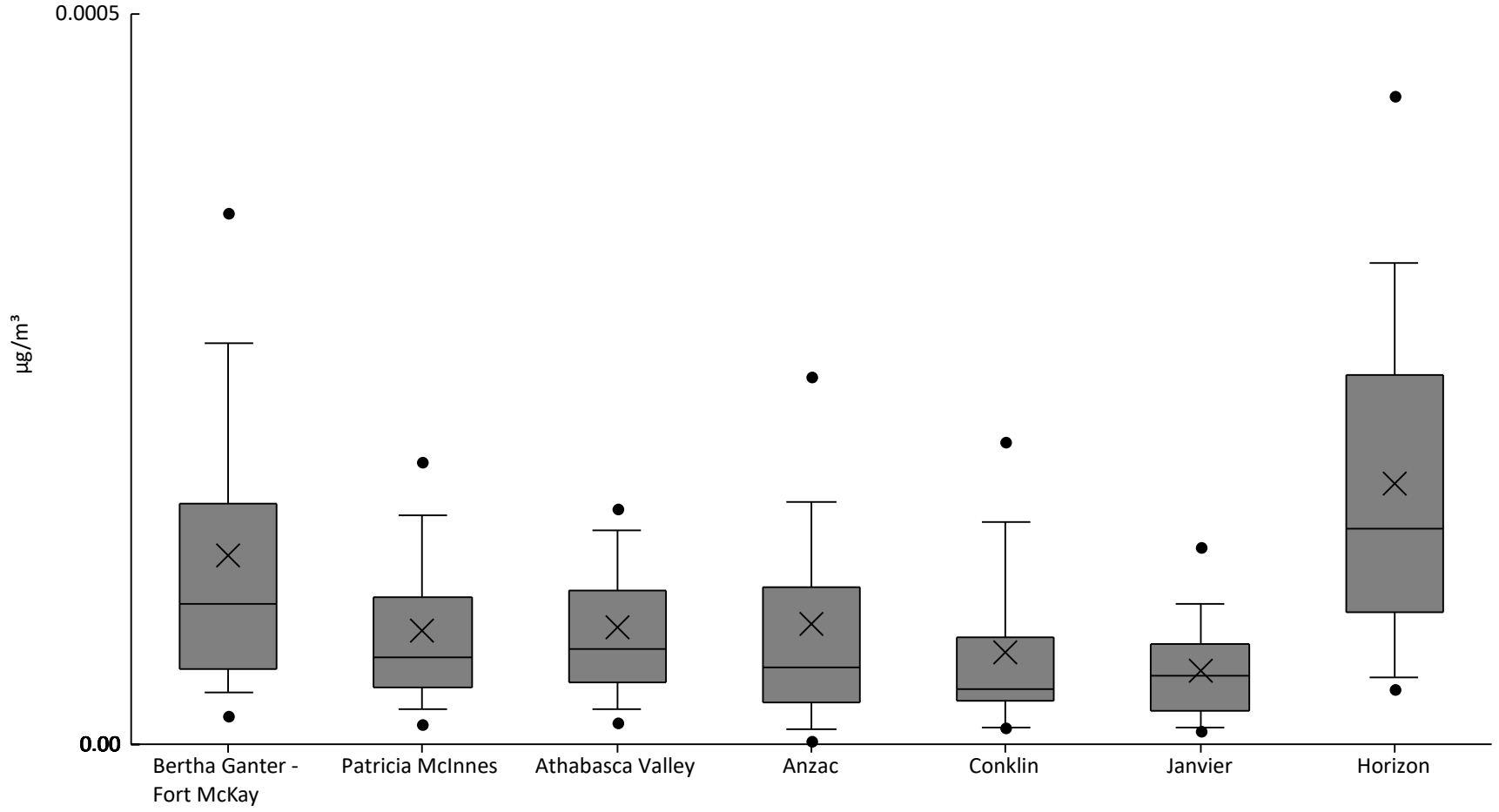
Particulate Matter <2.5µm Tested For Elements - Lead (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	93%	1E-6	7E-6	3.5E-5	6.8E-5	1.2E-4	2.3E-4	3.7E-4	6.9E-4	1.3E-3	2E-4	2.4E-4
AMS06	Patricia McInnes	61	92%	0	2.7E-6	2.1E-5	5.6E-5	1.3E-4	2.8E-4	5E-4	6.1E-4	1.2E-3	2E-4	2.1E-4
AMS07	Athabasca Valley	60	97%	5E-6	3.2E-5	4E-5	7.2E-5	1.3E-4	2.6E-4	4E-4	5.2E-4	9.9E-4	1.9E-4	1.9E-4
AMS14	Anzac	61	90%	0	7.1E-6	2.2E-5	4E-5	8.7E-5	2.2E-4	4E-4	5.2E-4	1.4E-3	1.7E-4	2.1E-4
AMS21	Conklin	31	97%	0	2.2E-5	2.4E-5	2.9E-5	5.6E-5	8.7E-5	2.1E-4	3.7E-4	4.2E-4	8.8E-5	9.9E-5
AMS22	Janvier	31	74%	0	3.1E-6	5.6E-6	1.8E-5	3.9E-5	9.7E-5	1.7E-4	2.9E-4	4E-4	7.3E-5	9E-5
AMS15	Horizon	34	100%	3.6E-5	4.8E-5	5.6E-5	6.7E-5	1.8E-4	2.7E-4	5.8E-4	6.1E-4	6.2E-4	2.2E-4	1.8E-4



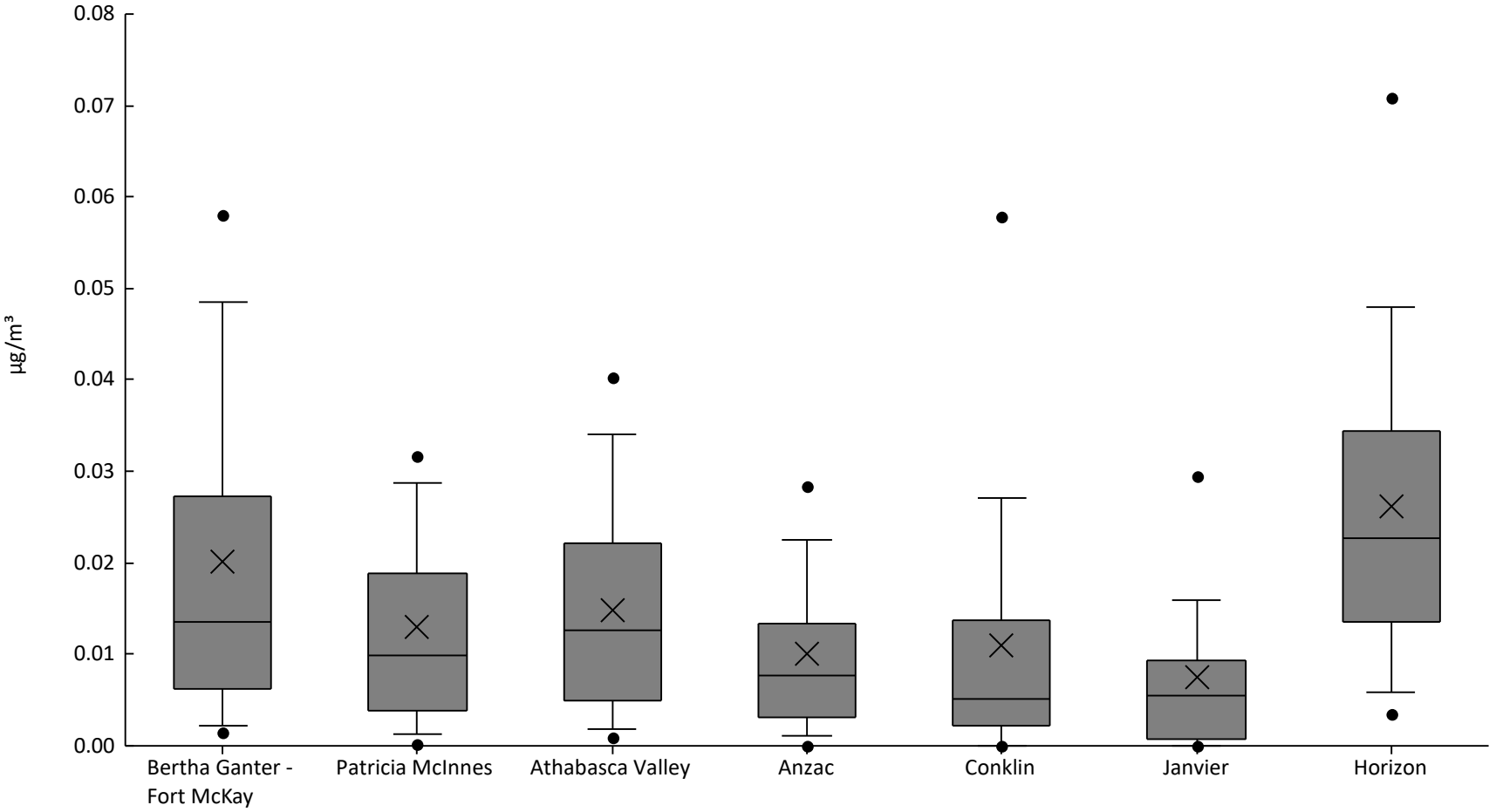
Particulate Matter <2.5µm Tested For Elements - Lithium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	95%	9E-6	2E-5	3.6E-5	5.2E-5	9.6E-5	1.6E-4	2.8E-4	3.6E-4	5.2E-4	1.3E-4	1.1E-4
AMS06	Patricia McInnes	61	92%	0	1.4E-5	2.4E-5	3.9E-5	6E-5	1E-4	1.6E-4	1.9E-4	3E-4	7.8E-5	5.7E-5
AMS07	Athabasca Valley	60	93%	0	1.5E-5	2.4E-5	4.2E-5	6.5E-5	1.1E-4	1.5E-4	1.6E-4	3.4E-4	8E-5	5.8E-5
AMS14	Anzac	61	85%	0	2.2E-6	1.1E-5	2.9E-5	5.3E-5	1.1E-4	1.7E-4	2.5E-4	4.4E-4	8.3E-5	8.6E-5
AMS21	Conklin	31	87%	9E-6	1.1E-5	1.2E-5	3E-5	3.8E-5	7.4E-5	1.5E-4	2.1E-4	2.1E-4	6.3E-5	5.6E-5
AMS22	Janvier	31	84%	3E-6	9E-6	1.1E-5	2.3E-5	4.7E-5	6.8E-5	9.6E-5	1.3E-4	1.6E-4	5E-5	3.7E-5
AMS15	Horizon	34	100%	2.8E-5	3.8E-5	4.6E-5	9E-5	1.5E-4	2.5E-4	3.3E-4	4.4E-4	4.9E-4	1.8E-4	1.2E-4



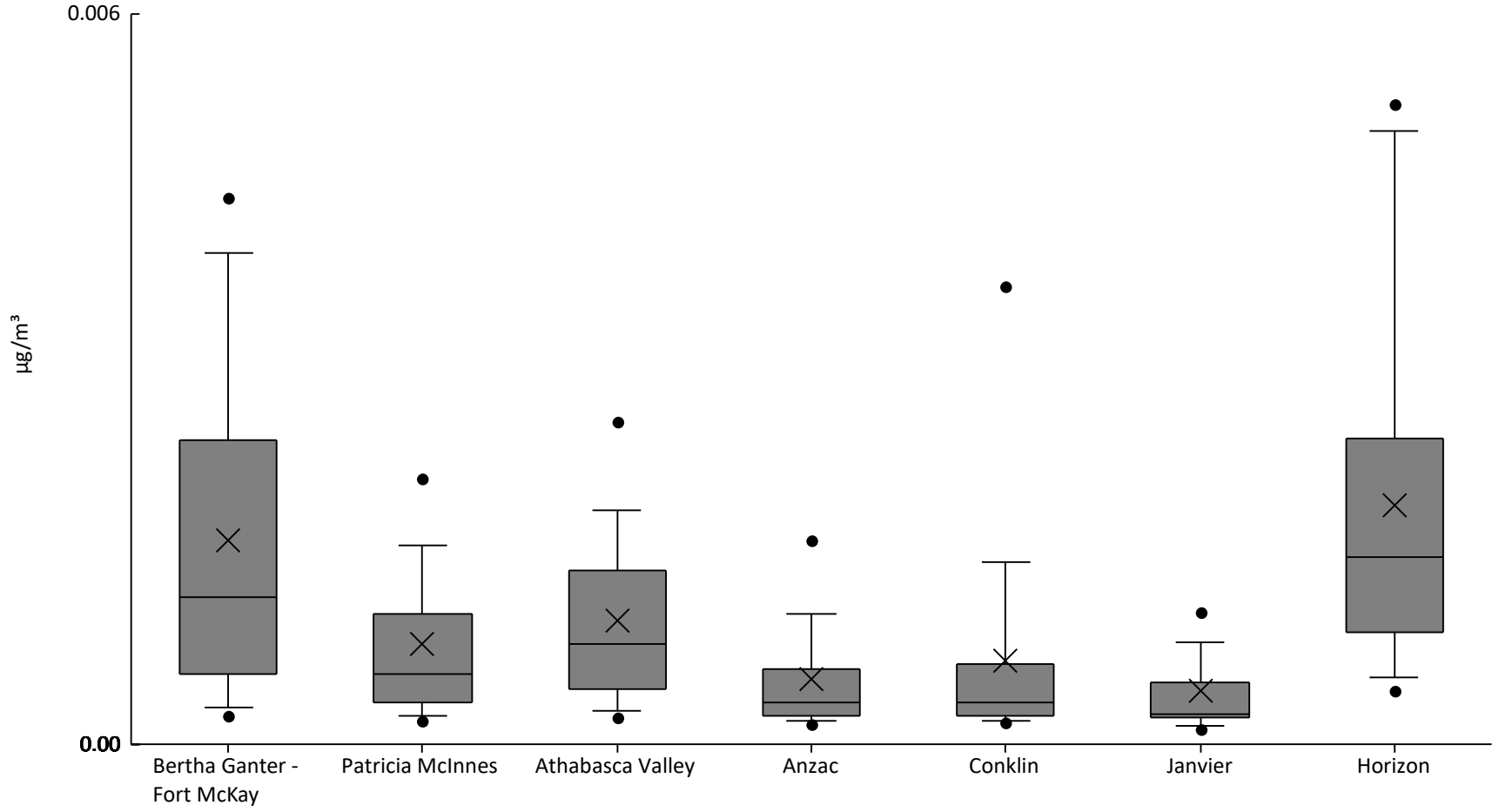
Particulate Matter <2.5µm Tested For Elements - Magnesium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0	1.5E-3	2.2E-3	6.2E-3	0.013	0.027	0.048	0.058	0.11	0.02	0.021
AMS06	Patricia McInnes	61	95%	0	2.2E-4	1.3E-3	3.9E-3	9.9E-3	0.019	0.029	0.032	0.058	0.013	0.012
AMS07	Athabasca Valley	60	98%	0	9.7E-4	1.8E-3	5E-3	0.013	0.022	0.034	0.04	0.055	0.015	0.013
AMS14	Anzac	61	92%	0	0	1E-3	3.2E-3	7.8E-3	0.013	0.022	0.028	0.044	1E-2	8.9E-3
AMS21	Conklin	31	84%	0	0	0	2.3E-3	5.2E-3	0.014	0.027	0.058	0.067	0.011	0.016
AMS22	Janvier	31	84%	0	0	7.5E-5	6.8E-4	5.6E-3	9.3E-3	0.016	0.029	0.044	7.6E-3	9.5E-3
AMS15	Horizon	34	100%	3.4E-3	3.5E-3	5.9E-3	0.014	0.023	0.034	0.048	0.071	0.085	0.026	0.019



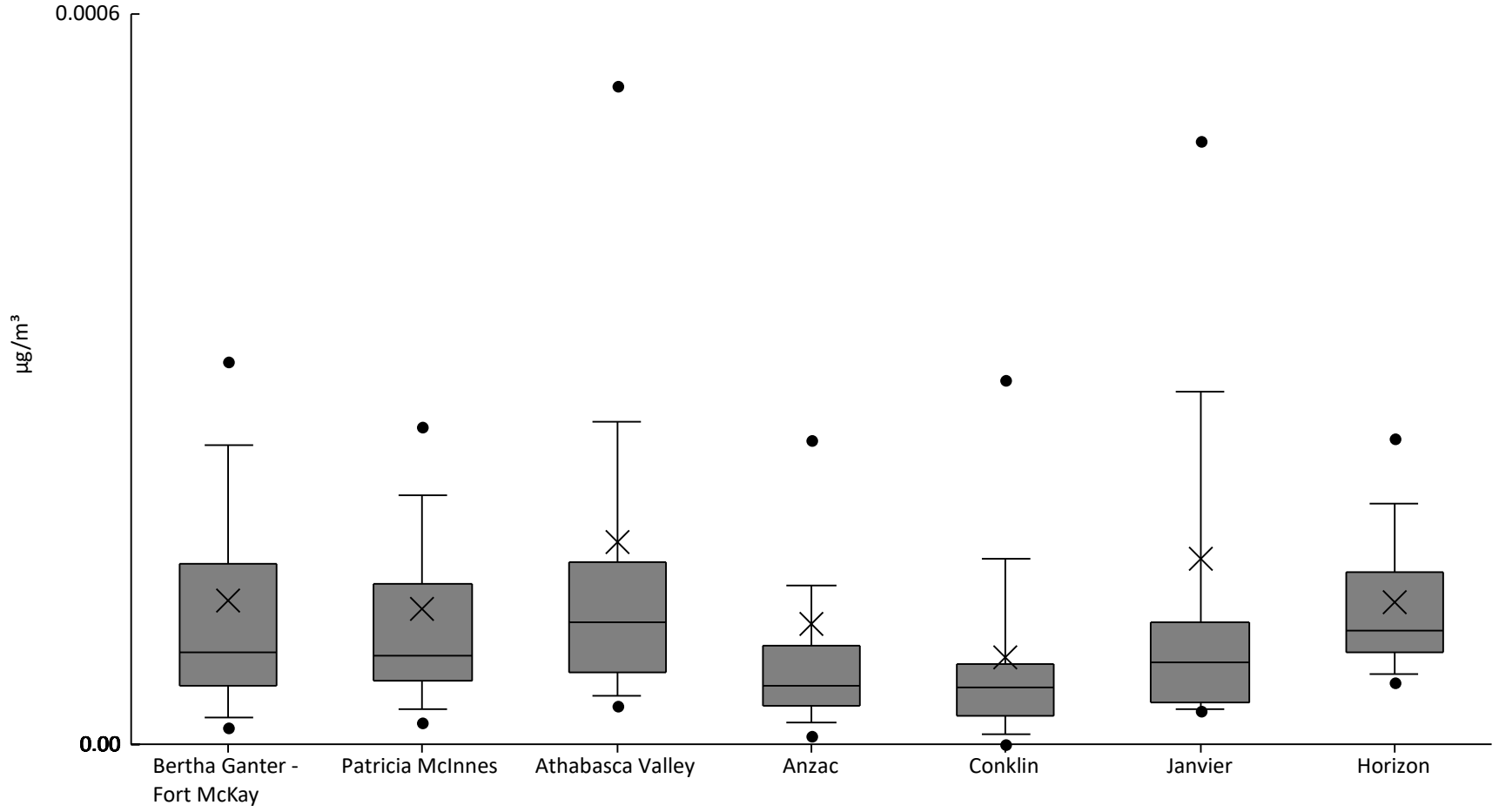
Particulate Matter <2.5µm Tested For Elements - Manganese (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.8E-4	2.4E-4	3E-4	5.8E-4	1.2E-3	2.5E-3	4E-3	4.5E-3	6.7E-3	1.7E-3	1.4E-3
AMS06	Patricia McInnes	61	100%	1.3E-4	1.9E-4	2.4E-4	3.4E-4	5.7E-4	1.1E-3	1.6E-3	2.2E-3	5.2E-3	8.3E-4	7.8E-4
AMS07	Athabasca Valley	60	100%	1.5E-4	2.3E-4	2.8E-4	4.6E-4	8.3E-4	1.4E-3	1.9E-3	2.7E-3	3.7E-3	1E-3	7.5E-4
AMS14	Anzac	61	100%	1.5E-4	1.6E-4	1.9E-4	2.4E-4	3.5E-4	6.1E-4	1.1E-3	1.7E-3	4E-3	5.4E-4	6E-4
AMS21	Conklin	31	100%	1.4E-4	1.8E-4	2E-4	2.3E-4	3.4E-4	6.6E-4	1.5E-3	3.8E-3	4E-3	6.9E-4	9.6E-4
AMS22	Janvier	31	100%	9.4E-5	1.2E-4	1.5E-4	2.1E-4	2.5E-4	5.1E-4	8.4E-4	1.1E-3	3E-3	4.4E-4	5.3E-4
AMS15	Horizon	34	100%	3.4E-4	4.4E-4	5.5E-4	9.2E-4	1.5E-3	2.5E-3	5E-3	5.3E-3	7.5E-3	2E-3	1.6E-3



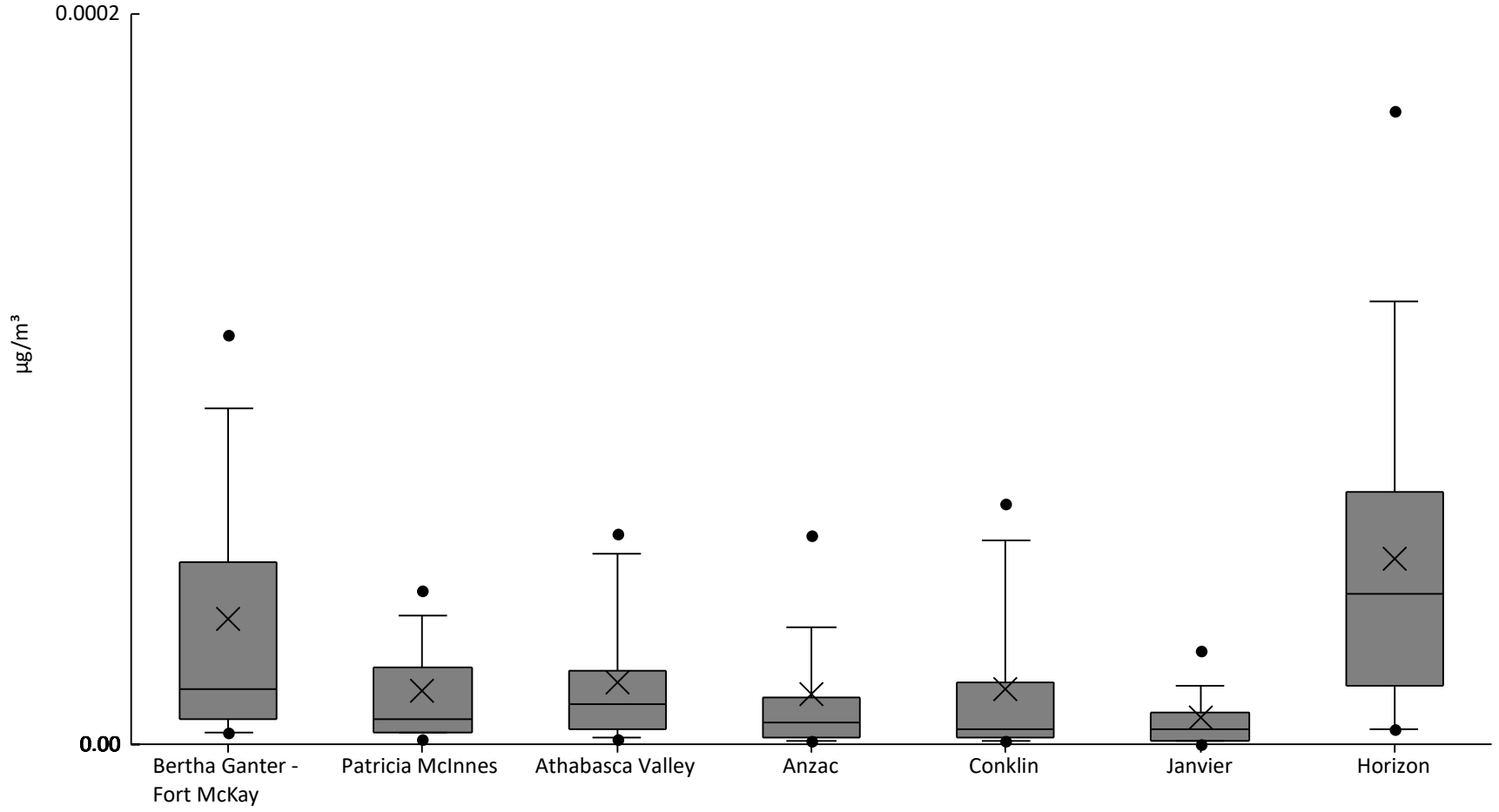
Particulate Matter <2.5µm Tested For Elements - Molybdenum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	90%	0	1.4E-5	2.2E-5	4.8E-5	7.5E-5	1.5E-4	2.5E-4	3.1E-4	7.3E-4	1.2E-4	1.2E-4
AMS06	Patricia McInnes	61	90%	5E-6	1.7E-5	2.9E-5	5.3E-5	7.3E-5	1.3E-4	2.1E-4	2.6E-4	9.9E-4	1.1E-4	1.3E-4
AMS07	Athabasca Valley	60	97%	1.9E-5	3.1E-5	4E-5	5.9E-5	1E-4	1.5E-4	2.7E-4	5.4E-4	2.1E-3	1.7E-4	2.9E-4
AMS14	Anzac	61	87%	0	7.2E-6	1.7E-5	3.2E-5	4.8E-5	8.2E-5	1.3E-4	2.5E-4	1.2E-3	9.9E-5	2.2E-4
AMS21	Conklin	31	74%	0	3.5E-7	7.6E-6	2.4E-5	4.7E-5	6.6E-5	1.5E-4	3E-4	4.9E-4	7.2E-5	9.9E-5
AMS22	Janvier	31	97%	8E-6	2.7E-5	2.9E-5	3.4E-5	6.7E-5	1E-4	2.9E-4	5E-4	1.9E-3	1.5E-4	3.4E-4
AMS15	Horizon	34	100%	3.5E-5	5E-5	5.8E-5	7.6E-5	9.4E-5	1.4E-4	2E-4	2.5E-4	3.7E-4	1.2E-4	6.7E-5



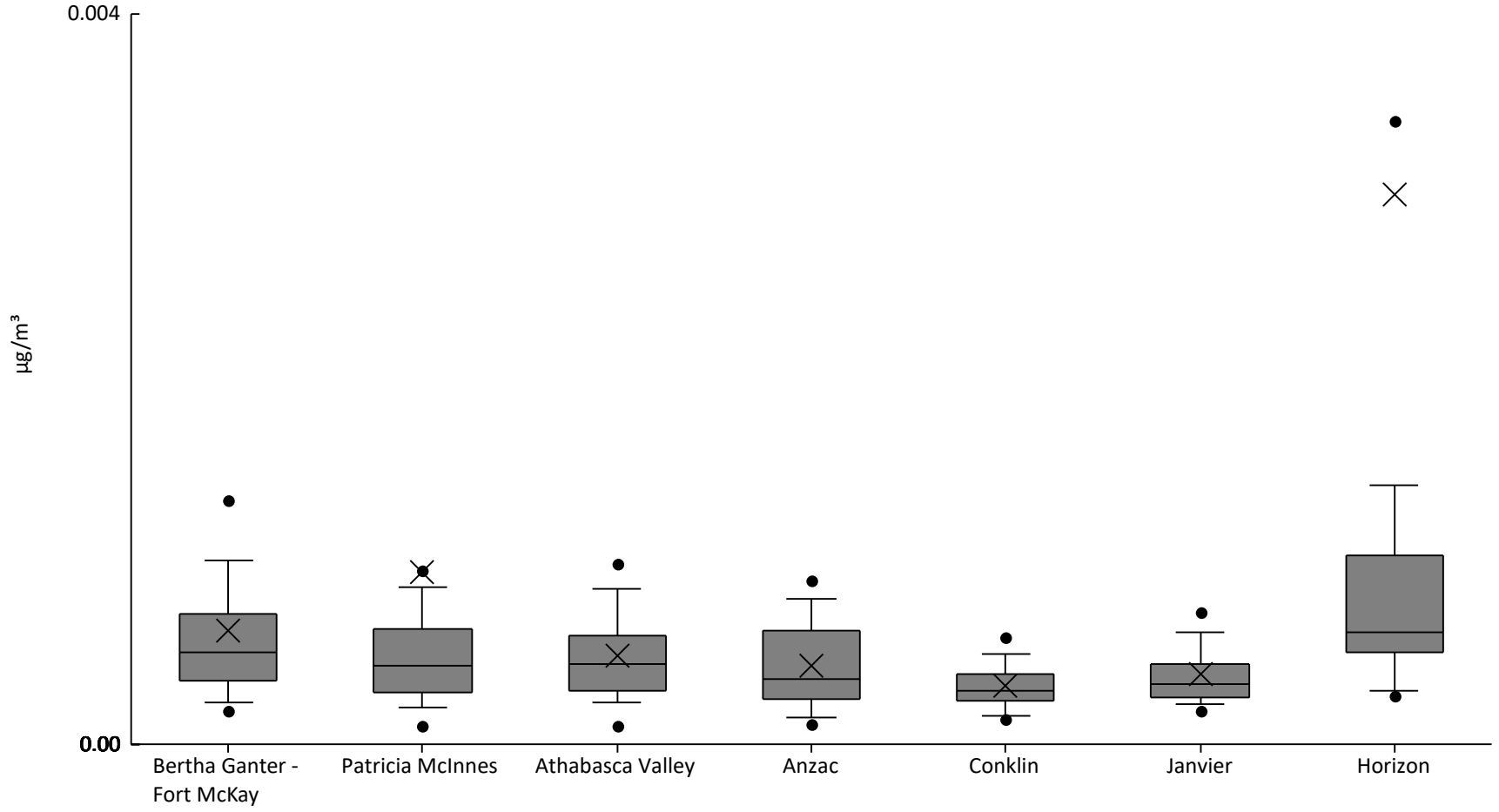
Particulate Matter <2.5µm Tested For Elements - Neodymium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	80%	1E-6	3E-6	3E-6	6.8E-6	1.5E-5	5E-5	9.2E-5	1.1E-4	2.1E-4	3.4E-5	4.1E-5
AMS06	Patricia McInnes	61	64%	0	1.6E-6	3E-6	3E-6	7E-6	2.1E-5	3.5E-5	4.2E-5	9E-5	1.5E-5	1.6E-5
AMS07	Athabasca Valley	60	65%	0	1.5E-6	2E-6	4E-6	1.1E-5	2E-5	5.2E-5	5.8E-5	7E-5	1.7E-5	1.8E-5
AMS14	Anzac	61	54%	0	1E-6	1E-6	2E-6	6E-6	1.3E-5	3.2E-5	5.7E-5	1.4E-4	1.4E-5	2.4E-5
AMS21	Conklin	31	48%	0	1E-6	1E-6	2E-6	4E-6	1.7E-5	5.6E-5	6.6E-5	8.4E-5	1.5E-5	2.2E-5
AMS22	Janvier	31	42%	0	5E-8	1E-6	1E-6	4E-6	8.8E-6	1.6E-5	2.6E-5	5.4E-5	7.2E-6	1.1E-5
AMS15	Horizon	34	88%	2E-6	4E-6	4E-6	1.6E-5	4.1E-5	6.9E-5	1.2E-4	1.7E-4	1.9E-4	5.1E-5	4.9E-5



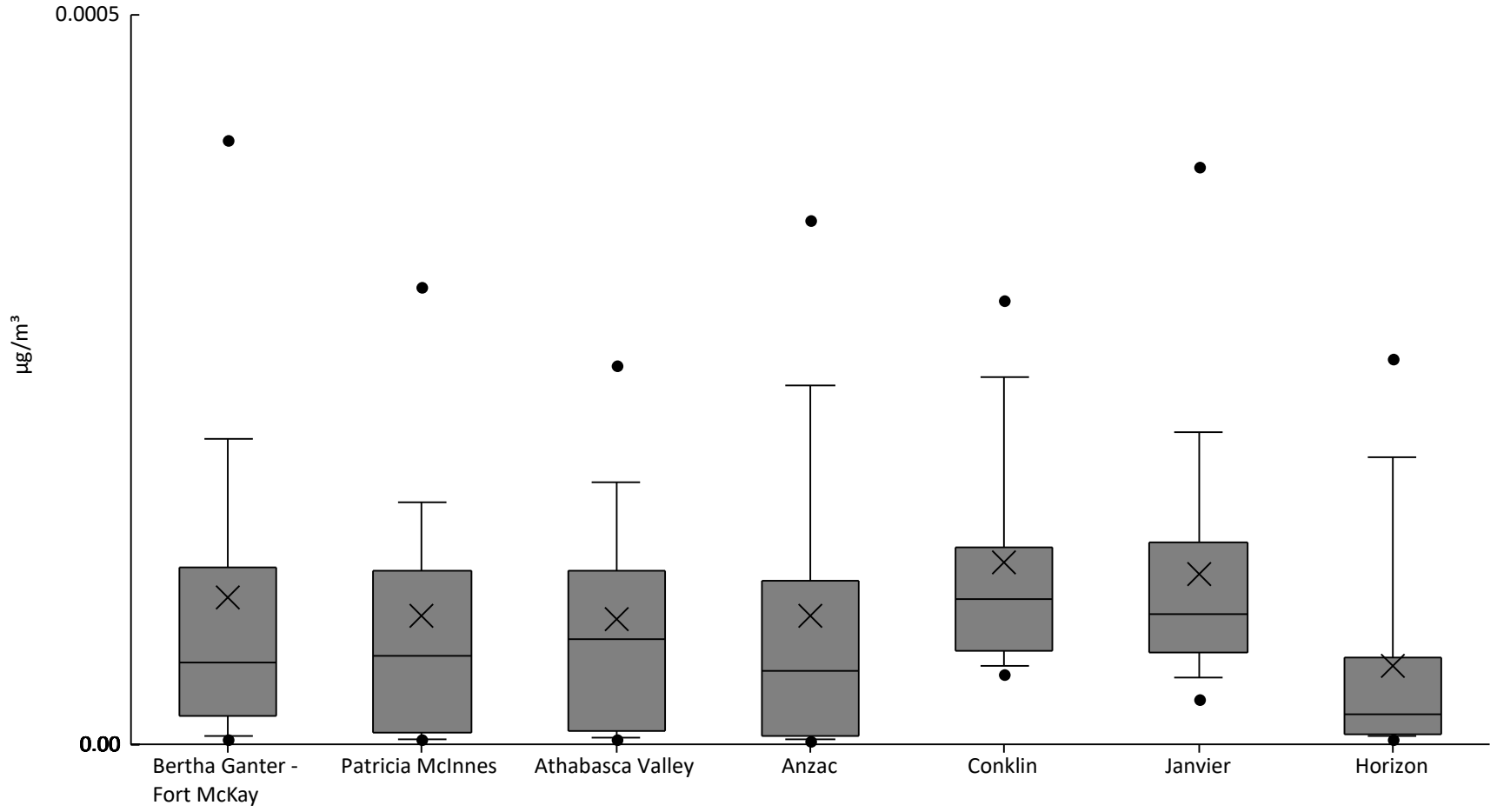
Particulate Matter <2.5µm Tested For Elements - Nickel (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.4E-4	1.8E-4	2.3E-4	3.4E-4	5.1E-4	7.2E-4	1E-3	1.3E-3	3.3E-3	6.2E-4	5.3E-4
AMS06	Patricia McInnes	61	97%	0	1E-4	2E-4	2.8E-4	4.3E-4	6.4E-4	8.6E-4	9.5E-4	0.028	9.4E-4	3.6E-3
AMS07	Athabasca Valley	60	98%	5E-6	1E-4	2.3E-4	2.9E-4	4.4E-4	6E-4	8.5E-4	9.9E-4	1.7E-3	4.8E-4	2.8E-4
AMS14	Anzac	61	98%	0	1.1E-4	1.5E-4	2.5E-4	3.6E-4	6.3E-4	7.9E-4	8.9E-4	1.1E-3	4.3E-4	2.5E-4
AMS21	Conklin	31	100%	1.2E-4	1.4E-4	1.5E-4	2.4E-4	3E-4	3.9E-4	5E-4	5.8E-4	6.4E-4	3.2E-4	1.3E-4
AMS22	Janvier	31	100%	1.5E-4	1.8E-4	2.2E-4	2.6E-4	3.3E-4	4.4E-4	6.1E-4	7.2E-4	1.3E-3	3.8E-4	2.1E-4
AMS15	Horizon	34	100%	1.6E-4	2.6E-4	2.9E-4	5E-4	6.1E-4	1E-3	1.4E-3	3.4E-3	0.076	3E-3	0.013



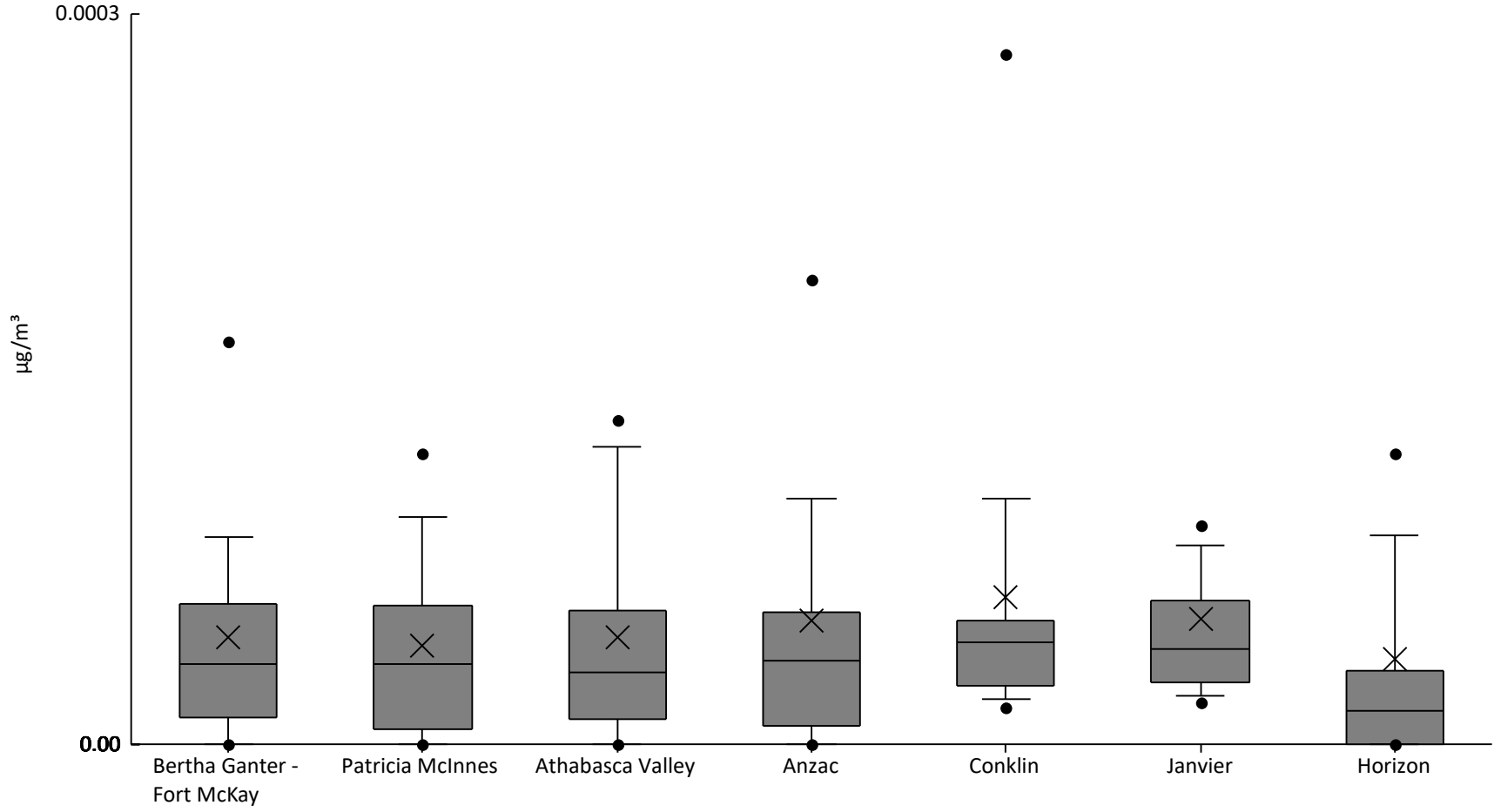
Particulate Matter <2.5µm Tested For Elements - Niobium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	90%	3E-6	4E-6	6.2E-6	1.9E-5	5.6E-5	1.2E-4	2.1E-4	4.1E-4	6.7E-4	1E-4	1.4E-4
AMS06	Patricia McInnes	61	80%	2E-6	3E-6	4E-6	7.8E-6	6.1E-5	1.2E-4	1.7E-4	3.1E-4	7.6E-4	8.8E-5	1.3E-4
AMS07	Athabasca Valley	60	85%	2E-6	4E-6	5E-6	9.5E-6	7.2E-5	1.2E-4	1.8E-4	2.6E-4	5.8E-4	8.6E-5	1E-4
AMS14	Anzac	61	82%	1E-6	2E-6	3E-6	6E-6	5E-5	1.1E-4	2.5E-4	3.6E-4	5.2E-4	8.8E-5	1.2E-4
AMS21	Conklin	31	100%	4.3E-5	4.8E-5	5.3E-5	6.5E-5	1E-4	1.4E-4	2.5E-4	3E-4	5.2E-4	1.2E-4	9.6E-5
AMS22	Janvier	31	100%	2.5E-5	3.1E-5	4.5E-5	6.3E-5	8.9E-5	1.4E-4	2.1E-4	4E-4	4.3E-4	1.2E-4	9.4E-5
AMS15	Horizon	34	91%	3E-6	3.2E-6	5.8E-6	7E-6	2.1E-5	6E-5	2E-4	2.6E-4	3E-4	5.4E-5	7.9E-5



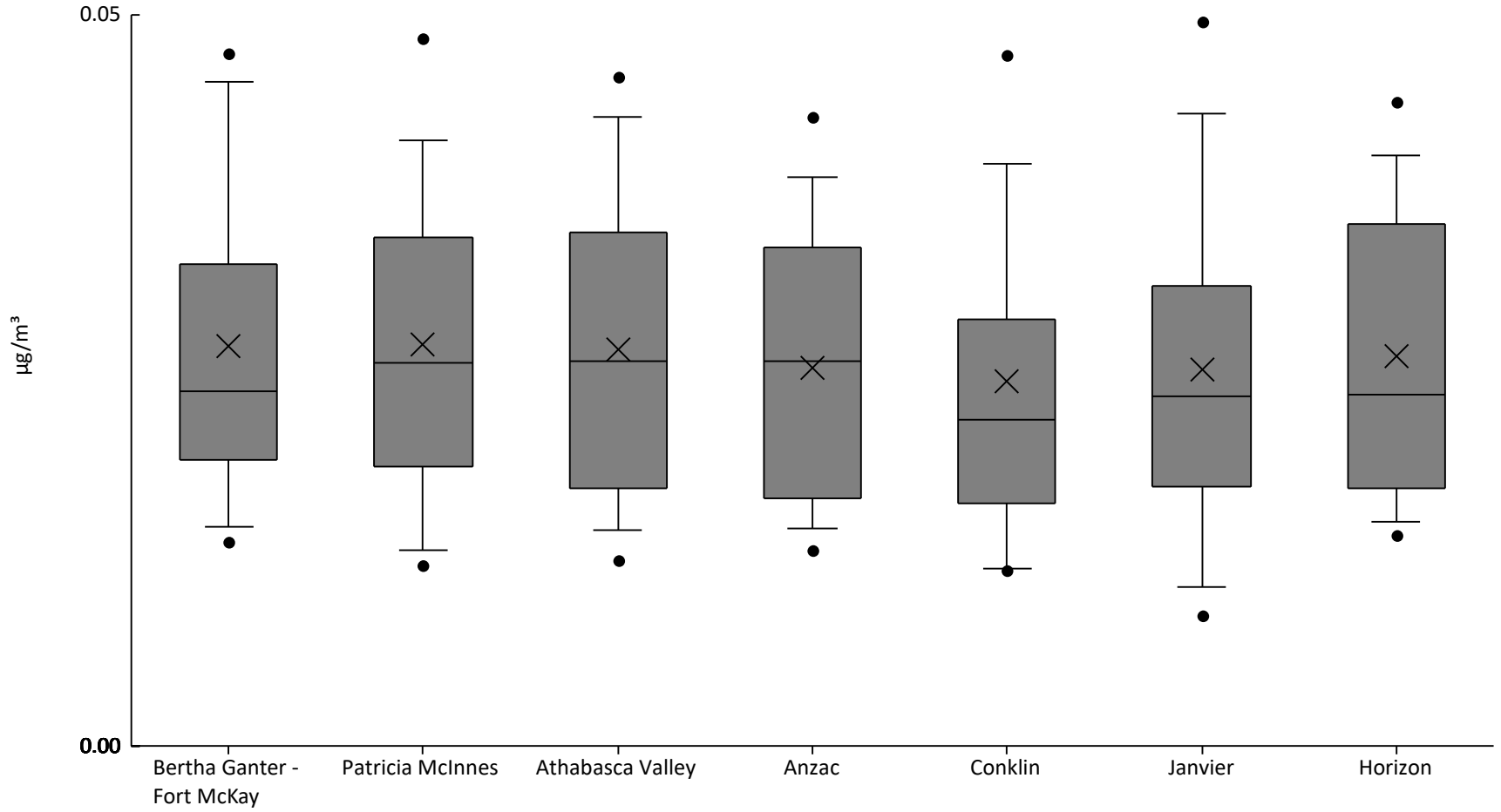
Particulate Matter <2.5µm Tested For Elements - Palladium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	38%	0	0	0	1.1E-5	3.3E-5	5.8E-5	8.5E-5	1.7E-4	2.1E-4	4.4E-5	4.7E-5
AMS06	Patricia McInnes	61	33%	0	0	0	6E-6	3.3E-5	5.7E-5	9.3E-5	1.2E-4	1.8E-4	4E-5	4E-5
AMS07	Athabasca Valley	60	30%	0	0	0	1E-5	3E-5	5.5E-5	1.2E-4	1.3E-4	2.8E-4	4.4E-5	5.2E-5
AMS14	Anzac	61	30%	0	0	0	7.5E-6	3.4E-5	5.4E-5	1E-4	1.9E-4	4.1E-4	5.1E-5	7.2E-5
AMS21	Conklin	31	29%	1.3E-5	1.5E-5	1.9E-5	2.4E-5	4.2E-5	5.1E-5	1E-4	2.8E-4	3.7E-4	6E-5	7.6E-5
AMS22	Janvier	31	32%	1.2E-5	1.7E-5	2E-5	2.5E-5	3.9E-5	5.9E-5	8.2E-5	9E-5	3.4E-4	5.1E-5	5.7E-5
AMS15	Horizon	34	18%	0	0	0	0	1.4E-5	3E-5	8.6E-5	1.2E-4	4.1E-4	3.5E-5	7.3E-5



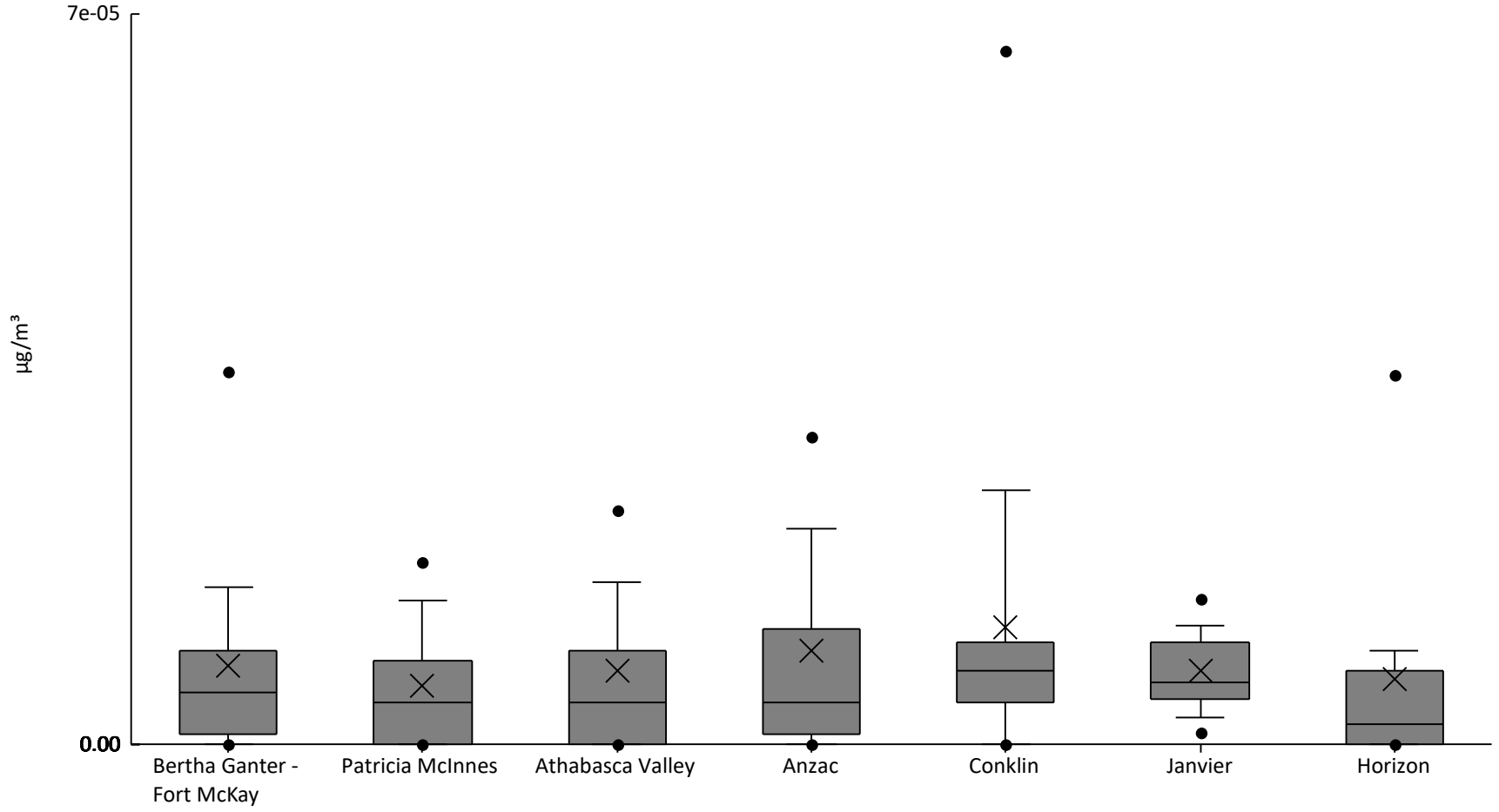
Particulate Matter <2.5µm Tested For Elements - Phosphorus (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.011	0.014	0.015	0.02	0.024	0.033	0.045	0.047	0.064	0.027	0.011
AMS06	Patricia McInnes	61	100%	5.4E-3	0.012	0.013	0.019	0.026	0.035	0.041	0.048	0.072	0.028	0.012
AMS07	Athabasca Valley	60	100%	5E-3	0.013	0.015	0.018	0.026	0.035	0.043	0.046	0.053	0.027	0.011
AMS14	Anzac	61	100%	6.7E-3	0.013	0.015	0.017	0.026	0.034	0.039	0.043	0.047	0.026	1E-2
AMS21	Conklin	31	100%	0.012	0.012	0.012	0.017	0.022	0.029	0.04	0.047	0.072	0.025	0.013
AMS22	Janvier	31	100%	7.9E-3	9E-3	0.011	0.018	0.024	0.032	0.043	0.05	0.055	0.026	0.012
AMS15	Horizon	34	100%	0.014	0.014	0.015	0.018	0.024	0.036	0.04	0.044	0.046	0.027	9.9E-3



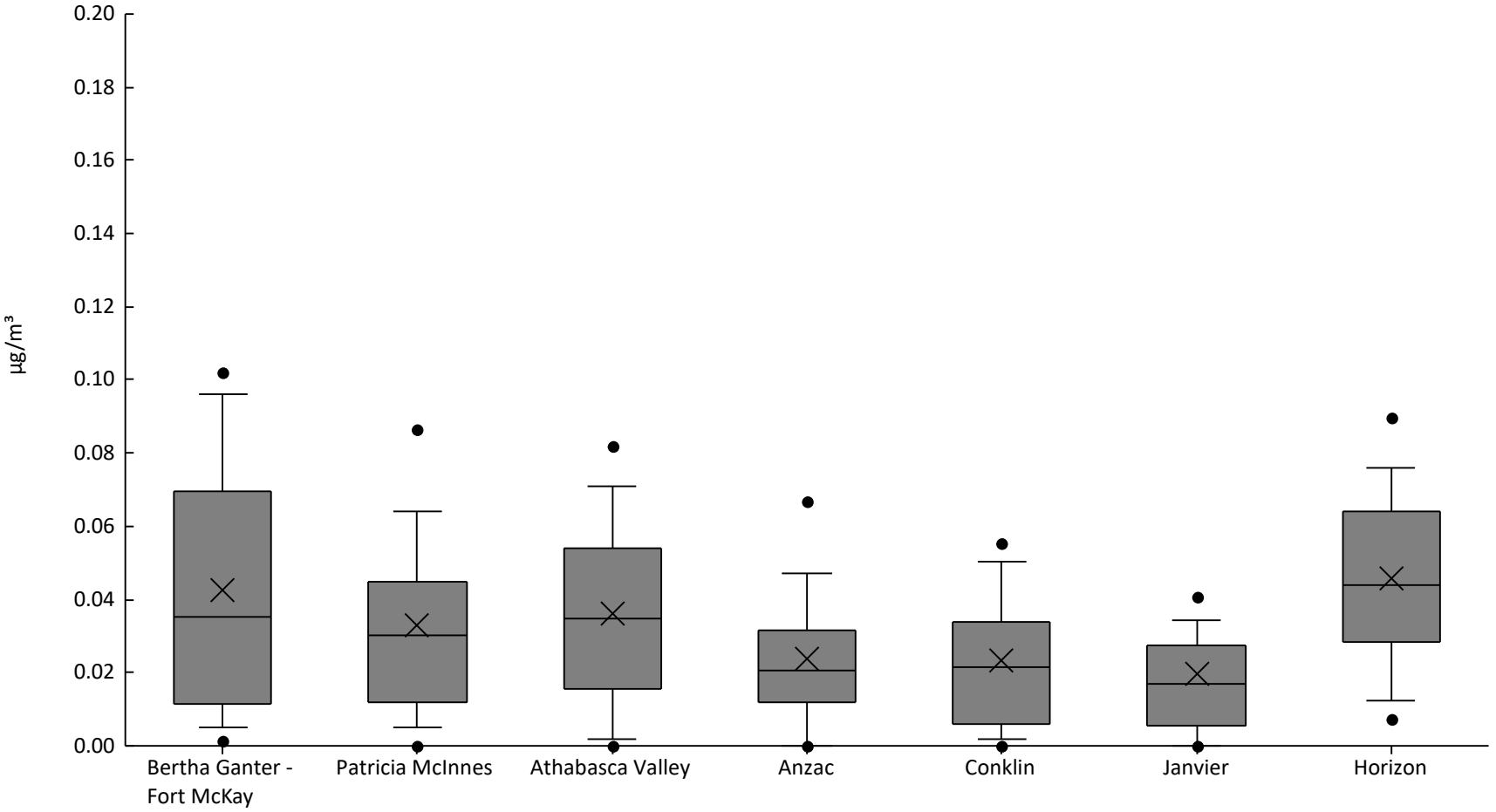
Particulate Matter <2.5µm Tested For Elements - Platinum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	54%	0	0	0	1E-6	5E-6	9E-6	1.5E-5	3.6E-5	4.5E-5	7.6E-6	9.9E-6
AMS06	Patricia McInnes	61	41%	0	0	0	0	4E-6	8E-6	1.4E-5	1.7E-5	3.2E-5	5.6E-6	6.6E-6
AMS07	Athabasca Valley	60	45%	0	0	0	0	4E-6	9E-6	1.6E-5	2.3E-5	9.4E-5	7.1E-6	1.3E-5
AMS14	Anzac	61	49%	0	0	0	1E-6	4E-6	1.1E-5	2.1E-5	2.9E-5	1.3E-4	8.9E-6	1.7E-5
AMS21	Conklin	31	68%	0	0	0	4E-6	7E-6	9.8E-6	2.4E-5	6.6E-5	6.9E-5	1.1E-5	1.7E-5
AMS22	Janvier	31	74%	1E-6	1.1E-6	2.6E-6	4.3E-6	6E-6	9.8E-6	1.1E-5	1.4E-5	2.6E-5	7E-6	4.8E-6
AMS15	Horizon	34	38%	0	0	0	0	2E-6	7E-6	9E-6	3.5E-5	7E-5	6.2E-6	1.3E-5



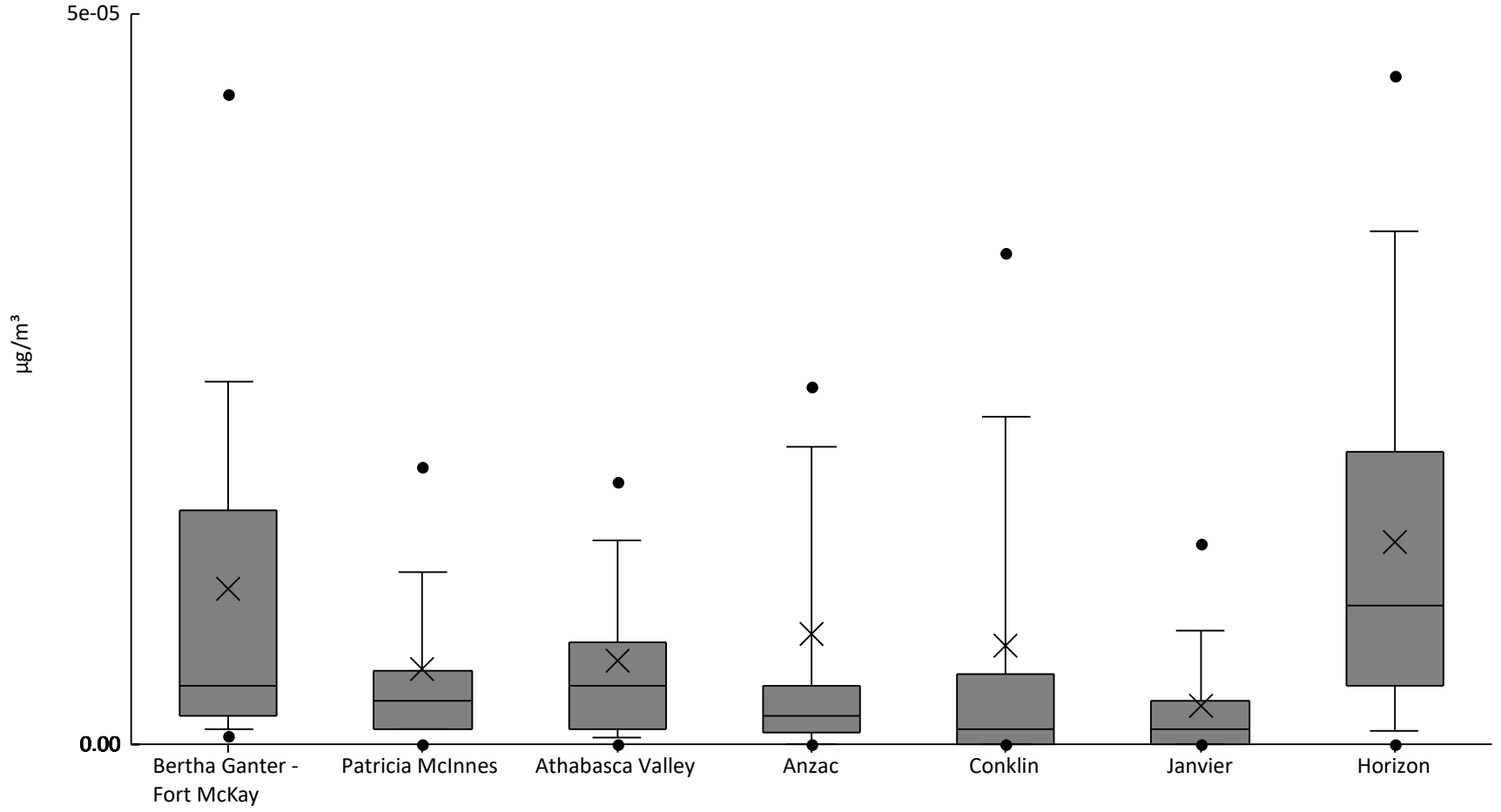
Particulate Matter <2.5µm Tested For Elements - Potassium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	1.3E-3	5E-3	0.012	0.035	0.069	0.096	0.1	0.13	0.043	0.034
AMS06	Patricia McInnes	61	93%	0	0	5.1E-3	0.012	0.03	0.045	0.064	0.086	0.11	0.033	0.025
AMS07	Athabasca Valley	60	90%	0	0	1.9E-3	0.016	0.035	0.054	0.071	0.082	0.12	0.036	0.027
AMS14	Anzac	61	89%	0	0	2E-4	0.012	0.021	0.032	0.047	0.067	0.088	0.024	0.02
AMS21	Conklin	31	94%	0	9.4E-5	2E-3	6.1E-3	0.021	0.034	0.05	0.055	0.097	0.024	0.021
AMS22	Janvier	31	87%	0	0	0	5.4E-3	0.017	0.028	0.034	0.041	0.088	0.019	0.018
AMS15	Horizon	34	100%	3.8E-3	7.4E-3	0.013	0.028	0.044	0.064	0.076	0.09	0.11	0.046	0.025



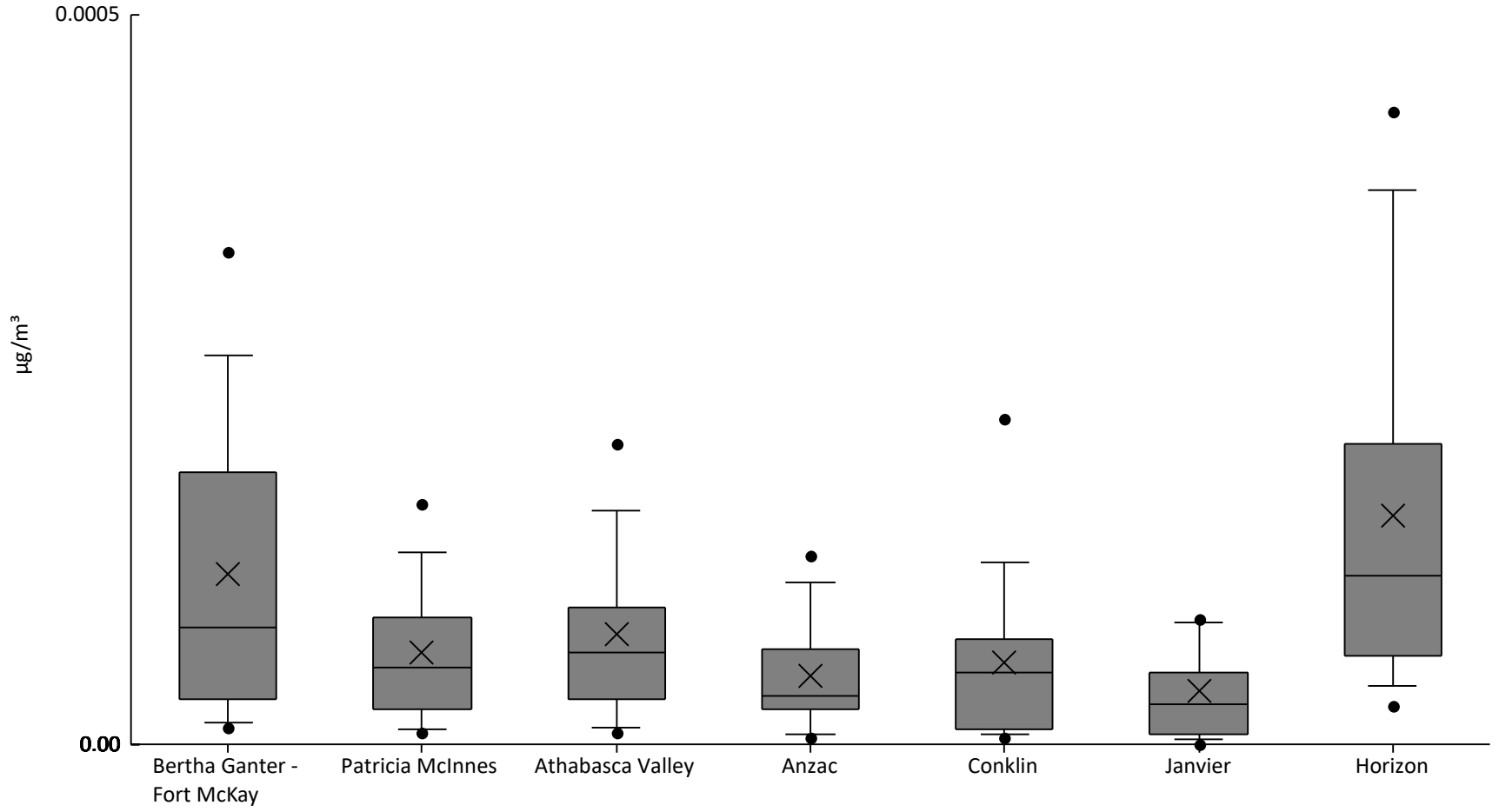
Particulate Matter <2.5µm Tested For Elements - Praseodymium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	77%	0	5.5E-7	1E-6	2E-6	4E-6	1.6E-5	2.5E-5	4.5E-5	7E-5	1.1E-5	1.4E-5
AMS06	Patricia McInnes	61	66%	0	0	1E-6	1E-6	3E-6	5E-6	1.2E-5	1.9E-5	4.8E-5	5.2E-6	7.8E-6
AMS07	Athabasca Valley	60	62%	0	0	5E-7	1E-6	4E-6	7E-6	1.4E-5	1.8E-5	4.6E-5	5.7E-6	7.6E-6
AMS14	Anzac	61	51%	0	0	0	7.5E-7	2E-6	4E-6	2E-5	2.4E-5	1.4E-4	7.5E-6	2.1E-5
AMS21	Conklin	31	48%	0	0	0	0	1E-6	4.8E-6	2.2E-5	3.4E-5	5.4E-5	6.8E-6	1.2E-5
AMS22	Janvier	31	45%	0	0	0	0	1E-6	3E-6	7.8E-6	1.4E-5	1.6E-5	2.6E-6	3.9E-6
AMS15	Horizon	34	88%	0	0	9E-7	4E-6	9.5E-6	2E-5	3.5E-5	4.6E-5	6.7E-5	1.4E-5	1.5E-5



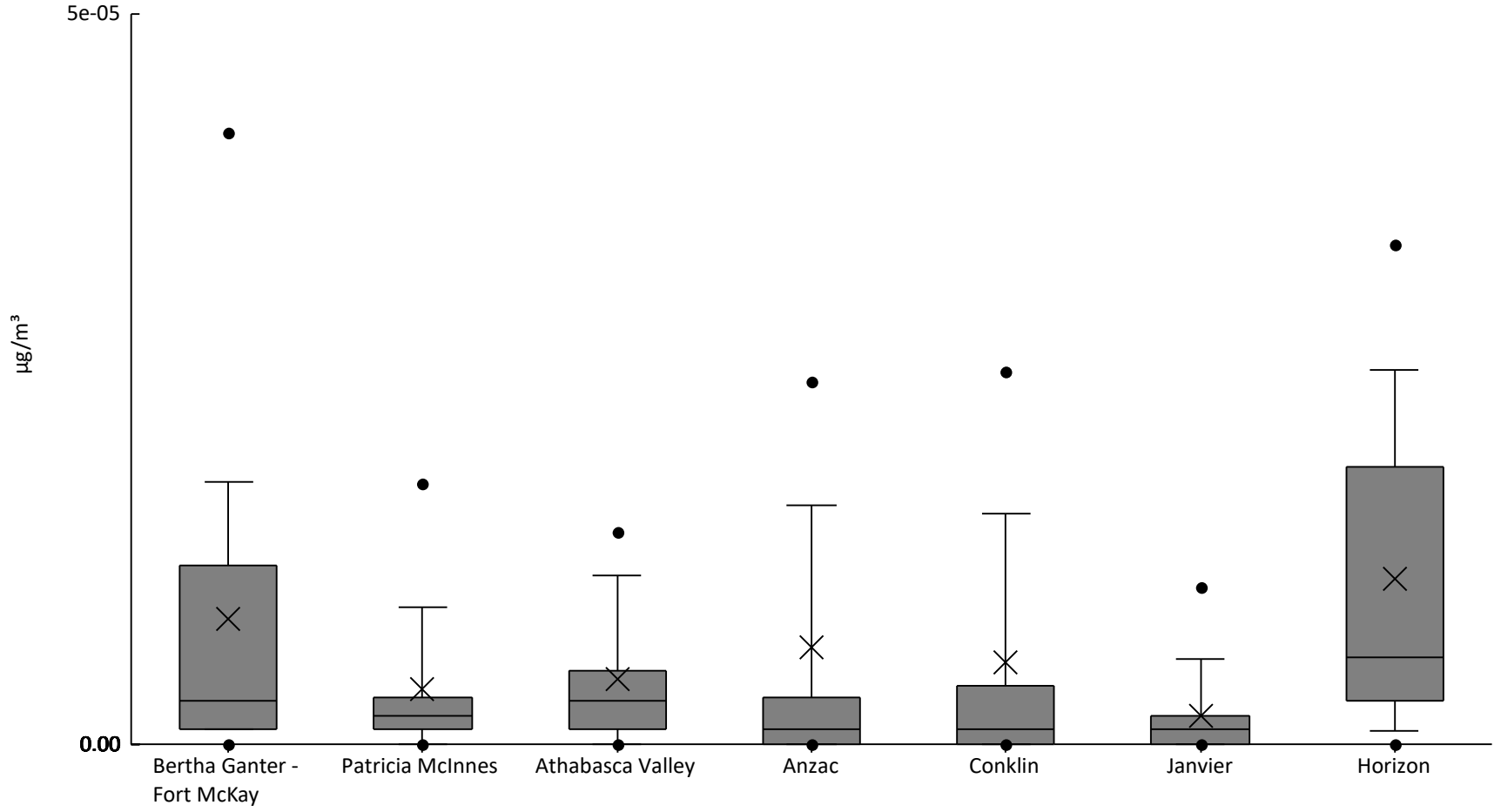
Particulate Matter <2.5µm Tested For Elements - Rubidium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	4E-6	1.1E-5	1.5E-5	3.1E-5	8E-5	1.9E-4	2.7E-4	3.4E-4	4.9E-4	1.2E-4	1.1E-4
AMS06	Patricia McInnes	61	97%	0	8.1E-6	1E-5	2.4E-5	5.3E-5	8.7E-5	1.3E-4	1.6E-4	3E-4	6.3E-5	5.4E-5
AMS07	Athabasca Valley	60	97%	3E-6	8E-6	1.2E-5	3.1E-5	6.3E-5	9.4E-5	1.6E-4	2.1E-4	2.9E-4	7.6E-5	6.3E-5
AMS14	Anzac	61	95%	1E-6	4.1E-6	6.6E-6	2.4E-5	3.3E-5	6.5E-5	1.1E-4	1.3E-4	2.3E-4	4.7E-5	4.2E-5
AMS21	Conklin	31	100%	4E-6	5.1E-6	6.6E-6	1E-5	4.9E-5	7.2E-5	1.2E-4	2.2E-4	2.4E-4	5.6E-5	5.9E-5
AMS22	Janvier	31	84%	0	1.5E-7	3E-6	6.5E-6	2.7E-5	4.9E-5	8.3E-5	8.6E-5	1.9E-4	3.6E-5	4E-5
AMS15	Horizon	34	97%	3E-6	2.6E-5	4E-5	6.1E-5	1.2E-4	2.1E-4	3.8E-4	4.3E-4	5.8E-4	1.6E-4	1.3E-4



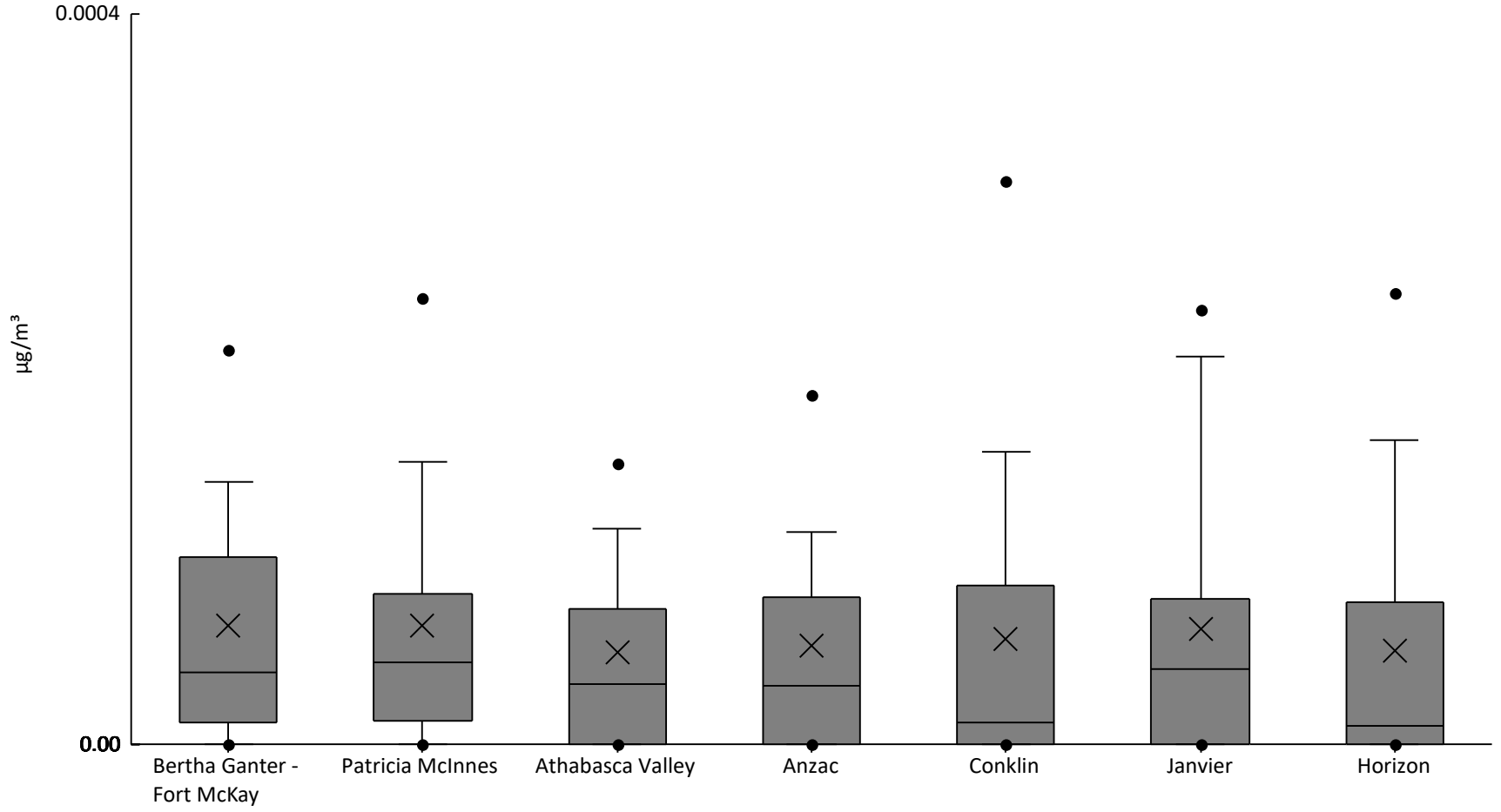
Particulate Matter <2.5µm Tested For Elements - Samarium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	44%	0	0	1E-6	1E-6	3E-6	1.2E-5	1.8E-5	4.2E-5	5.6E-5	8.6E-6	1.3E-5
AMS06	Patricia McInnes	61	15%	0	0	0	1E-6	2E-6	3.3E-6	9.4E-6	1.8E-5	3.4E-5	3.7E-6	6E-6
AMS07	Athabasca Valley	60	23%	0	0	0	1E-6	3E-6	5E-6	1.2E-5	1.5E-5	4.3E-5	4.5E-6	6.7E-6
AMS14	Anzac	61	20%	0	0	0	0	1E-6	3.3E-6	1.6E-5	2.5E-5	1.2E-4	6.7E-6	1.9E-5
AMS21	Conklin	31	23%	0	0	0	0	1E-6	4E-6	1.6E-5	2.6E-5	5.2E-5	5.6E-6	1.1E-5
AMS22	Janvier	31	10%	0	0	0	0	1E-6	2E-6	5.8E-6	1.1E-5	1.5E-5	2E-6	3.4E-6
AMS15	Horizon	34	50%	0	0	9E-7	3E-6	6E-6	1.9E-5	2.6E-5	3.4E-5	6.2E-5	1.1E-5	1.3E-5



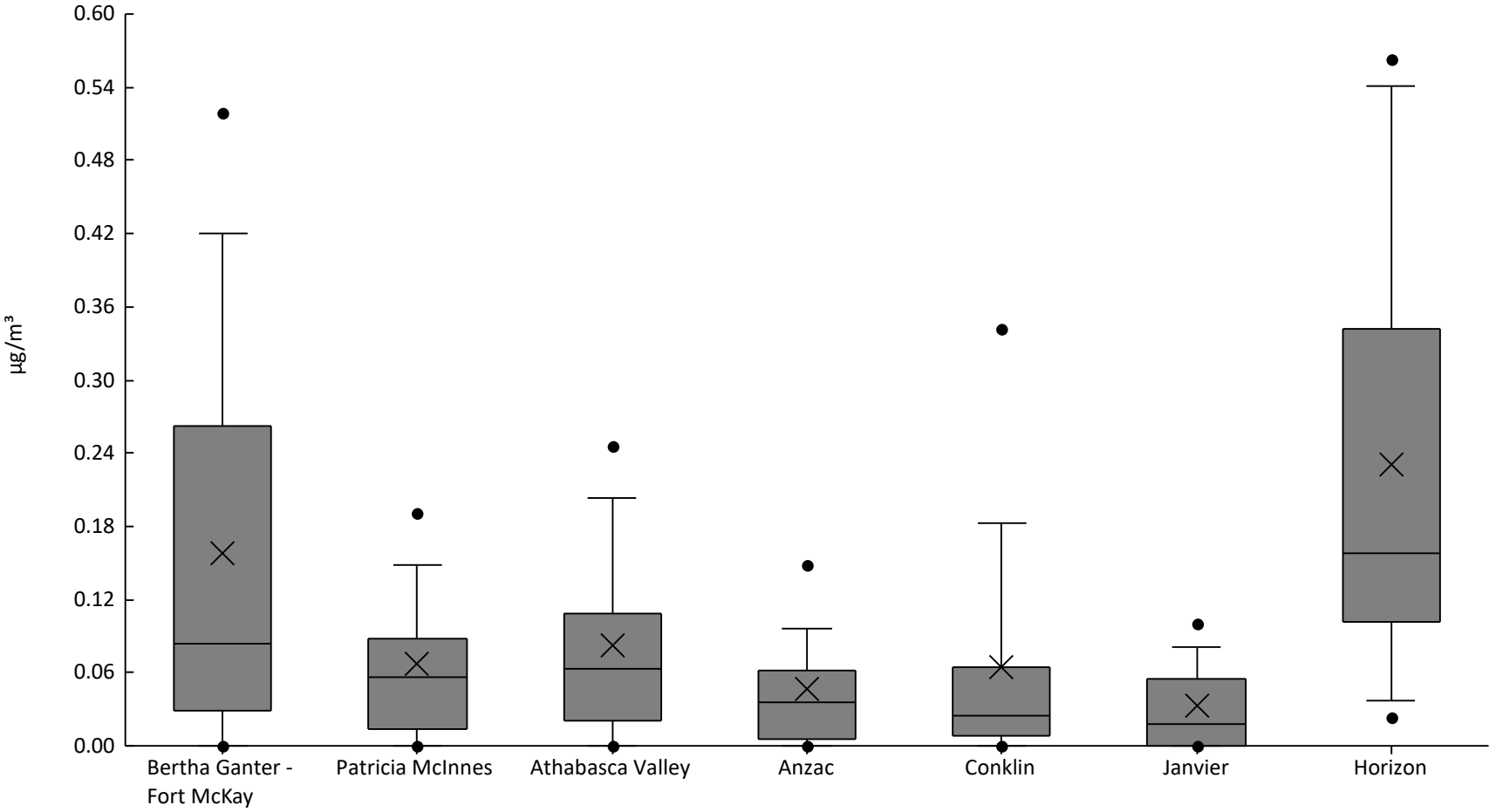
Particulate Matter <2.5µm Tested For Elements - Selenium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	13%	0	0	0	1.2E-5	3.9E-5	1E-4	1.4E-4	2.2E-4	3.3E-4	6.5E-5	7.1E-5
AMS06	Patricia McInnes	61	13%	0	0	0	1.3E-5	4.5E-5	8.2E-5	1.5E-4	2.4E-4	3.6E-4	6.5E-5	7.8E-5
AMS07	Athabasca Valley	60	7%	0	0	0	0	3.3E-5	7.5E-5	1.2E-4	1.5E-4	3.6E-4	5E-5	6.4E-5
AMS14	Anzac	61	7%	0	0	0	0	3.2E-5	8.1E-5	1.2E-4	1.9E-4	3.9E-4	5.4E-5	7.1E-5
AMS21	Conklin	31	10%	0	0	0	0	1.2E-5	8.7E-5	1.6E-4	3.1E-4	3.6E-4	5.8E-5	9.1E-5
AMS22	Janvier	31	16%	0	0	0	0	4.1E-5	8E-5	2.1E-4	2.4E-4	2.8E-4	6.3E-5	7.7E-5
AMS15	Horizon	34	18%	0	0	0	0	1E-5	7.8E-5	1.7E-4	2.5E-4	3E-4	5.1E-5	7.9E-5



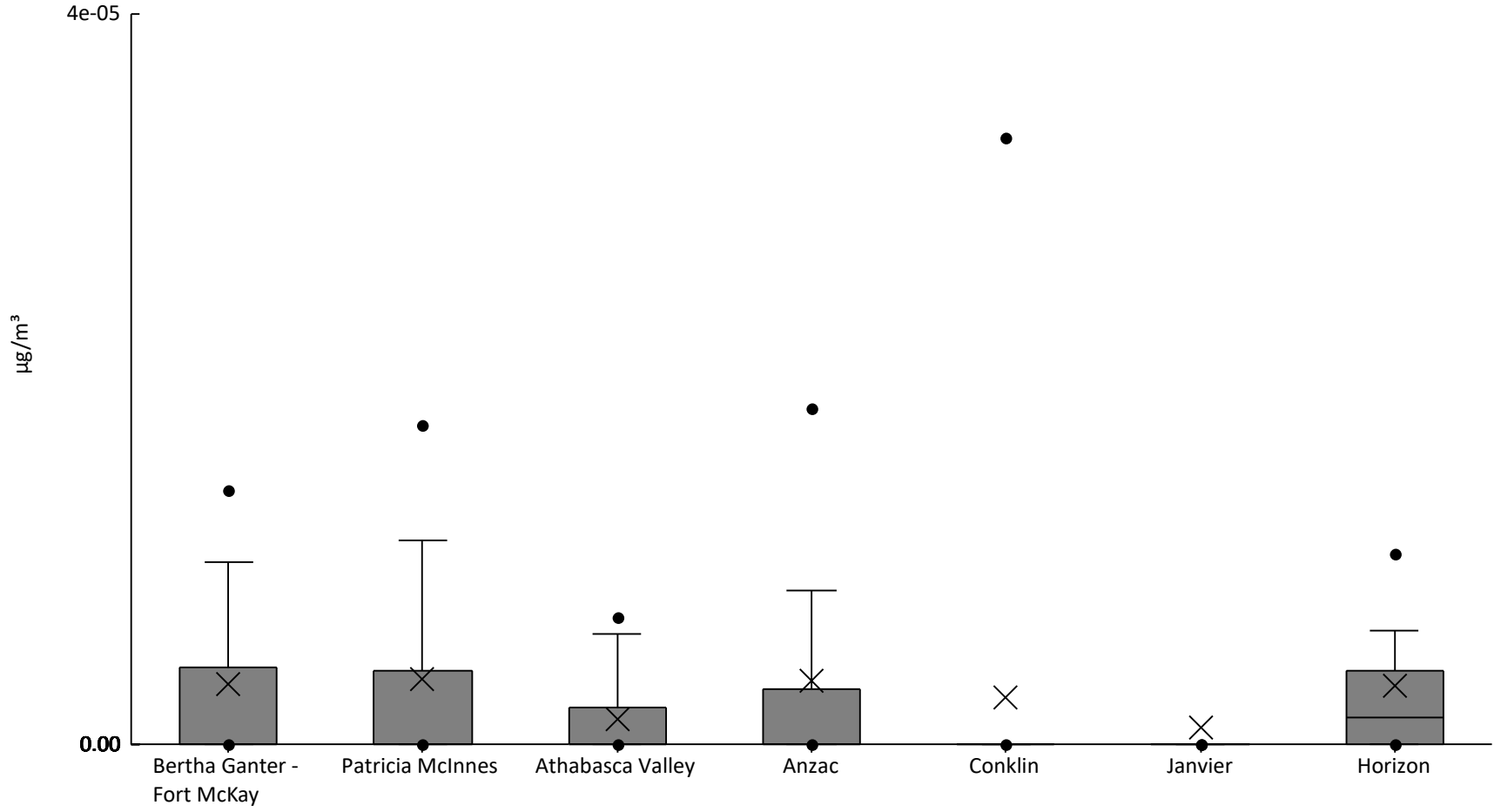
Particulate Matter <2.5µm Tested For Elements - Silicon (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	82%	0	0	0	0.028	0.083	0.26	0.42	0.52	0.87	0.16	0.18
AMS06	Patricia McInnes	61	75%	0	0	0	0.013	0.056	0.087	0.15	0.19	0.46	0.068	0.075
AMS07	Athabasca Valley	60	82%	0	0	0	0.021	0.063	0.11	0.2	0.25	0.32	0.082	0.079
AMS14	Anzac	61	72%	0	0	0	6.2E-3	0.036	0.062	0.096	0.15	0.31	0.046	0.057
AMS21	Conklin	31	65%	0	0	0	8E-3	0.025	0.065	0.18	0.34	0.4	0.064	0.097
AMS22	Janvier	31	58%	0	0	0	0	0.018	0.054	0.081	0.1	0.15	0.033	0.037
AMS15	Horizon	34	97%	0	0.023	0.037	0.1	0.16	0.34	0.54	0.56	0.67	0.23	0.18



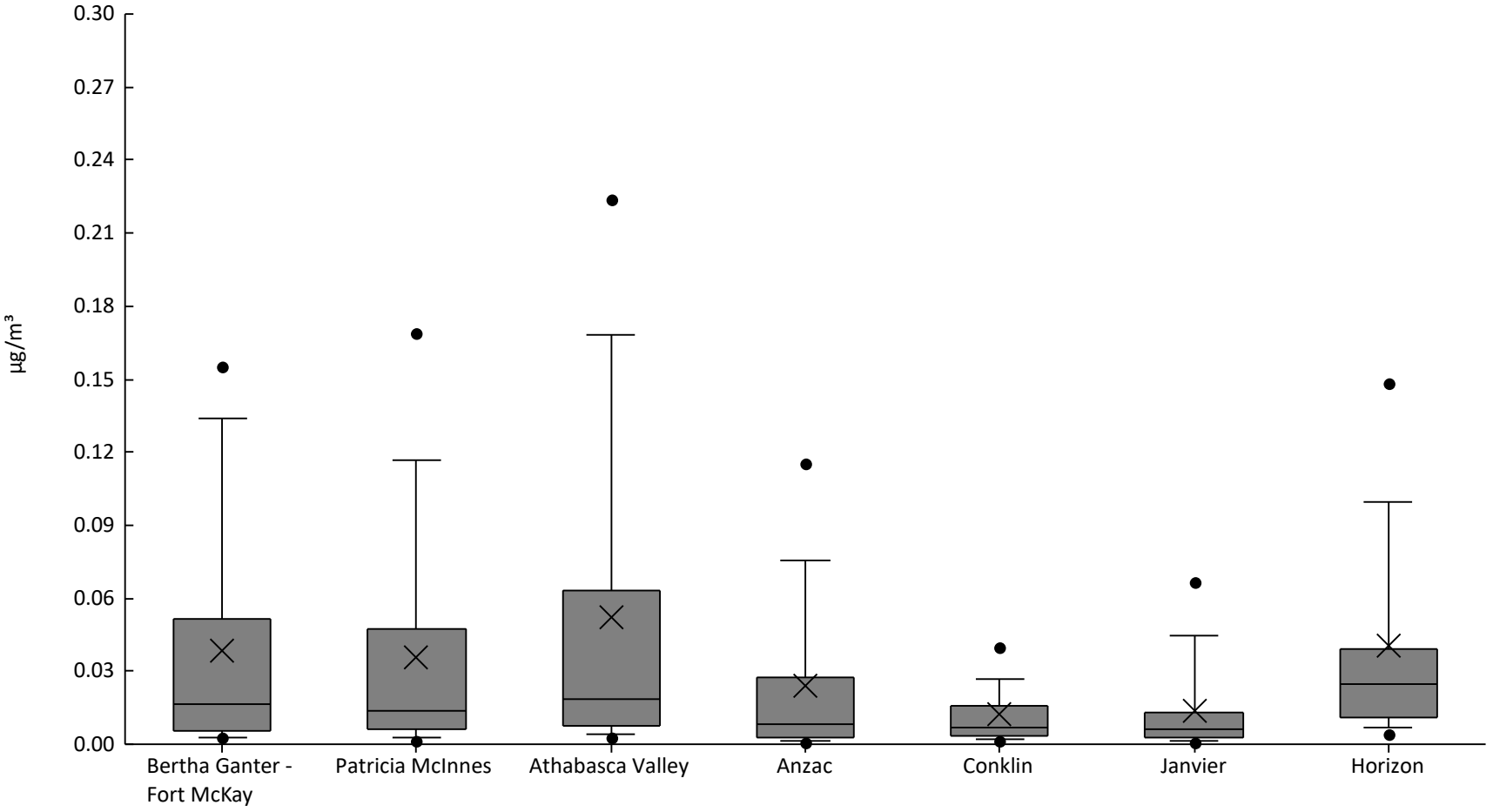
Particulate Matter <2.5µm Tested For Elements - Silver (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	23%	0	0	0	0	0	4.3E-6	1E-5	1.4E-5	5.4E-5	3.3E-6	7.9E-6
AMS06	Patricia McInnes	61	20%	0	0	0	0	0	4E-6	1.1E-5	1.7E-5	5E-5	3.6E-6	7.7E-6
AMS07	Athabasca Valley	60	12%	0	0	0	0	0	2E-6	6E-6	7E-6	1.1E-5	1.3E-6	2.5E-6
AMS14	Anzac	61	15%	0	0	0	0	0	3E-6	8.4E-6	1.8E-5	6E-5	3.5E-6	9.1E-6
AMS21	Conklin	31	6%	0	0	0	0	0	0	0	3.3E-5	4.5E-5	2.6E-6	1E-5
AMS22	Janvier	31	3%	0	0	0	0	0	0	0	0	2.8E-5	9E-7	5E-6
AMS15	Horizon	34	12%	0	0	0	0	1.5E-6	4E-6	6.2E-6	1E-5	4E-5	3.2E-6	7E-6



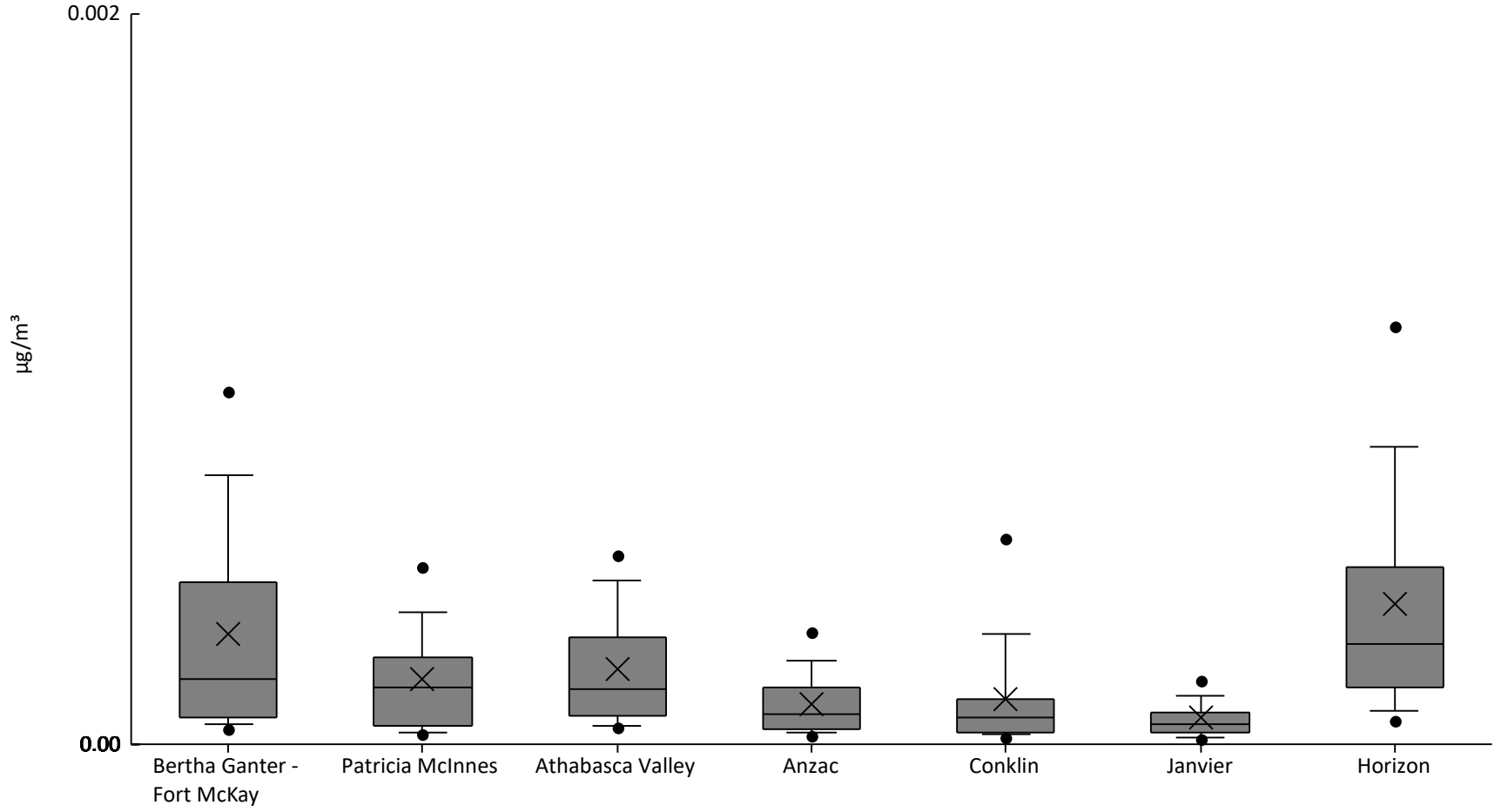
Particulate Matter <2.5µm Tested For Elements - Sodium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0	2.5E-3	2.8E-3	5.7E-3	0.017	0.051	0.13	0.16	0.26	0.039	0.054
AMS06	Patricia McInnes	61	95%	0	1.3E-3	2.8E-3	6.5E-3	0.014	0.047	0.12	0.17	0.21	0.036	0.05
AMS07	Athabasca Valley	60	100%	1.1E-3	2.8E-3	3.9E-3	7.8E-3	0.018	0.063	0.17	0.22	0.37	0.052	0.079
AMS14	Anzac	61	97%	6.6E-4	9.6E-4	1.4E-3	3E-3	8.5E-3	0.027	0.075	0.12	0.16	0.024	0.036
AMS21	Conklin	31	97%	5.3E-4	1.6E-3	1.9E-3	3.3E-3	7E-3	0.016	0.027	0.04	0.079	0.012	0.016
AMS22	Janvier	31	94%	3.4E-4	4.2E-4	1.2E-3	3E-3	6E-3	0.013	0.044	0.067	0.087	0.014	0.02
AMS15	Horizon	34	100%	2.1E-3	4.2E-3	6.7E-3	0.011	0.025	0.039	0.099	0.15	0.26	0.041	0.052



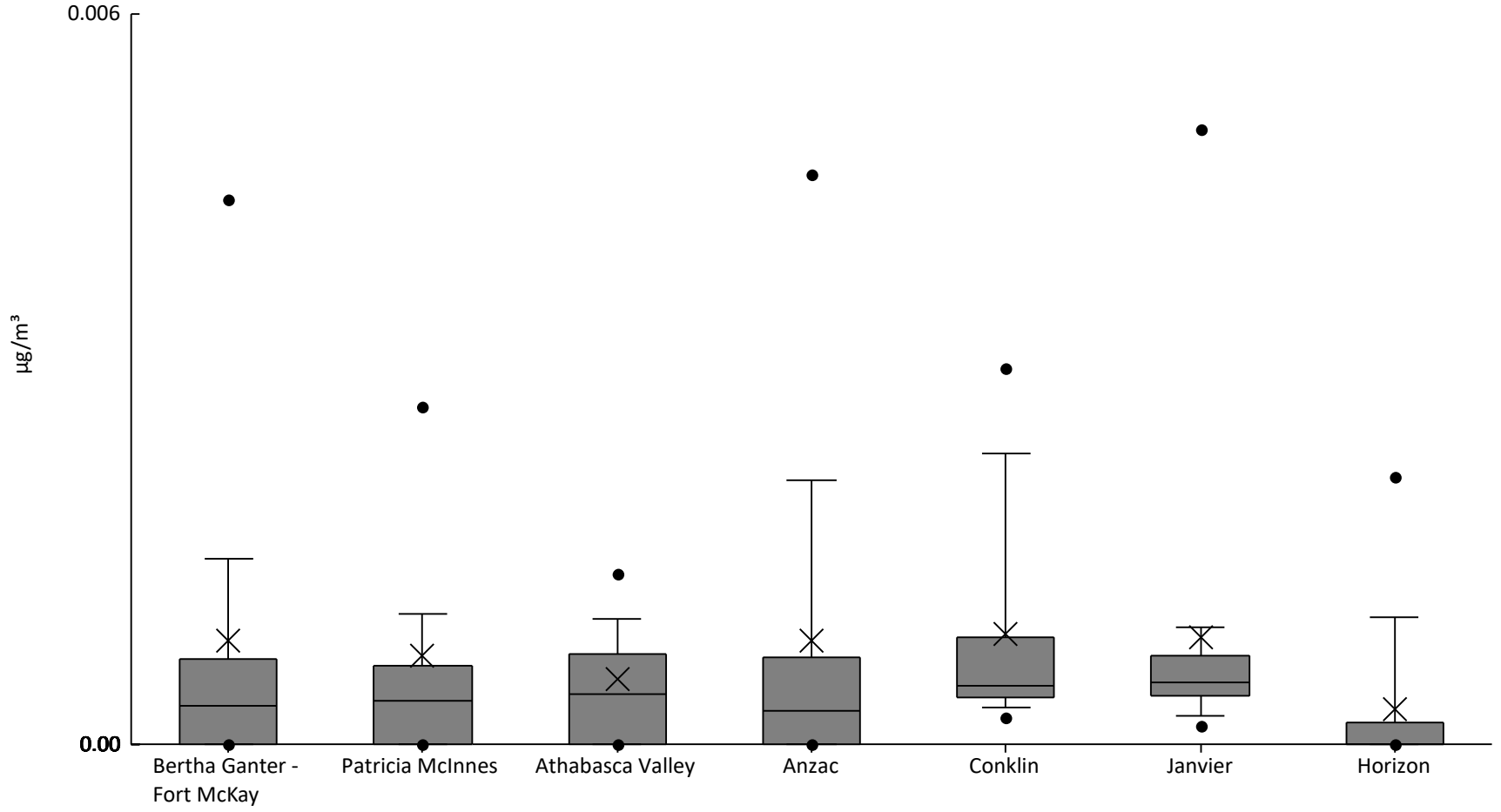
Particulate Matter <2.5µm Tested For Elements - Strontium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.3E-5	4.1E-5	5.4E-5	7.2E-5	1.8E-4	4.4E-4	7.4E-4	9.7E-4	1.4E-3	3E-4	3.1E-4
AMS06	Patricia McInnes	61	98%	9E-6	2.8E-5	3.2E-5	5.2E-5	1.6E-4	2.4E-4	3.6E-4	4.9E-4	1E-3	1.8E-4	1.8E-4
AMS07	Athabasca Valley	60	100%	2.8E-5	4.5E-5	5.3E-5	7.7E-5	1.5E-4	2.9E-4	4.5E-4	5.2E-4	6.6E-4	2.1E-4	1.6E-4
AMS14	Anzac	61	100%	1.6E-5	2.3E-5	3.1E-5	4.1E-5	8.3E-5	1.5E-4	2.3E-4	3.1E-4	4.9E-4	1.1E-4	9.2E-5
AMS21	Conklin	31	100%	1.3E-5	2E-5	2.8E-5	3.1E-5	7.2E-5	1.2E-4	3E-4	5.6E-4	7.2E-4	1.2E-4	1.6E-4
AMS22	Janvier	31	97%	1E-5	1.3E-5	2E-5	3.2E-5	5.4E-5	8.5E-5	1.3E-4	1.8E-4	4.4E-4	7.5E-5	7.9E-5
AMS15	Horizon	34	100%	2.5E-5	6.2E-5	9.3E-5	1.6E-4	2.7E-4	4.9E-4	8.2E-4	1.1E-3	1.5E-3	3.9E-4	3.3E-4



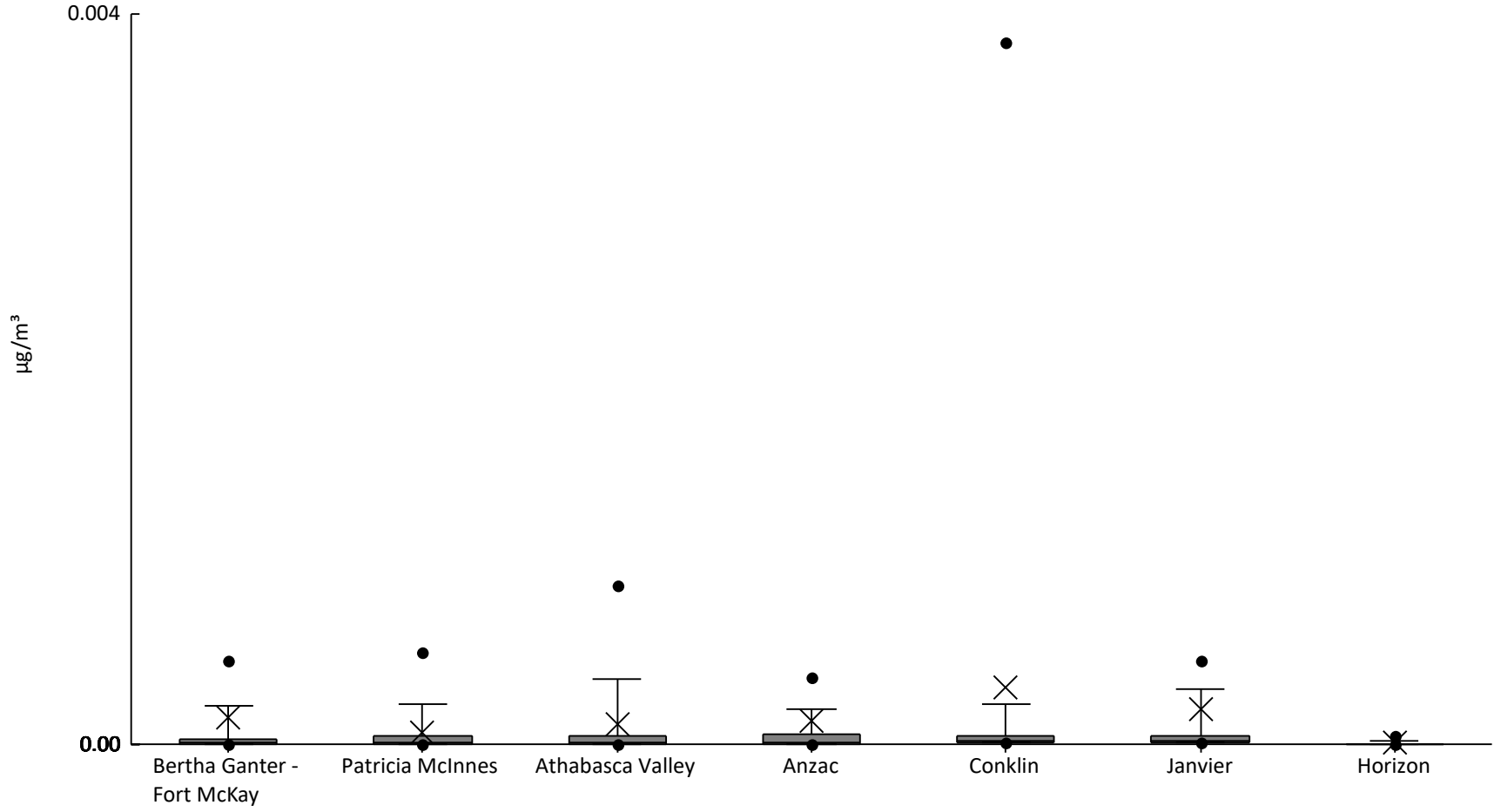
Particulate Matter <2.5µm Tested For Elements - Tantalum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	70%	0	0	0	2E-6	3.1E-4	7E-4	1.5E-3	4.5E-3	0.012	8.5E-4	2E-3
AMS06	Patricia McInnes	61	70%	0	0	0	1E-6	3.6E-4	6.5E-4	1.1E-3	2.8E-3	0.015	7.2E-4	2E-3
AMS07	Athabasca Valley	60	67%	0	0	0	1E-6	4.1E-4	7.5E-4	1E-3	1.4E-3	6E-3	5.4E-4	9.2E-4
AMS14	Anzac	61	70%	0	0	0	1E-6	2.7E-4	7.1E-4	2.2E-3	4.7E-3	9.4E-3	8.5E-4	1.8E-3
AMS21	Conklin	31	100%	1.8E-4	2.2E-4	3E-4	3.8E-4	4.8E-4	8.8E-4	2.4E-3	3.1E-3	5.6E-3	9E-4	1.1E-3
AMS22	Janvier	31	100%	1.2E-4	1.5E-4	2.3E-4	4E-4	5.1E-4	7.2E-4	9.6E-4	5.1E-3	6.8E-3	8.7E-4	1.4E-3
AMS15	Horizon	34	44%	0	0	0	1E-6	2E-6	1.7E-4	1E-3	2.2E-3	2.4E-3	2.9E-4	6.4E-4



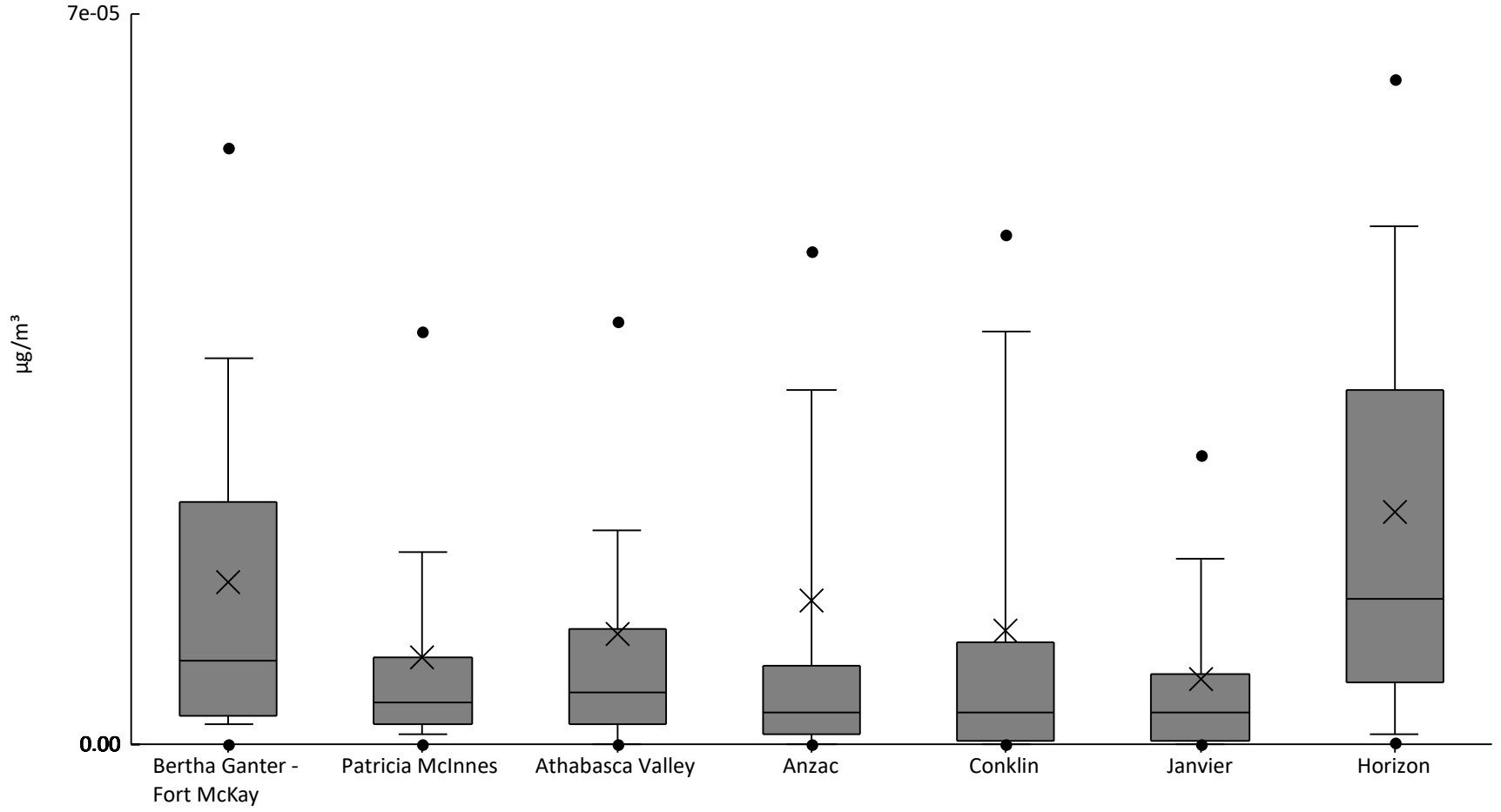
Particulate Matter <2.5µm Tested For Elements - Thallium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	57%	0	0	0	1E-6	1.2E-5	3E-5	2.1E-4	4.6E-4	5.1E-3	1.4E-4	6.7E-4
AMS06	Patricia McInnes	61	54%	0	0	0	1E-6	5E-6	4.9E-5	2.2E-4	5E-4	6.3E-4	6.6E-5	1.4E-4
AMS07	Athabasca Valley	60	53%	0	0	0	1E-6	8.5E-6	4.2E-5	3.6E-4	8.7E-4	1.5E-3	1.1E-4	2.8E-4
AMS14	Anzac	61	56%	0	0	0	1E-6	9E-6	5.5E-5	2E-4	3.6E-4	4.8E-3	1.3E-4	6.2E-4
AMS21	Conklin	31	97%	4E-6	5.1E-6	9E-6	1.3E-5	2.2E-5	4.5E-5	2.2E-4	3.8E-3	4.5E-3	3.1E-4	1.1E-3
AMS22	Janvier	31	97%	0	5.1E-6	7.2E-6	1.1E-5	1.7E-5	4.2E-5	3E-4	4.6E-4	4.2E-3	1.9E-4	7.5E-4
AMS15	Horizon	34	24%	0	0	0	0	2E-6	4E-6	1.7E-5	4.7E-5	1.7E-4	9.8E-6	3E-5



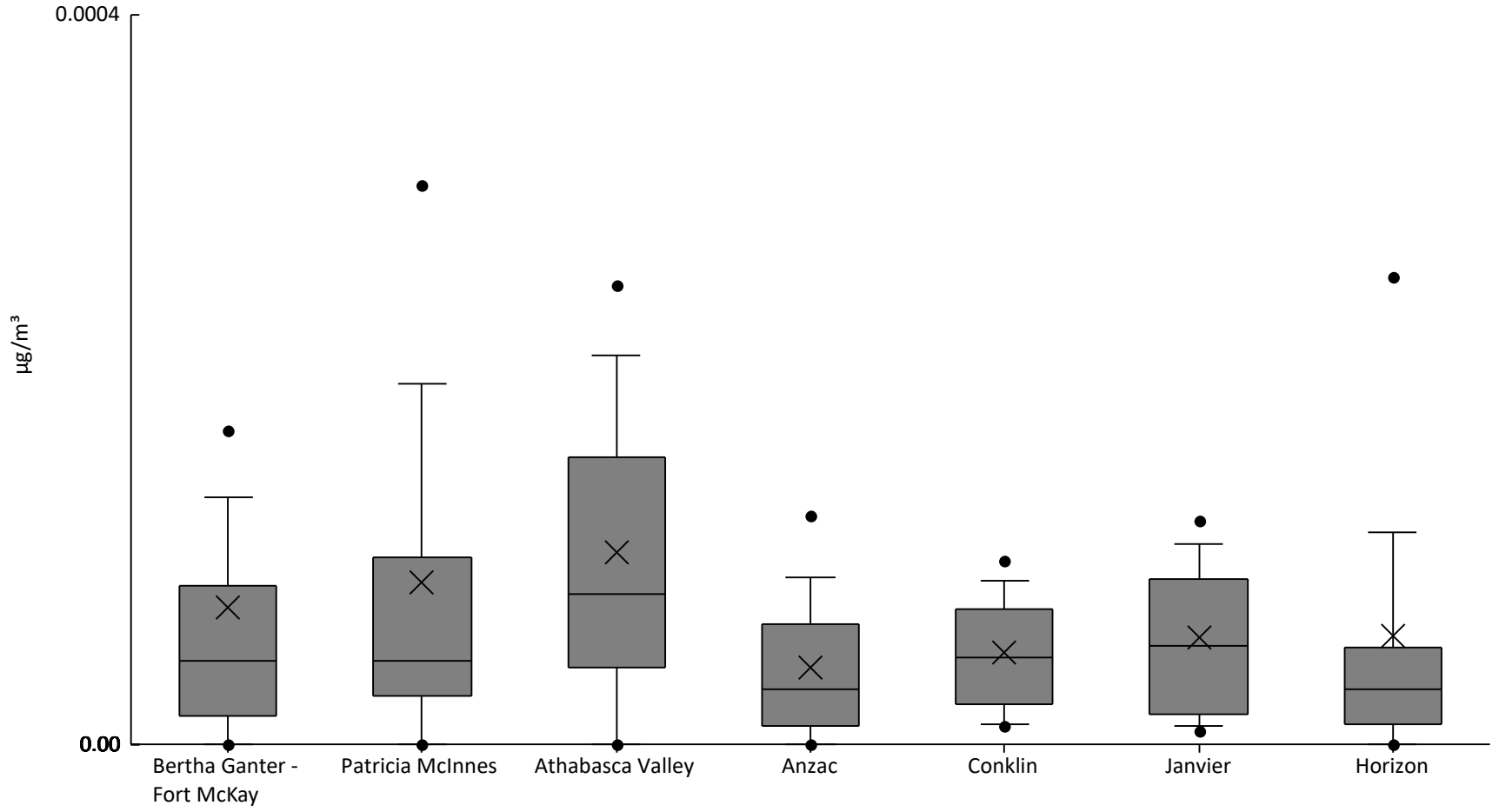
Particulate Matter <2.5µm Tested For Elements - Thorium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	75%	0	0	2E-6	2.8E-6	8E-6	2.3E-5	3.7E-5	5.7E-5	9.3E-5	1.6E-5	1.9E-5
AMS06	Patricia McInnes	61	70%	0	0	1E-6	2E-6	4E-6	8.3E-6	1.8E-5	4E-5	7.1E-5	8.3E-6	1.3E-5
AMS07	Athabasca Valley	60	70%	0	0	0	2E-6	5E-6	1.1E-5	2.1E-5	4.1E-5	1.4E-4	1.1E-5	2E-5
AMS14	Anzac	61	56%	0	0	0	1E-6	3E-6	7.5E-6	3.4E-5	4.7E-5	2.4E-4	1.4E-5	3.5E-5
AMS21	Conklin	31	55%	0	0	0	2.5E-7	3E-6	9.8E-6	4E-5	4.9E-5	6.9E-5	1.1E-5	1.7E-5
AMS22	Janvier	31	58%	0	0	0	2.5E-7	3E-6	6.8E-6	1.8E-5	2.8E-5	4.8E-5	6.3E-6	1E-5
AMS15	Horizon	34	88%	0	2E-7	1E-6	6E-6	1.4E-5	3.4E-5	5E-5	6.4E-5	1.2E-4	2.2E-5	2.4E-5



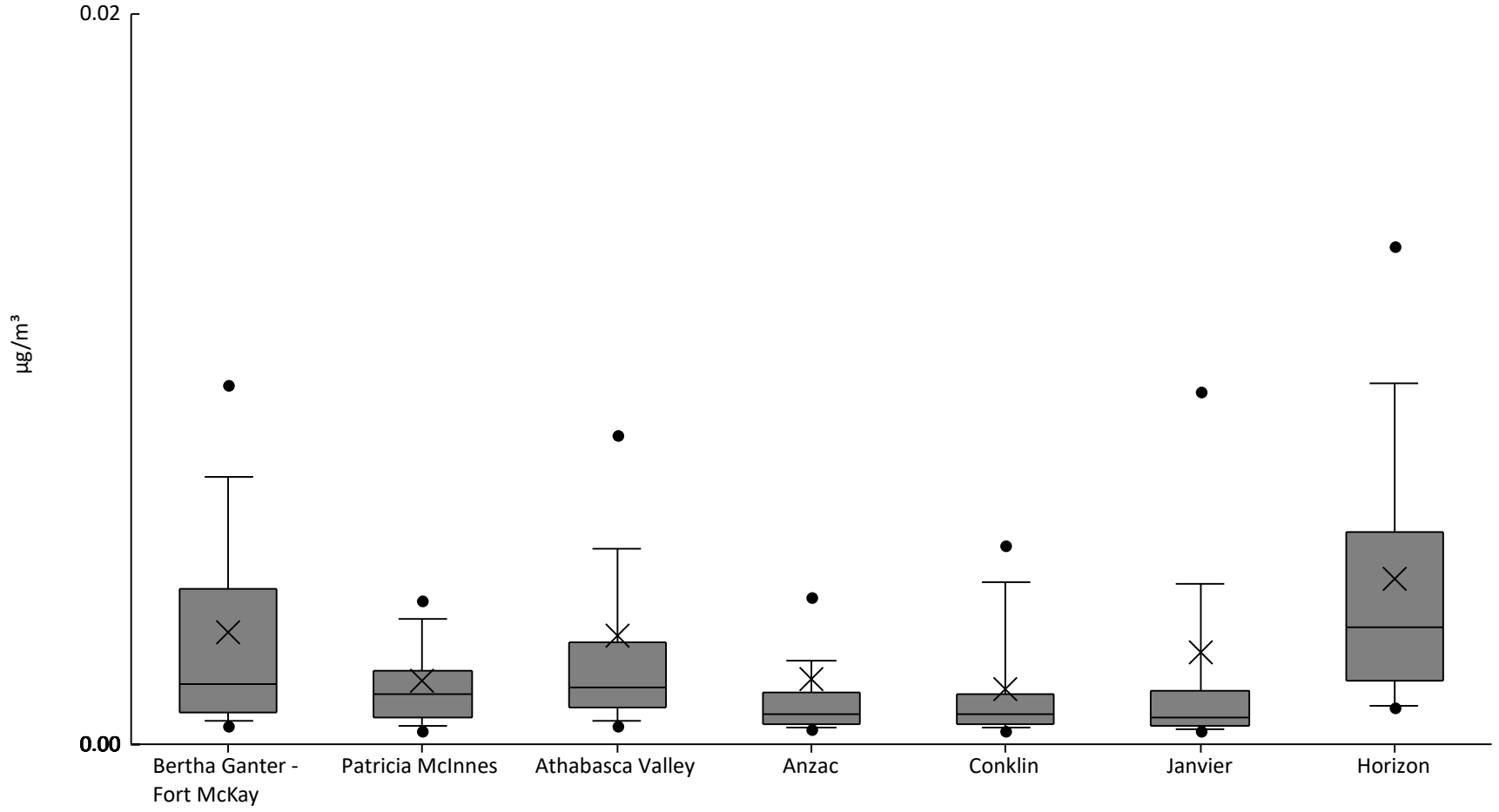
Particulate Matter <2.5µm Tested For Elements - Tin (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	80%	0	0	0	1.5E-5	4.6E-5	8.7E-5	1.4E-4	1.7E-4	1E-3	7.5E-5	1.4E-4
AMS06	Patricia McInnes	61	87%	0	0	0	2.7E-5	4.6E-5	1E-4	2E-4	3.1E-4	7.2E-4	8.9E-5	1.2E-4
AMS07	Athabasca Valley	60	87%	0	0	0	4.2E-5	8.3E-5	1.6E-4	2.1E-4	2.5E-4	4.7E-4	1.1E-4	9E-5
AMS14	Anzac	61	75%	0	0	0	1E-5	3E-5	6.6E-5	9.1E-5	1.3E-4	1.7E-4	4.2E-5	4E-5
AMS21	Conklin	31	97%	8E-6	1E-5	1.1E-5	2.2E-5	4.8E-5	7.4E-5	9E-5	1E-4	1.1E-4	5E-5	3E-5
AMS22	Janvier	31	94%	0	7.1E-6	1E-5	1.6E-5	5.4E-5	9.1E-5	1.1E-4	1.2E-4	1.6E-4	5.9E-5	4.1E-5
AMS15	Horizon	34	76%	0	0	0	1.1E-5	3E-5	5.3E-5	1.2E-4	2.6E-4	6.5E-4	6E-5	1.2E-4



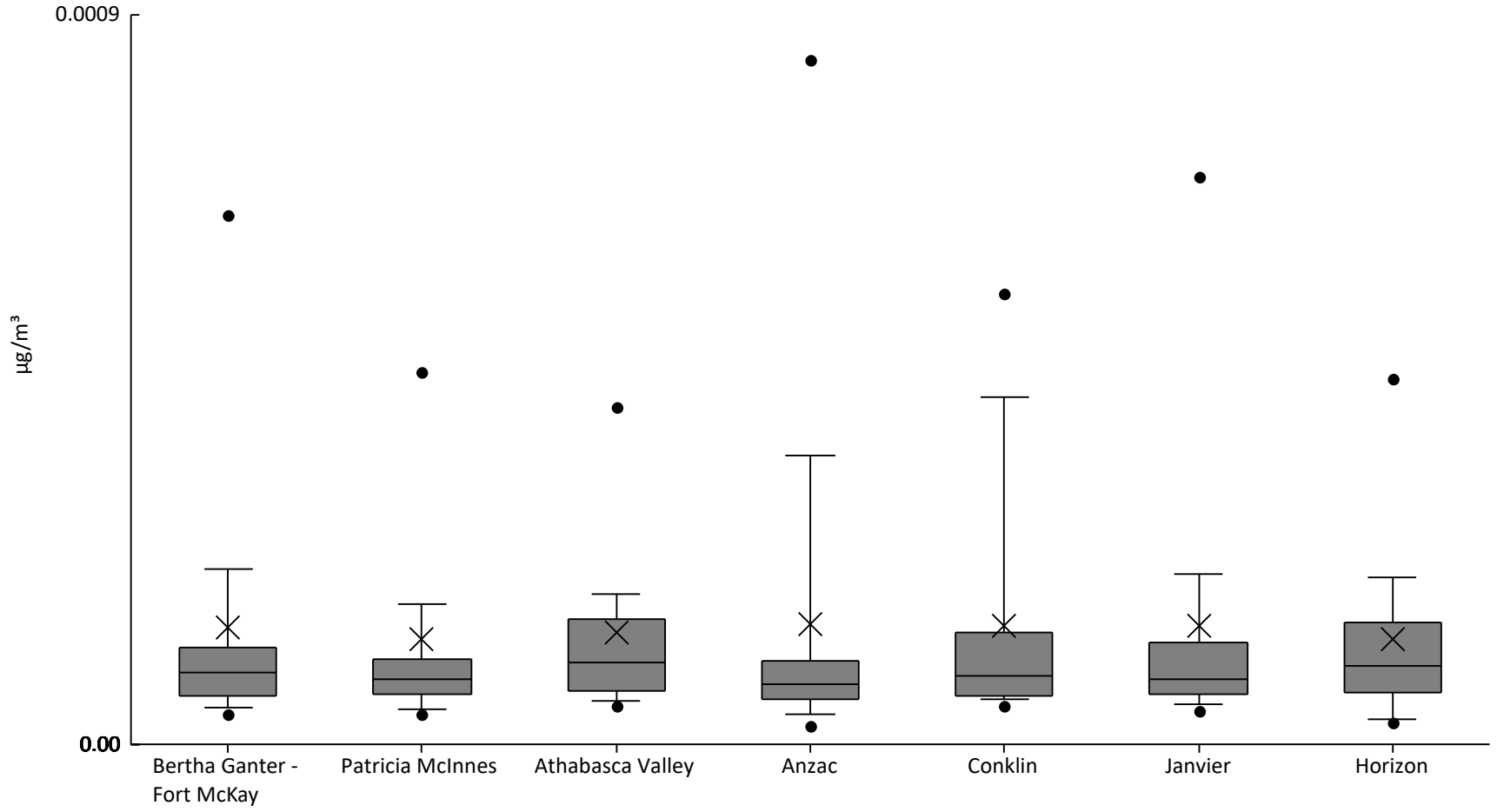
Particulate Matter <2.5µm Tested For Elements - Titanium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	4.3E-4	4.9E-4	6.4E-4	8.7E-4	1.6E-3	4.3E-3	7.3E-3	9.9E-3	0.013	3.1E-3	3.1E-3
AMS06	Patricia McInnes	61	100%	3.5E-4	3.8E-4	5.1E-4	7.3E-4	1.4E-3	2E-3	3.4E-3	3.9E-3	0.01	1.7E-3	1.6E-3
AMS07	Athabasca Valley	60	100%	4.2E-4	5.3E-4	6.4E-4	1E-3	1.6E-3	2.8E-3	5.4E-3	8.5E-3	0.039	3E-3	5.3E-3
AMS14	Anzac	61	100%	3.3E-4	4.3E-4	4.5E-4	5.7E-4	8.4E-4	1.4E-3	2.3E-3	4E-3	0.023	1.8E-3	4E-3
AMS21	Conklin	31	100%	3.4E-4	3.5E-4	4.4E-4	5.4E-4	8.2E-4	1.4E-3	4.4E-3	5.4E-3	8.9E-3	1.5E-3	1.9E-3
AMS22	Janvier	31	100%	3.2E-4	3.6E-4	4.3E-4	5.1E-4	7.5E-4	1.5E-3	4.4E-3	9.7E-3	0.035	2.5E-3	6.4E-3
AMS15	Horizon	34	100%	5.6E-4	9.9E-4	1.1E-3	1.8E-3	3.2E-3	5.8E-3	9.9E-3	0.014	0.016	4.5E-3	3.8E-3



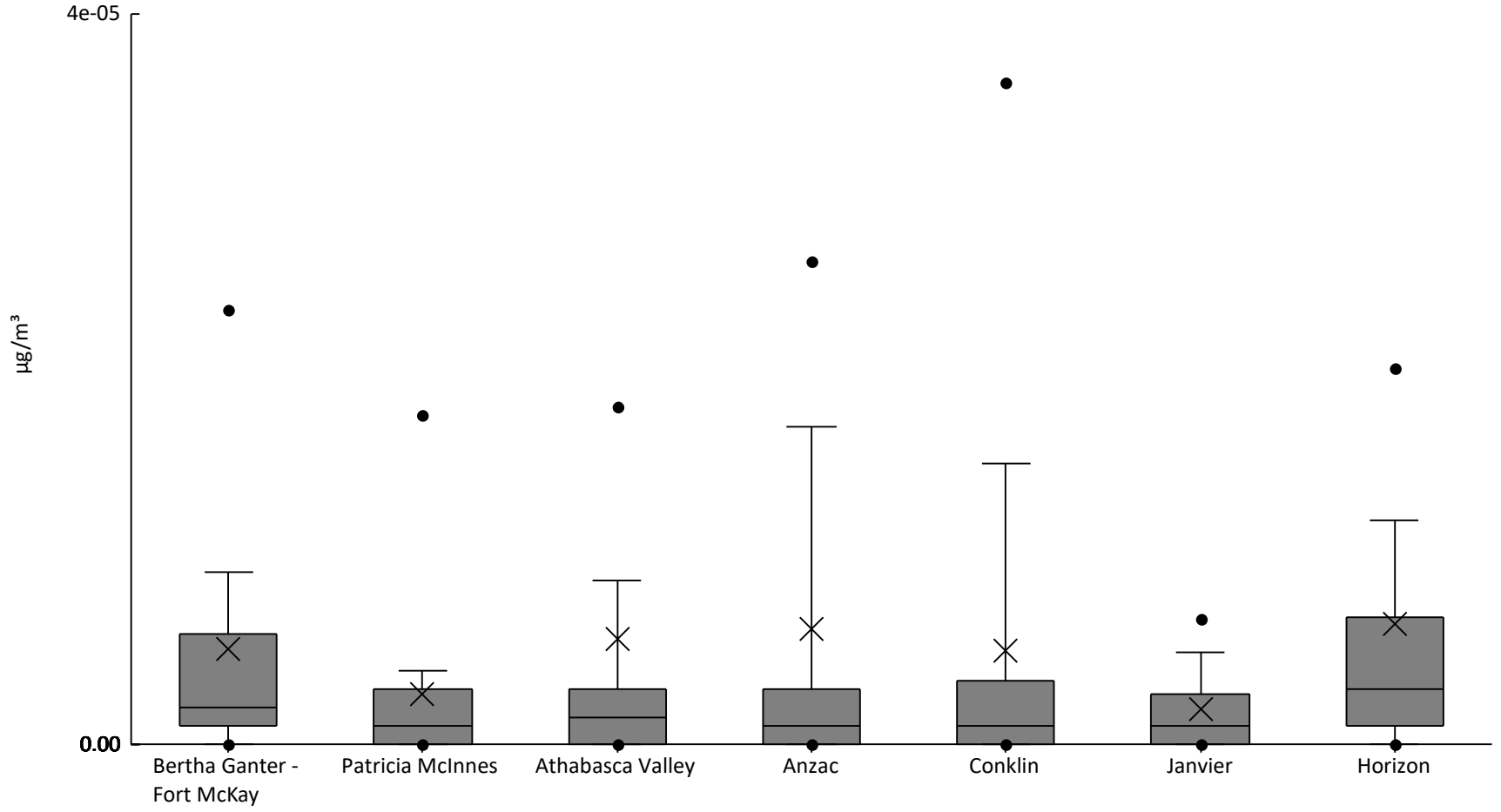
Particulate Matter <2.5µm Tested For Elements - Tungsten (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.7E-5	3.8E-5	4.6E-5	5.9E-5	8.9E-5	1.2E-4	2.2E-4	6.5E-4	1.2E-3	1.4E-4	2E-4
AMS06	Patricia McInnes	61	100%	2.9E-5	3.8E-5	4.4E-5	6.2E-5	8.1E-5	1.1E-4	1.7E-4	4.6E-4	1.2E-3	1.3E-4	2E-4
AMS07	Athabasca Valley	60	100%	3E-5	4.8E-5	5.4E-5	6.6E-5	1E-4	1.5E-4	1.9E-4	4.2E-4	8.2E-4	1.4E-4	1.3E-4
AMS14	Anzac	61	100%	2E-5	2.4E-5	3.8E-5	5.6E-5	7.5E-5	1E-4	3.6E-4	8.4E-4	1E-3	1.5E-4	2.3E-4
AMS21	Conklin	31	100%	4.7E-5	4.8E-5	5.5E-5	6.1E-5	8.5E-5	1.4E-4	4.3E-4	5.6E-4	7.7E-4	1.5E-4	1.7E-4
AMS22	Janvier	31	100%	3.5E-5	4.1E-5	5E-5	6.2E-5	8.1E-5	1.3E-4	2.1E-4	7E-4	1.2E-3	1.5E-4	2.2E-4
AMS15	Horizon	34	100%	2.6E-5	2.7E-5	3.1E-5	6.4E-5	9.8E-5	1.5E-4	2.1E-4	4.5E-4	6.9E-4	1.3E-4	1.3E-4



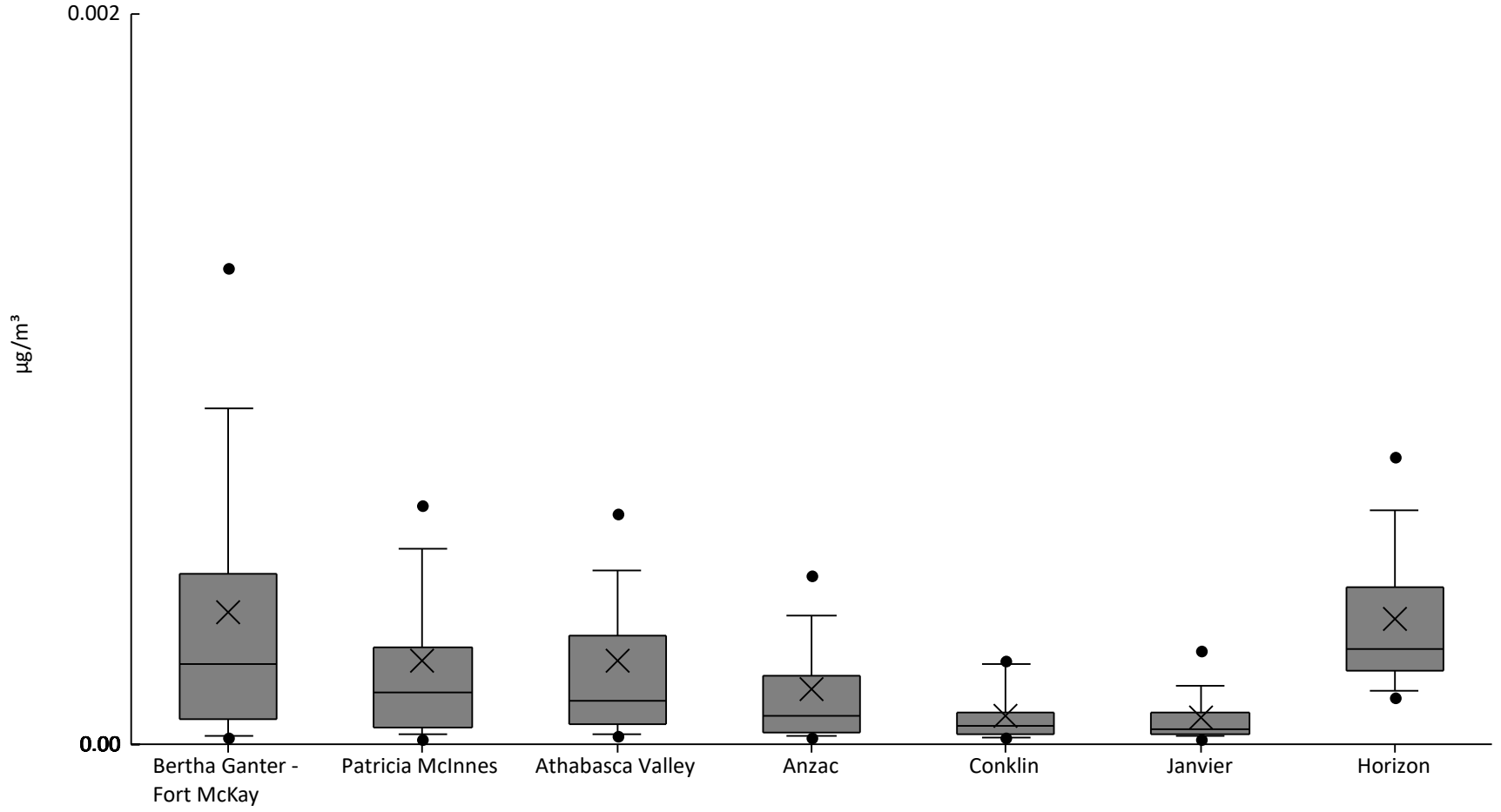
Particulate Matter <2.5µm Tested For Elements - Uranium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	48%	0	0	0	1E-6	2E-6	6E-6	9.4E-6	2.4E-5	4.9E-5	5.2E-6	8.8E-6
AMS06	Patricia McInnes	61	26%	0	0	0	0	1E-6	3E-6	4E-6	1.8E-5	2.8E-5	2.8E-6	5.5E-6
AMS07	Athabasca Valley	60	30%	0	0	0	0	1.5E-6	3E-6	9E-6	1.9E-5	1.2E-4	5.8E-6	1.8E-5
AMS14	Anzac	61	26%	0	0	0	0	1E-6	3E-6	1.7E-5	2.6E-5	8.7E-5	6.3E-6	1.6E-5
AMS21	Conklin	31	26%	0	0	0	0	1E-6	3.5E-6	1.5E-5	3.6E-5	4.5E-5	5.1E-6	1.1E-5
AMS22	Janvier	31	26%	0	0	0	0	1E-6	2.8E-6	5E-6	6.9E-6	2E-5	2E-6	3.8E-6
AMS15	Horizon	34	59%	0	0	0	1E-6	3E-6	7E-6	1.2E-5	2.1E-5	7.1E-5	6.6E-6	1.2E-5



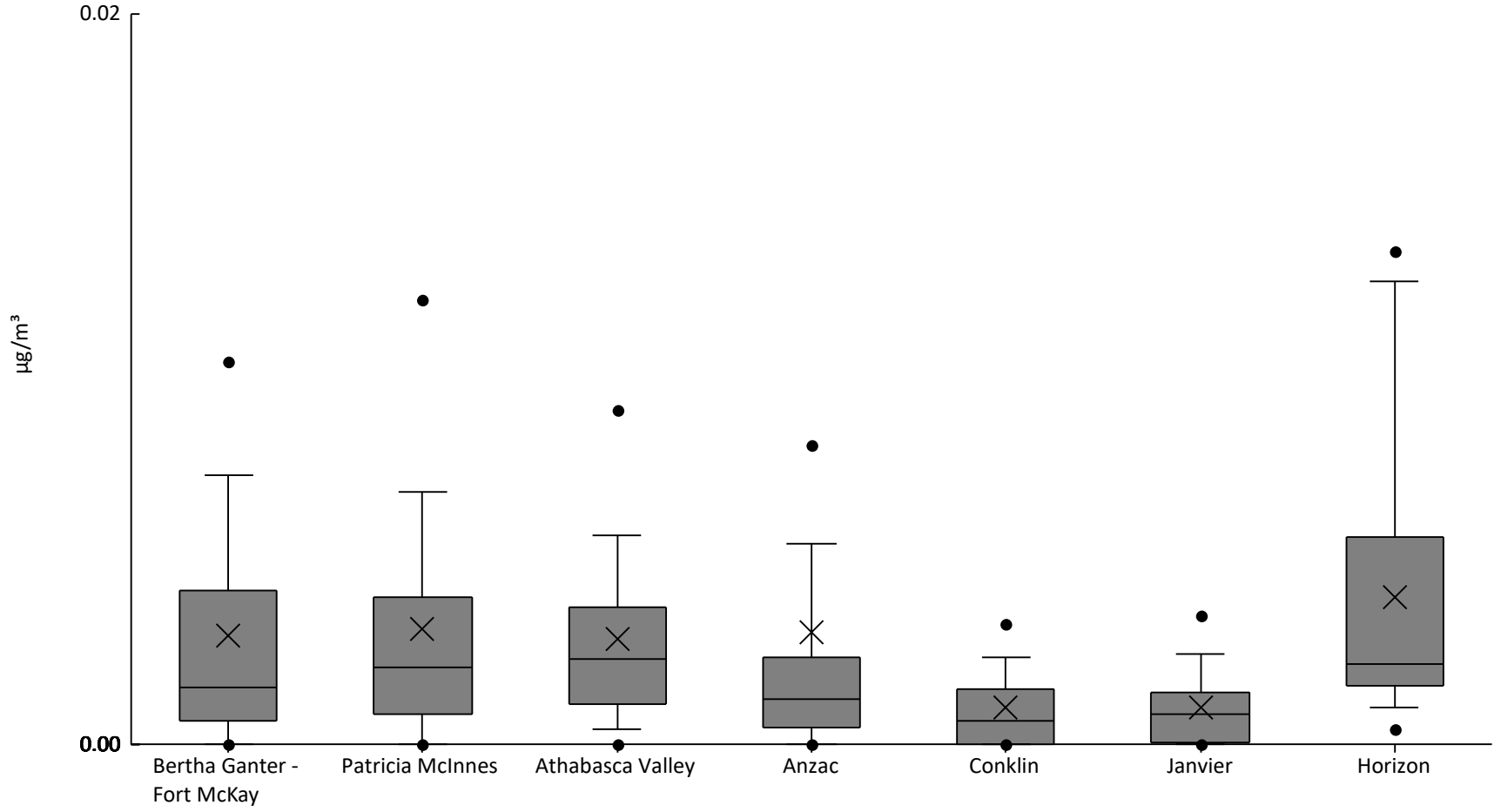
Particulate Matter <2.5µm Tested For Elements - Vanadium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	95%	0	1.7E-5	2.5E-5	7E-5	2.2E-4	4.7E-4	9.2E-4	1.3E-3	2.1E-3	3.6E-4	4.4E-4
AMS06	Patricia McInnes	61	95%	0	1.5E-5	2.6E-5	4.5E-5	1.4E-4	2.7E-4	5.4E-4	6.5E-4	2.3E-3	2.3E-4	3.3E-4
AMS07	Athabasca Valley	60	98%	4E-6	2.4E-5	3E-5	5.6E-5	1.2E-4	3E-4	4.8E-4	6.3E-4	2.6E-3	2.3E-4	3.6E-4
AMS14	Anzac	61	95%	0	1.7E-5	2.2E-5	3.3E-5	7.9E-5	1.9E-4	3.5E-4	4.6E-4	1.2E-3	1.5E-4	1.9E-4
AMS21	Conklin	31	94%	0	1.6E-5	1.8E-5	2.8E-5	4.9E-5	8.8E-5	2.2E-4	2.3E-4	3.2E-4	8E-5	8E-5
AMS22	Janvier	31	94%	0	1.4E-5	2.1E-5	2.8E-5	4.2E-5	8.7E-5	1.6E-4	2.6E-4	5E-4	7.5E-5	9.6E-5
AMS15	Horizon	34	100%	5.2E-5	1.3E-4	1.5E-4	2E-4	2.6E-4	4.3E-4	6.4E-4	7.9E-4	1.1E-3	3.4E-4	2.2E-4



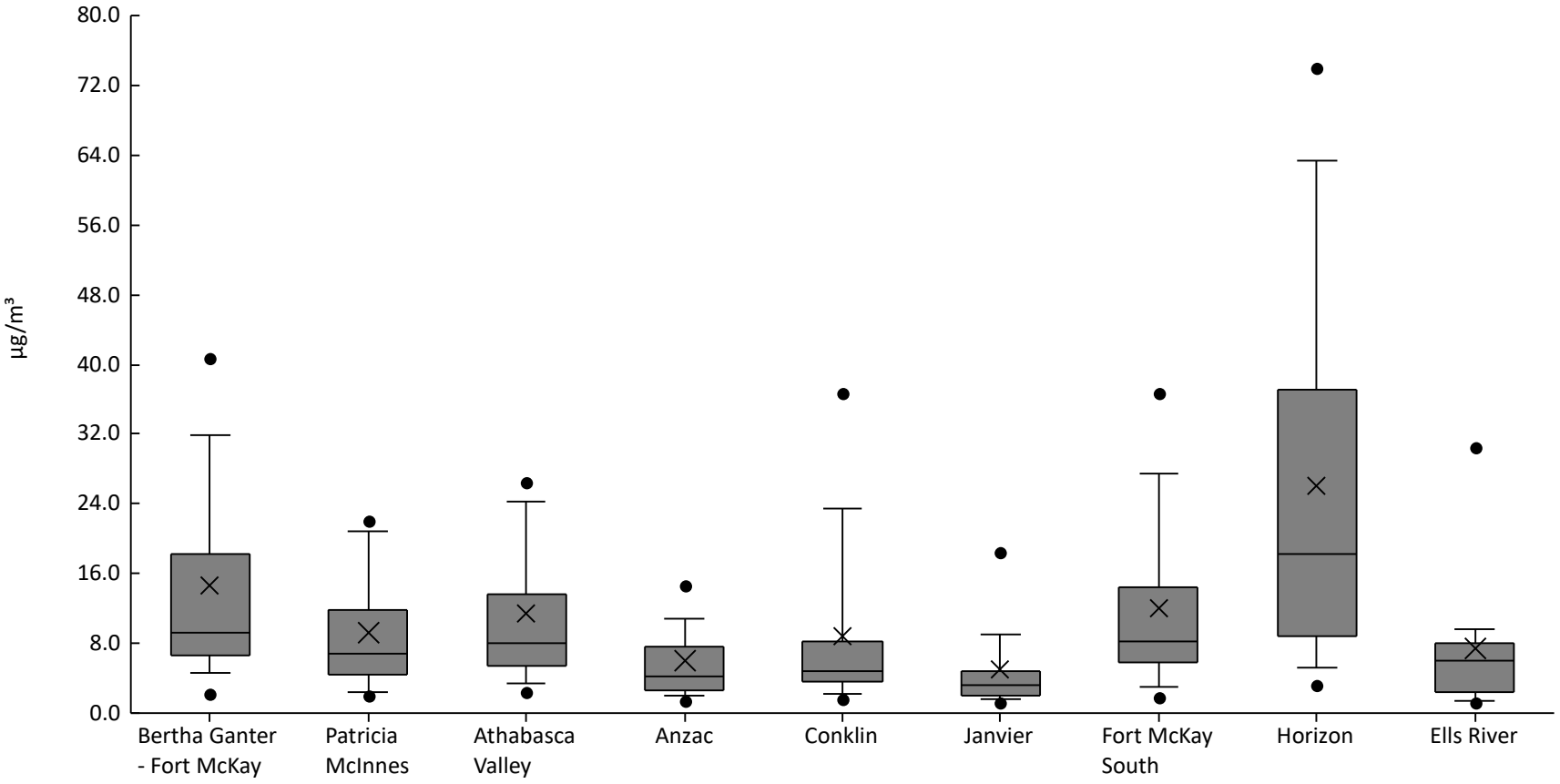
Particulate Matter <2.5µm Tested For Elements - Zinc (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	80%	0	0	0	6.3E-4	1.6E-3	4.2E-3	7.4E-3	0.01	0.022	3E-3	3.8E-3
AMS06	Patricia McInnes	61	87%	0	0	0	8.3E-4	2.1E-3	4.1E-3	6.9E-3	0.012	0.021	3.1E-3	3.9E-3
AMS07	Athabasca Valley	60	92%	0	0	4.2E-4	1.1E-3	2.3E-3	3.8E-3	5.7E-3	9.2E-3	0.012	2.9E-3	2.6E-3
AMS14	Anzac	61	85%	0	0	0	4.7E-4	1.2E-3	2.4E-3	5.5E-3	8.2E-3	0.067	3E-3	8.7E-3
AMS21	Conklin	31	65%	0	0	0	0	6.4E-4	1.5E-3	2.4E-3	3.3E-3	7.1E-3	1E-3	1.5E-3
AMS22	Janvier	31	74%	0	0	0	5.7E-5	8.4E-4	1.4E-3	2.5E-3	3.5E-3	4.6E-3	1E-3	1.1E-3
AMS15	Horizon	34	97%	0	4.1E-4	1E-3	1.6E-3	2.2E-3	5.7E-3	0.013	0.014	0.016	4E-3	4.1E-3



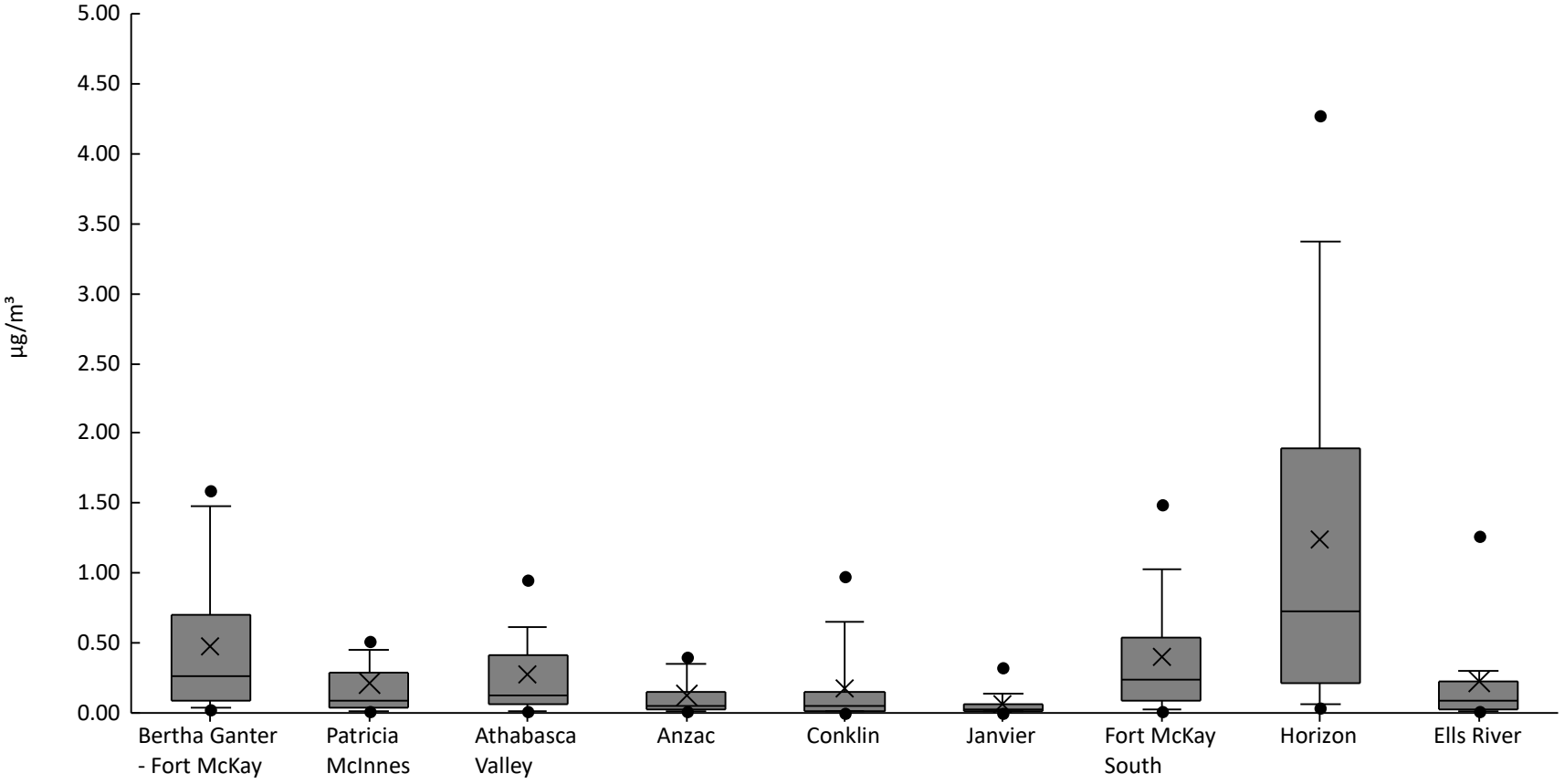
Particulate Matter <10µm Tested For Elements - Particulate Matter (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.2	2.3	4.6	6.6	9.3	18	32	41	62	15	13
AMS06	Patricia McInnes	61	100%	1.1	2	2.4	4.4	6.8	12	21	22	41	9.3	7.5
AMS07	Athabasca Valley	61	100%	1.5	2.5	3.4	5.3	8	14	24	26	42	11	8.8
AMS14	Anzac	61	100%	1.1	1.4	2	2.7	4.3	7.5	11	15	43	6	6
AMS21	Conklin	31	100%	1	1.6	2.3	3.7	4.8	8.3	24	37	41	8.8	10
AMS22	Janvier	21	100%	0.83	1.2	1.6	2	3.3	4.9	9.1	18	28	4.9	5.7
AMS13	Fort McKay South	60	100%	0.92	1.9	3	5.8	8.3	15	27	37	45	12	10
AMS15	Horizon	41	100%	2.1	3.2	5.2	8.8	18	37	63	74	96	26	23
AMS30	Ells River	18	100%	1.2	1.2	1.4	2.3	6	8	9.5	31	44	7.4	9.7



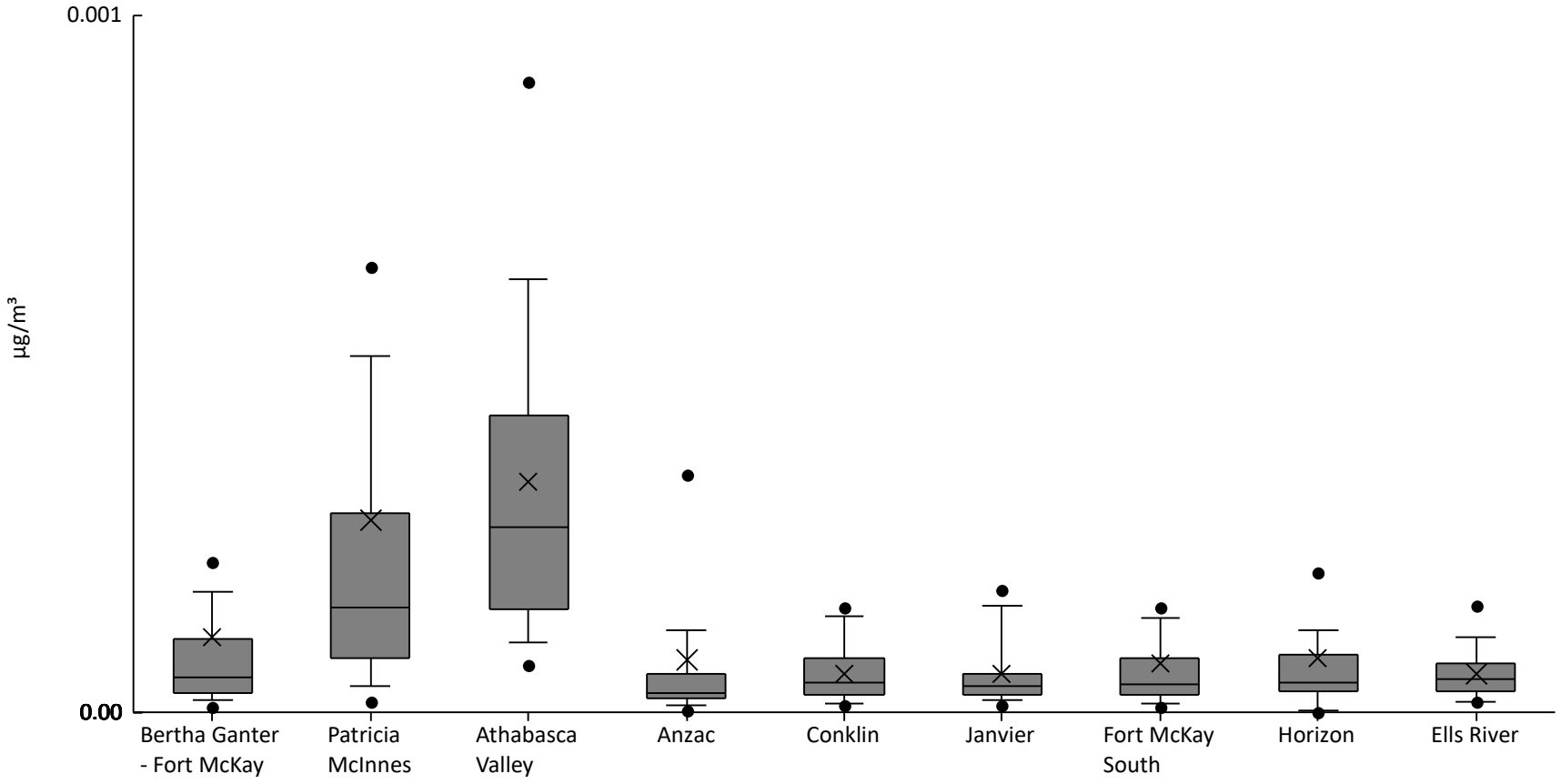
Particulate Matter <10µm Tested For Elements - Aluminum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.013	0.021	0.035	0.091	0.26	0.7	1.5	1.6	2.6	0.48	0.55
AMS06	Patricia McInnes	61	98%	2.8E-3	7.7E-3	9.9E-3	0.035	0.084	0.28	0.45	0.51	1.7	0.21	0.3
AMS07	Athabasca Valley	61	100%	8.7E-3	0.013	0.017	0.057	0.12	0.42	0.62	0.95	1.9	0.27	0.34
AMS14	Anzac	61	100%	4.7E-3	6.3E-3	8.2E-3	0.019	0.048	0.15	0.35	0.4	1.4	0.12	0.2
AMS21	Conklin	31	100%	5.4E-3	6.2E-3	6.8E-3	0.014	0.048	0.15	0.65	0.97	1.3	0.18	0.31
AMS22	Janvier	21	100%	3.4E-3	4.8E-3	6.4E-3	0.014	0.03	0.059	0.14	0.33	0.55	0.067	0.12
AMS13	Fort McKay South	60	100%	6.1E-3	0.013	0.024	0.093	0.24	0.53	1	1.5	1.9	0.4	0.46
AMS15	Horizon	41	100%	0.019	0.033	0.057	0.22	0.73	1.9	3.4	4.3	4.7	1.2	1.3
AMS30	Ells River	18	100%	9.7E-3	0.01	0.014	0.029	0.093	0.22	0.3	1.3	1.9	0.22	0.43



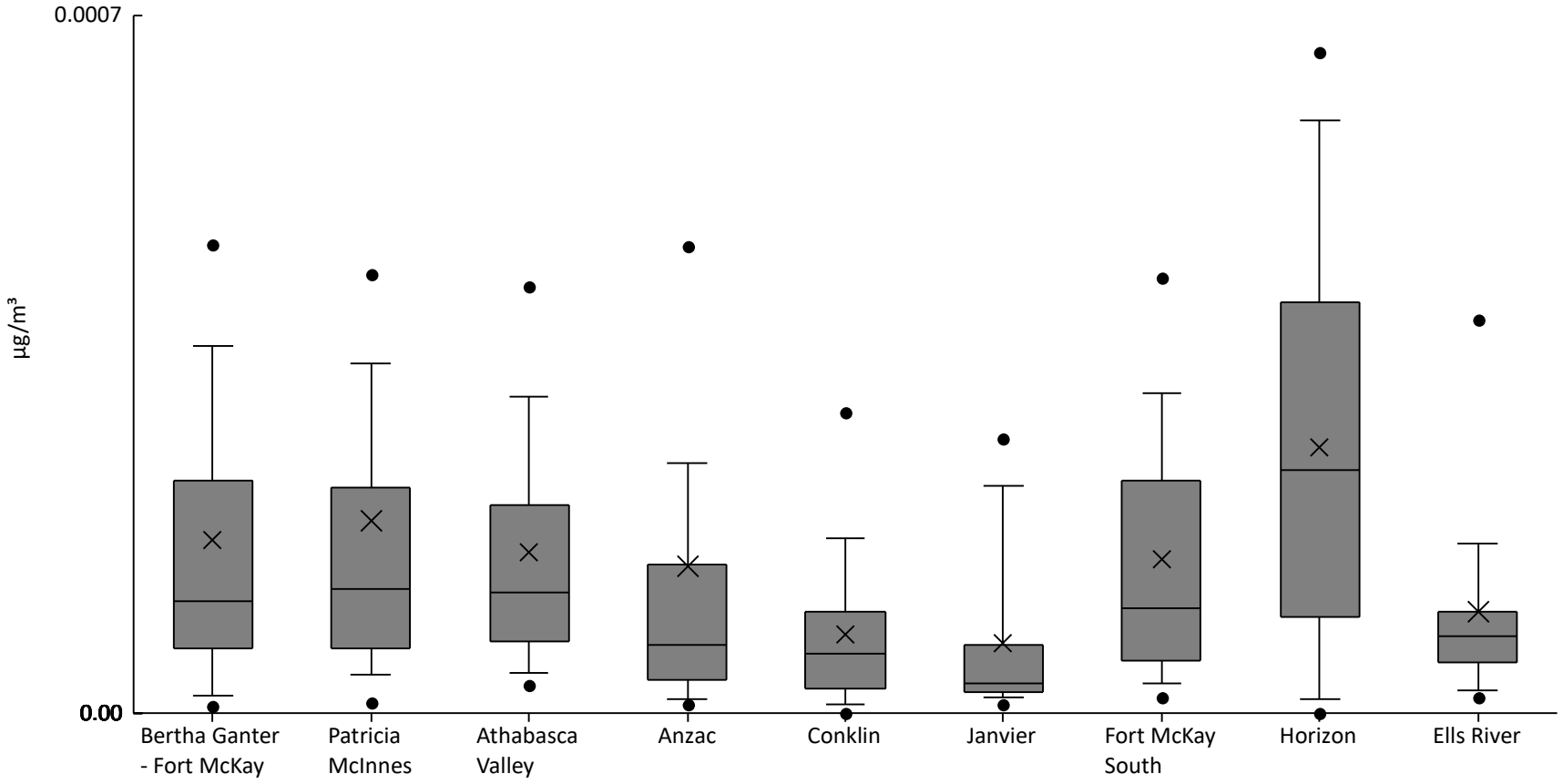
Particulate Matter <10µm Tested For Elements - Antimony (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	90%	2E-6	8.7E-6	1.6E-5	2.9E-5	4.9E-5	1.1E-4	1.7E-4	2.2E-4	2.3E-3	1.1E-4	2.9E-4
AMS06	Patricia McInnes	61	95%	8E-6	1.6E-5	3.9E-5	7.8E-5	1.5E-4	2.9E-4	5.1E-4	6.4E-4	4.9E-3	2.8E-4	6.2E-4
AMS07	Athabasca Valley	61	100%	5.1E-5	6.9E-5	1E-4	1.5E-4	2.7E-4	4.3E-4	6.2E-4	9E-4	1.5E-3	3.3E-4	2.6E-4
AMS14	Anzac	61	82%	0	3.6E-6	9.2E-6	2E-5	2.7E-5	5.5E-5	1.2E-4	3.4E-4	1.1E-3	7.5E-5	1.7E-4
AMS21	Conklin	31	84%	0	9.1E-6	1.2E-5	2.5E-5	4.3E-5	7.8E-5	1.4E-4	1.5E-4	1.9E-4	5.6E-5	4.6E-5
AMS22	Janvier	21	90%	7E-6	1E-5	1.8E-5	2.5E-5	3.7E-5	5.6E-5	1.5E-4	1.7E-4	1.8E-4	5.4E-5	4.8E-5
AMS13	Fort McKay South	60	83%	0	7E-6	1.2E-5	2.5E-5	4E-5	7.7E-5	1.3E-4	1.5E-4	1E-3	6.9E-5	1.3E-4
AMS15	Horizon	41	88%	0	0	3.2E-6	3E-5	4.3E-5	8.2E-5	1.2E-4	2E-4	1E-3	7.8E-5	1.6E-4
AMS30	Ells River	18	83%	1.5E-5	1.5E-5	1.5E-5	2.9E-5	4.8E-5	7.1E-5	1.1E-4	1.5E-4	1.8E-4	5.5E-5	4.3E-5



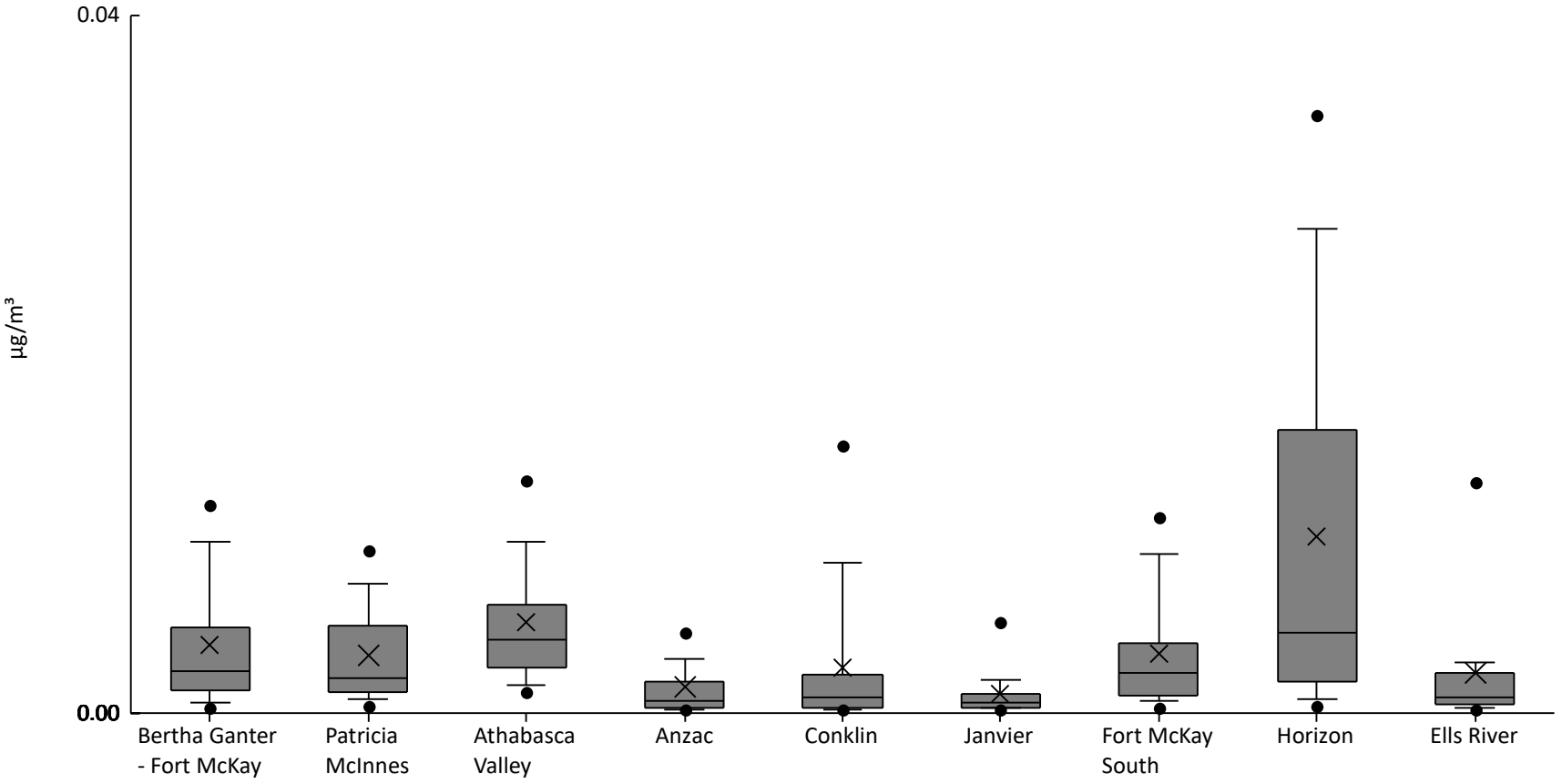
Particulate Matter <10µm Tested For Elements - Arsenic (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	7.8E-6	1.7E-5	6.5E-5	1.1E-4	2.3E-4	3.7E-4	4.7E-4	1.2E-3	1.7E-4	1.9E-4
AMS06	Patricia McInnes	61	98%	4E-6	1.1E-5	3.8E-5	6.6E-5	1.3E-4	2.3E-4	3.5E-4	4.4E-4	1.8E-3	1.9E-4	2.5E-4
AMS07	Athabasca Valley	61	98%	0	2.8E-5	4.1E-5	7.2E-5	1.2E-4	2.1E-4	3.2E-4	4.3E-4	6.6E-4	1.6E-4	1.3E-4
AMS14	Anzac	61	98%	0	9E-6	1.5E-5	3.3E-5	6.9E-5	1.5E-4	2.5E-4	4.7E-4	2E-3	1.5E-4	3E-4
AMS21	Conklin	31	94%	0	3.5E-7	8.8E-6	2.5E-5	6E-5	1E-4	1.8E-4	3E-4	3.6E-4	7.9E-5	8.3E-5
AMS22	Janvier	21	95%	0	8.3E-6	1.5E-5	2.1E-5	2.9E-5	6.8E-5	2.3E-4	2.8E-4	3.3E-4	7E-5	8.7E-5
AMS13	Fort McKay South	60	98%	2E-6	1.7E-5	3E-5	5.3E-5	1.1E-4	2.3E-4	3.2E-4	4.4E-4	7.5E-4	1.5E-4	1.4E-4
AMS15	Horizon	41	90%	0	0	1.4E-5	9.6E-5	2.4E-4	4.1E-4	5.9E-4	6.6E-4	8.9E-4	2.7E-4	2.2E-4
AMS30	Ells River	18	100%	1.3E-5	1.6E-5	2.2E-5	5E-5	7.7E-5	1E-4	1.7E-4	3.9E-4	5.3E-4	1E-4	1.2E-4



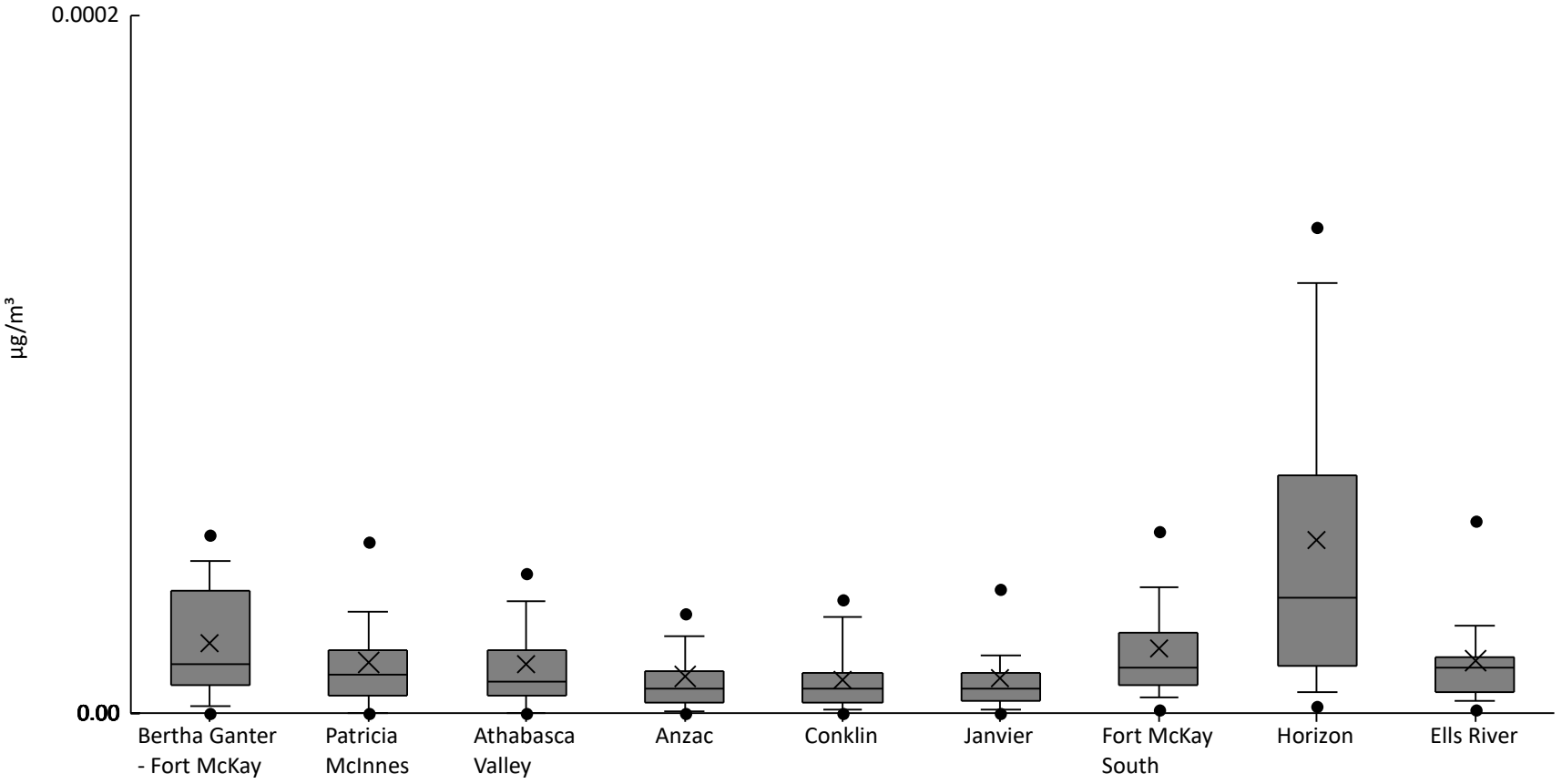
Particulate Matter <10µm Tested For Elements - Barium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	5.8E-5	2.7E-4	6.4E-4	1.3E-3	2.4E-3	4.9E-3	9.8E-3	0.012	0.024	4E-3	4.3E-3
AMS06	Patricia McInnes	61	100%	8.5E-5	3.8E-4	8.1E-4	1.2E-3	2E-3	5E-3	7.4E-3	9.3E-3	0.014	3.3E-3	2.9E-3
AMS07	Athabasca Valley	61	100%	8.8E-4	1.2E-3	1.6E-3	2.6E-3	4.2E-3	6.2E-3	9.9E-3	0.013	0.019	5.2E-3	3.7E-3
AMS14	Anzac	61	100%	8.3E-5	1.6E-4	2E-4	3.4E-4	7.4E-4	1.8E-3	3.1E-3	4.6E-3	0.021	1.5E-3	2.8E-3
AMS21	Conklin	31	100%	1.5E-4	1.7E-4	1.9E-4	3.5E-4	9E-4	2.2E-3	8.6E-3	0.015	0.017	2.6E-3	4.3E-3
AMS22	Janvier	21	100%	1.4E-4	2.1E-4	2.8E-4	3.3E-4	6.5E-4	1.1E-3	1.9E-3	5.2E-3	9E-3	1.1E-3	1.9E-3
AMS13	Fort McKay South	60	100%	5.6E-5	2.9E-4	6.6E-4	1E-3	2.3E-3	4.1E-3	9.1E-3	0.011	0.018	3.5E-3	3.7E-3
AMS15	Horizon	41	100%	1.5E-4	4.5E-4	7.5E-4	1.8E-3	4.6E-3	0.016	0.028	0.034	0.039	0.01	0.011
AMS30	Ells River	18	100%	2.3E-4	2.4E-4	2.5E-4	5.3E-4	9.3E-4	2.3E-3	2.9E-3	0.013	0.02	2.3E-3	4.5E-3



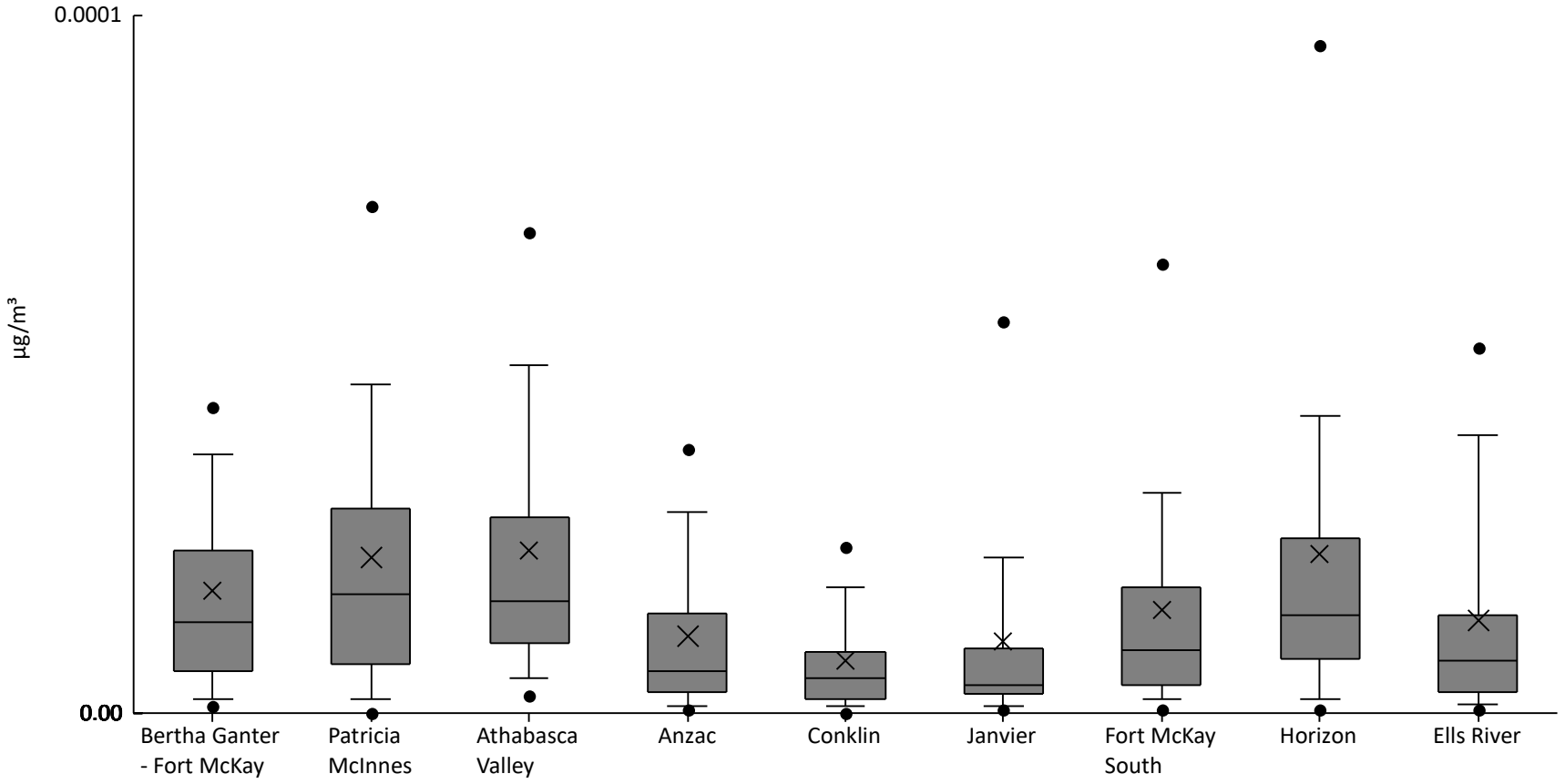
Particulate Matter <10µm Tested For Elements - Beryllium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	51%	0	0	2.2E-6	8E-6	1.4E-5	3.5E-5	4.4E-5	5.1E-5	7.2E-5	2E-5	1.7E-5
AMS06	Patricia McInnes	61	39%	0	0	0	5E-6	1.1E-5	1.8E-5	2.9E-5	4.9E-5	6.8E-5	1.4E-5	1.4E-5
AMS07	Athabasca Valley	61	39%	0	0	0	5E-6	9E-6	1.8E-5	3.2E-5	4E-5	1.1E-4	1.4E-5	1.6E-5
AMS14	Anzac	61	21%	0	0	6E-7	3E-6	7E-6	1.2E-5	2.2E-5	2.8E-5	7.9E-5	1E-5	1.3E-5
AMS21	Conklin	31	19%	0	0	1.2E-6	3E-6	7E-6	1.2E-5	2.8E-5	3.3E-5	3.4E-5	9.5E-6	9.3E-6
AMS22	Janvier	21	19%	0	0	1.2E-6	3.8E-6	7E-6	1.2E-5	1.6E-5	3.5E-5	5.8E-5	9.8E-6	1.2E-5
AMS13	Fort McKay South	60	45%	0	1E-6	4.5E-6	8E-6	1.3E-5	2.3E-5	3.6E-5	5.2E-5	8.6E-5	1.8E-5	1.6E-5
AMS15	Horizon	41	76%	0	2.1E-6	5.8E-6	1.4E-5	3.3E-5	6.8E-5	1.2E-4	1.4E-4	1.9E-4	5E-5	4.6E-5
AMS30	Ells River	18	44%	0	1.2E-6	3.6E-6	6E-6	1.3E-5	1.6E-5	2.5E-5	5.5E-5	7.3E-5	1.5E-5	1.6E-5



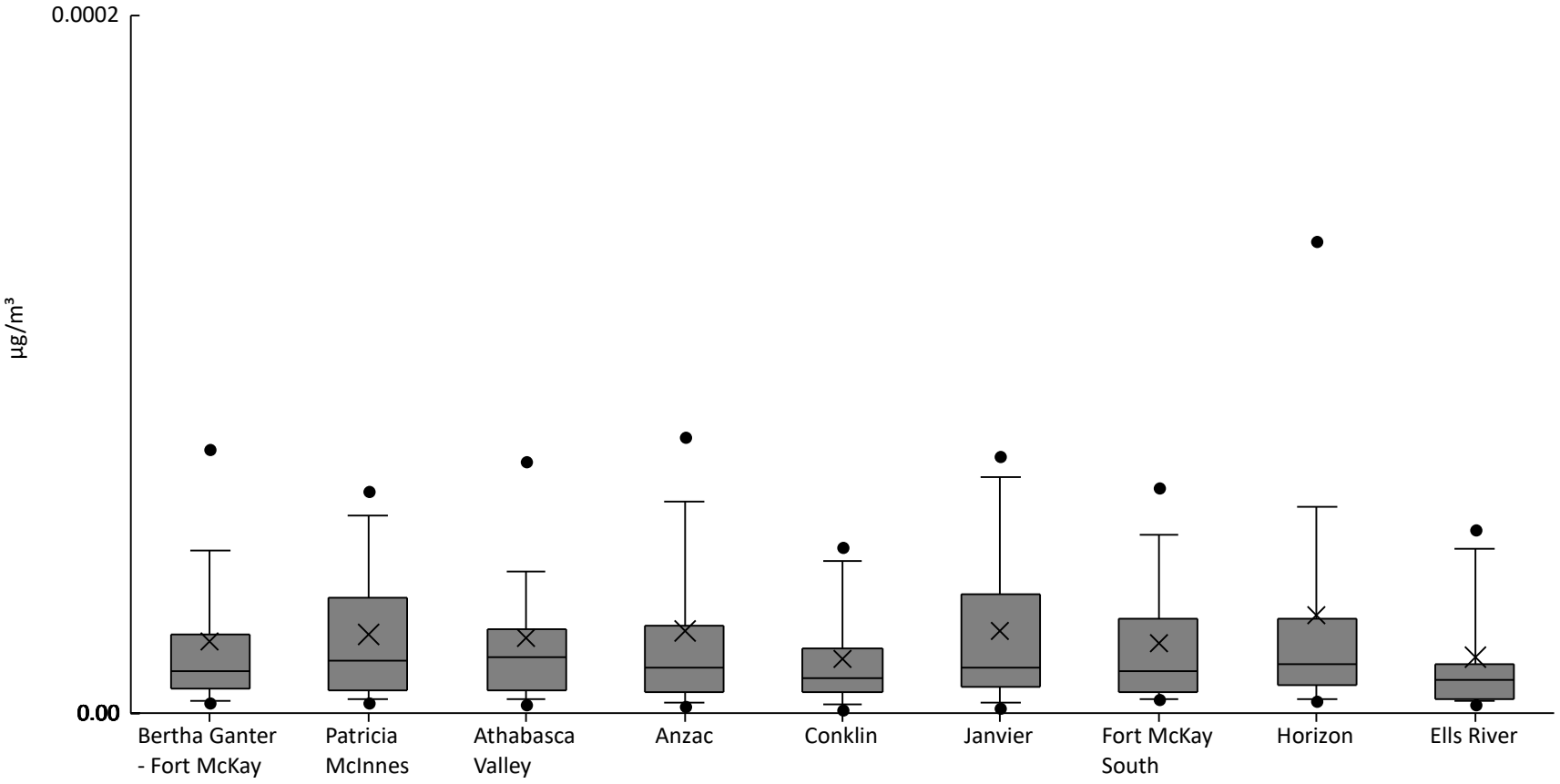
Particulate Matter <10µm Tested For Elements - Bismuth (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	82%	0	1E-6	2E-6	6E-6	1.3E-5	2.3E-5	3.7E-5	4.4E-5	1.2E-4	1.7E-5	1.9E-5
AMS06	Patricia McInnes	61	84%	0	0	2E-6	7E-6	1.7E-5	2.9E-5	4.7E-5	7.3E-5	9.8E-5	2.2E-5	2.1E-5
AMS07	Athabasca Valley	61	92%	1E-6	2.6E-6	5E-6	1E-5	1.6E-5	2.8E-5	5E-5	6.9E-5	1.2E-4	2.3E-5	2.3E-5
AMS14	Anzac	61	62%	0	5.5E-7	1E-6	3E-6	6E-6	1.4E-5	2.9E-5	3.8E-5	5.1E-5	1.1E-5	1.2E-5
AMS21	Conklin	31	52%	0	5E-8	1E-6	2E-6	5E-6	8.8E-6	1.8E-5	2.4E-5	3.9E-5	7.4E-6	8.4E-6
AMS22	Janvier	21	43%	0	5.5E-7	1E-6	2.8E-6	4E-6	9.3E-6	2.2E-5	5.6E-5	9.3E-5	1E-5	2E-5
AMS13	Fort McKay South	60	72%	0	5E-7	2E-6	4E-6	9E-6	1.8E-5	3.2E-5	6.5E-5	7.9E-5	1.5E-5	1.8E-5
AMS15	Horizon	41	83%	0	5.5E-7	2E-6	7.8E-6	1.4E-5	2.5E-5	4.3E-5	9.6E-5	1.5E-4	2.3E-5	3E-5
AMS30	Ells River	18	67%	0	4E-7	1.3E-6	3E-6	7.5E-6	1.4E-5	4E-5	5.2E-5	5.8E-5	1.3E-5	1.6E-5



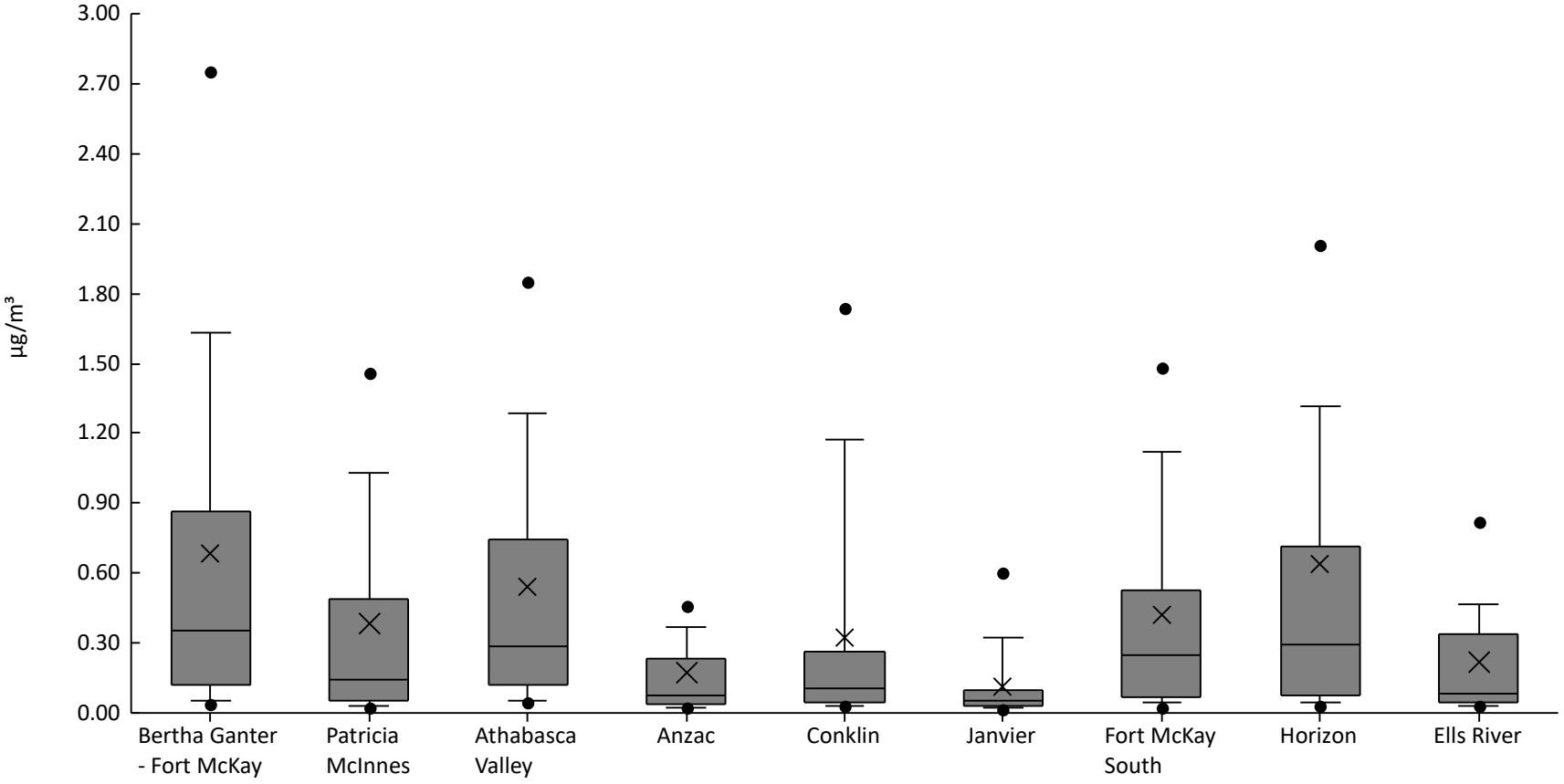
Particulate Matter <10µm Tested For Elements - Cadmium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	61%	0	3E-6	3.6E-6	7E-6	1.2E-5	2.3E-5	4.7E-5	7.6E-5	1.3E-4	2E-5	2.4E-5
AMS06	Patricia McInnes	61	62%	1E-6	3E-6	4E-6	6.8E-6	1.5E-5	3.3E-5	5.7E-5	6.4E-5	1E-4	2.3E-5	2.1E-5
AMS07	Athabasca Valley	61	66%	1E-6	2.6E-6	4E-6	6.8E-6	1.6E-5	2.4E-5	4.1E-5	7.2E-5	1.2E-4	2.1E-5	2.3E-5
AMS14	Anzac	61	64%	2E-6	2E-6	3E-6	6E-6	1.3E-5	2.5E-5	6.1E-5	7.9E-5	2.3E-4	2.3E-5	3.4E-5
AMS21	Conklin	31	48%	0	1.1E-6	2.6E-6	6E-6	1E-5	1.9E-5	4.3E-5	4.8E-5	5E-5	1.5E-5	1.4E-5
AMS22	Janvier	21	57%	1E-6	1.6E-6	3.2E-6	7.5E-6	1.3E-5	3.4E-5	6.8E-5	7.4E-5	7.5E-5	2.3E-5	2.3E-5
AMS13	Fort McKay South	60	55%	0	4E-6	4E-6	6E-6	1.2E-5	2.7E-5	5.1E-5	6.5E-5	1.2E-4	2E-5	2.1E-5
AMS15	Horizon	41	66%	0	3.6E-6	4E-6	8E-6	1.4E-5	2.7E-5	5.9E-5	1.4E-4	2.2E-4	2.8E-5	4.6E-5
AMS30	Ells River	18	44%	2E-6	2.4E-6	3.3E-6	4E-6	9.5E-6	1.4E-5	4.7E-5	5.2E-5	5.4E-5	1.6E-5	1.7E-5



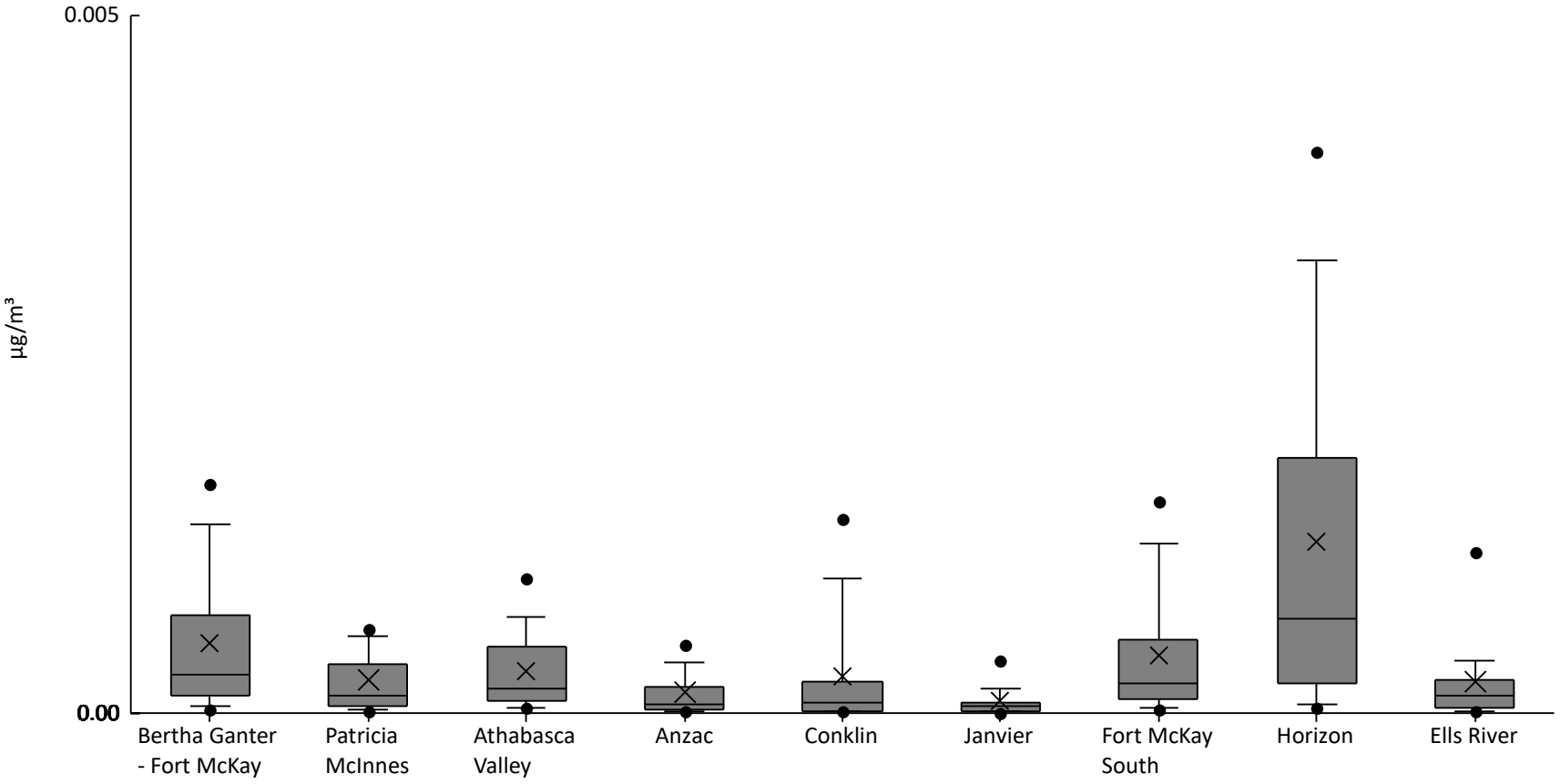
Particulate Matter <10µm Tested For Elements - Calcium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.022	0.035	0.052	0.12	0.35	0.87	1.6	2.7	4.6	0.68	0.88
AMS06	Patricia McInnes	61	100%	0.02	0.022	0.031	0.055	0.14	0.49	1	1.5	2.7	0.39	0.56
AMS07	Athabasca Valley	61	100%	0.04	0.043	0.05	0.12	0.28	0.74	1.3	1.8	4.7	0.54	0.73
AMS14	Anzac	61	98%	0.013	0.02	0.025	0.04	0.073	0.23	0.37	0.46	1.8	0.17	0.26
AMS21	Conklin	31	100%	0.022	0.027	0.029	0.042	0.11	0.26	1.2	1.7	2.1	0.32	0.53
AMS22	Janvier	21	100%	0.016	0.017	0.021	0.029	0.055	0.097	0.33	0.6	0.72	0.12	0.18
AMS13	Fort McKay South	60	100%	0.013	0.026	0.043	0.065	0.25	0.52	1.1	1.5	2.7	0.42	0.52
AMS15	Horizon	41	100%	0.016	0.033	0.044	0.075	0.29	0.72	1.3	2	7.8	0.64	1.3
AMS30	Ells River	18	100%	0.025	0.027	0.03	0.045	0.086	0.34	0.47	0.82	1	0.22	0.26



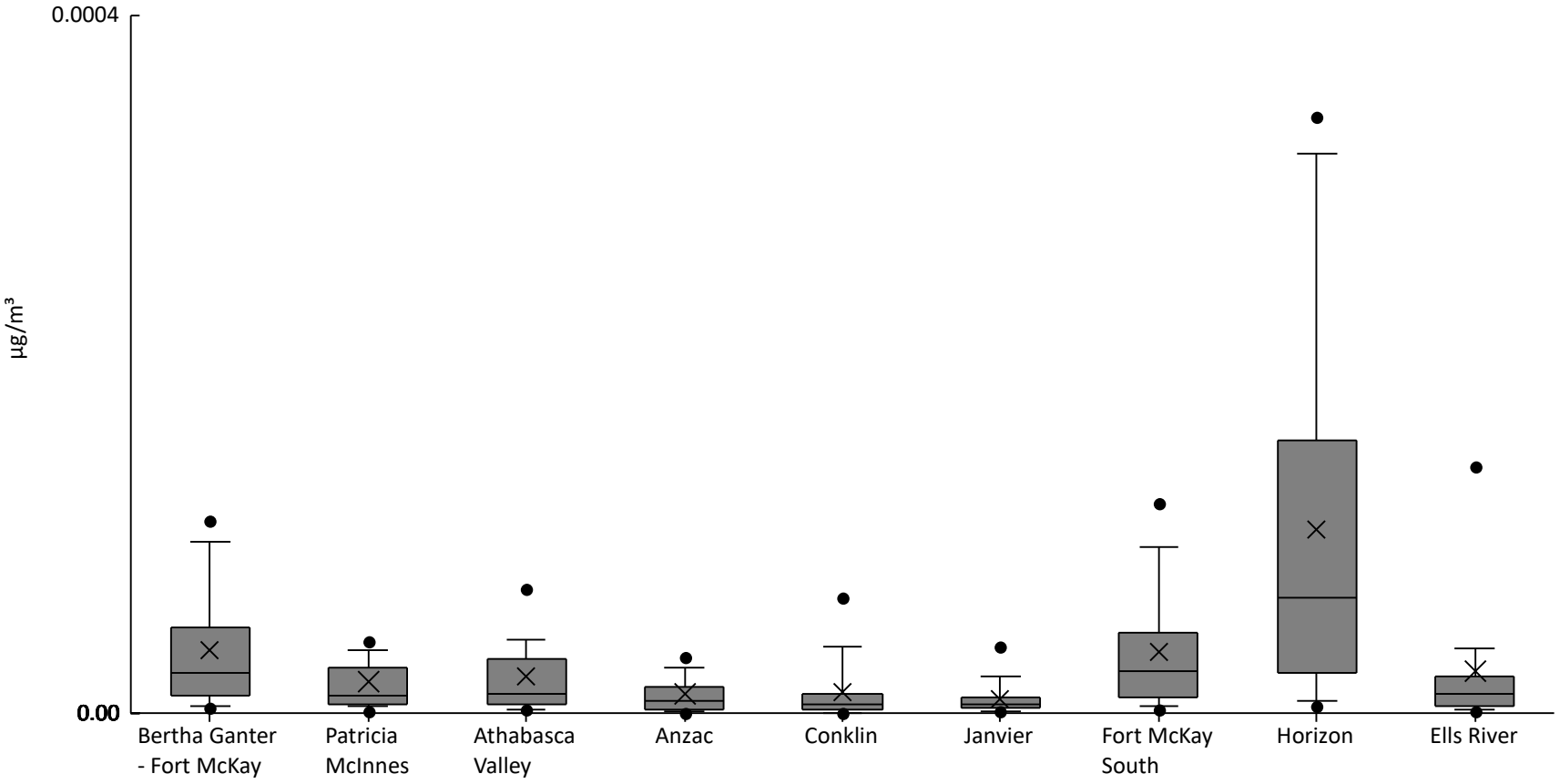
Particulate Matter <10µm Tested For Elements - Cerium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.5E-5	3E-5	5.2E-5	1.2E-4	2.8E-4	7E-4	1.4E-3	1.6E-3	2.7E-3	5E-4	5.6E-4
AMS06	Patricia McInnes	61	97%	6E-6	1.8E-5	2.7E-5	5.3E-5	1.3E-4	3.5E-4	5.5E-4	6E-4	1.9E-3	2.4E-4	3.1E-4
AMS07	Athabasca Valley	61	100%	2.1E-5	3.2E-5	4.2E-5	8.2E-5	1.7E-4	4.8E-4	6.9E-4	9.7E-4	1.7E-3	3E-4	3.3E-4
AMS14	Anzac	61	84%	5E-6	6.6E-6	9E-6	2.3E-5	6.7E-5	1.9E-4	3.6E-4	4.9E-4	2E-3	1.5E-4	2.8E-4
AMS21	Conklin	31	77%	6E-6	8.1E-6	9E-6	1.9E-5	7.5E-5	2.3E-4	9.6E-4	1.4E-3	1.9E-3	2.6E-4	4.6E-4
AMS22	Janvier	21	81%	4E-6	5.7E-6	9.4E-6	1.6E-5	4.9E-5	7.7E-5	1.8E-4	3.8E-4	6.2E-4	8.3E-5	1.3E-4
AMS13	Fort McKay South	60	97%	4E-6	2.1E-5	4E-5	9.6E-5	2.1E-4	5.3E-4	1.2E-3	1.5E-3	1.9E-3	4.1E-4	4.7E-4
AMS15	Horizon	41	98%	1.2E-5	3.4E-5	6.8E-5	2.1E-4	6.7E-4	1.8E-3	3.2E-3	4E-3	4.8E-3	1.2E-3	1.3E-3
AMS30	Ells River	18	89%	9E-6	9.8E-6	1.2E-5	4.2E-5	1.2E-4	2.4E-4	3.8E-4	1.2E-3	1.7E-3	2.2E-4	3.8E-4



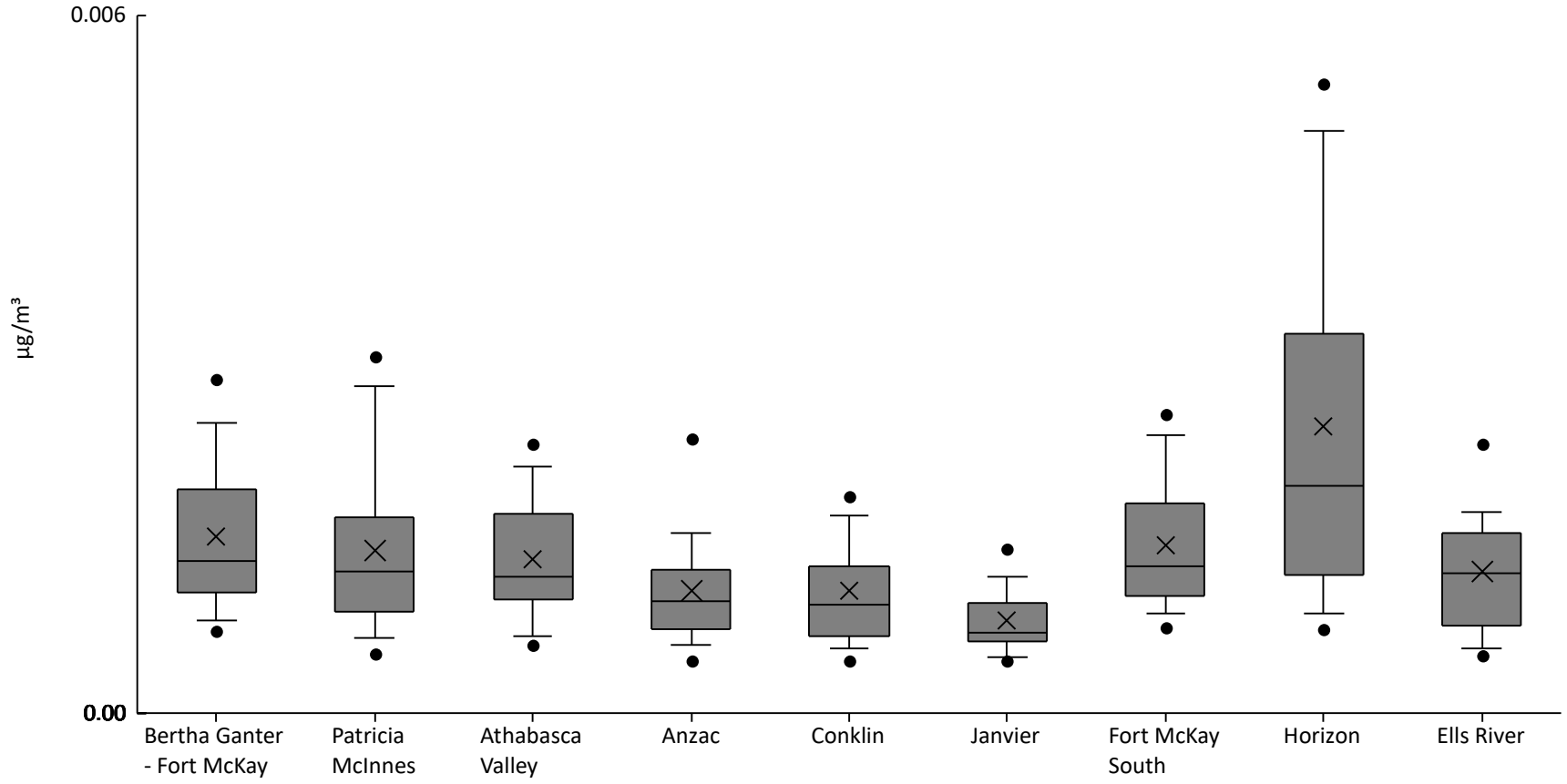
Particulate Matter <10µm Tested For Elements - Cesium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	92%	0	3E-6	4E-6	1E-5	2.3E-5	5E-5	9.8E-5	1.1E-4	2E-4	3.6E-5	3.8E-5
AMS06	Patricia McInnes	61	90%	0	1E-6	3.6E-6	4.8E-6	1E-5	2.6E-5	3.6E-5	4.1E-5	1.3E-4	1.8E-5	2.2E-5
AMS07	Athabasca Valley	61	80%	0	1.6E-6	2E-6	4.8E-6	1.1E-5	3.1E-5	4.2E-5	7.1E-5	1.6E-4	2.1E-5	2.7E-5
AMS14	Anzac	61	59%	0	0	1E-6	2E-6	7E-6	1.5E-5	2.6E-5	3.2E-5	1.1E-4	1.1E-5	1.6E-5
AMS21	Conklin	31	65%	0	0	0	2.3E-6	5E-6	1.1E-5	3.8E-5	6.6E-5	6.8E-5	1.2E-5	1.8E-5
AMS22	Janvier	21	67%	0	5.5E-7	1E-6	3E-6	5E-6	9.3E-6	2.1E-5	3.8E-5	3.9E-5	8.2E-6	1E-5
AMS13	Fort McKay South	60	92%	0	2.5E-6	4.5E-6	9E-6	2.4E-5	4.6E-5	9.6E-5	1.2E-4	1.8E-4	3.5E-5	3.9E-5
AMS15	Horizon	41	95%	0	3.7E-6	7.2E-6	2.3E-5	6.6E-5	1.6E-4	3.2E-4	3.4E-4	3.6E-4	1.1E-4	1.1E-4
AMS30	Ells River	18	78%	1E-6	1.4E-6	2.3E-6	4E-6	1.1E-5	2.1E-5	3.8E-5	1.4E-4	2.1E-4	2.4E-5	4.7E-5



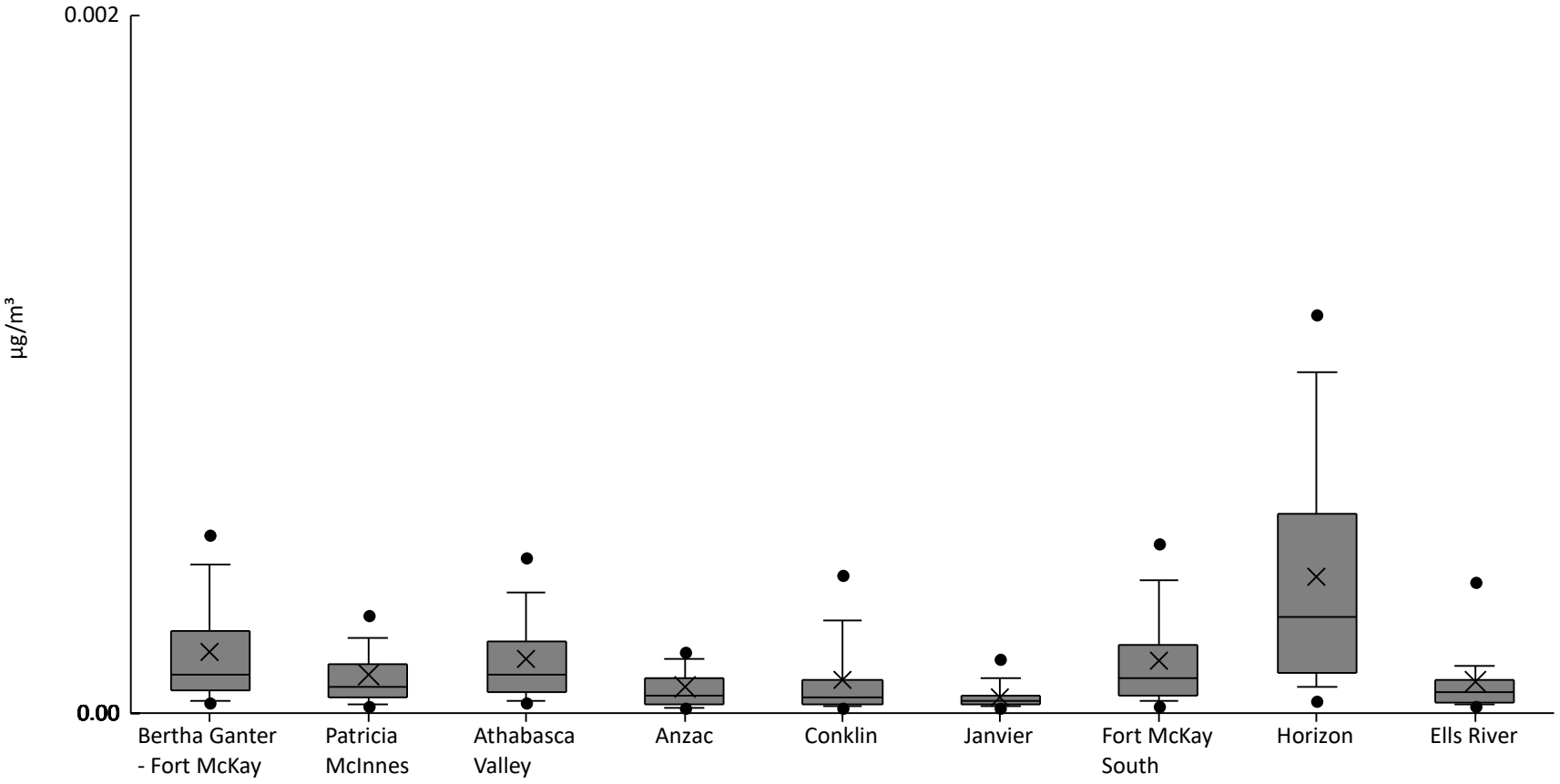
Particulate Matter <10µm Tested For Elements - Chromium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	6.1E-4	7.1E-4	8E-4	1E-3	1.3E-3	1.9E-3	2.5E-3	2.9E-3	3.3E-3	1.5E-3	6.6E-4
AMS06	Patricia McInnes	61	100%	3.9E-4	5.2E-4	6.4E-4	8.8E-4	1.2E-3	1.7E-3	2.8E-3	3.1E-3	3.3E-3	1.4E-3	7.4E-4
AMS07	Athabasca Valley	61	100%	5.2E-4	5.9E-4	6.5E-4	9.7E-4	1.2E-3	1.7E-3	2.1E-3	2.3E-3	3.2E-3	1.3E-3	5.6E-4
AMS14	Anzac	61	100%	4.2E-4	4.6E-4	5.8E-4	7.3E-4	9.6E-4	1.2E-3	1.5E-3	2.4E-3	3E-3	1.1E-3	5.4E-4
AMS21	Conklin	31	100%	4.4E-4	4.5E-4	5.6E-4	6.6E-4	9.4E-4	1.3E-3	1.7E-3	1.9E-3	3.1E-3	1E-3	5.4E-4
AMS22	Janvier	21	100%	4.3E-4	4.5E-4	4.9E-4	6.1E-4	7E-4	9.5E-4	1.2E-3	1.4E-3	1.5E-3	8E-4	2.8E-4
AMS13	Fort McKay South	60	100%	6.3E-4	7.4E-4	8.6E-4	1E-3	1.3E-3	1.8E-3	2.4E-3	2.6E-3	2.8E-3	1.4E-3	5.6E-4
AMS15	Horizon	41	100%	5.4E-4	7.2E-4	8.5E-4	1.2E-3	2E-3	3.3E-3	5E-3	5.4E-3	6.2E-3	2.5E-3	1.5E-3
AMS30	Ells River	18	100%	4.7E-4	5E-4	5.6E-4	7.5E-4	1.2E-3	1.6E-3	1.7E-3	2.3E-3	2.7E-3	1.2E-3	5.5E-4



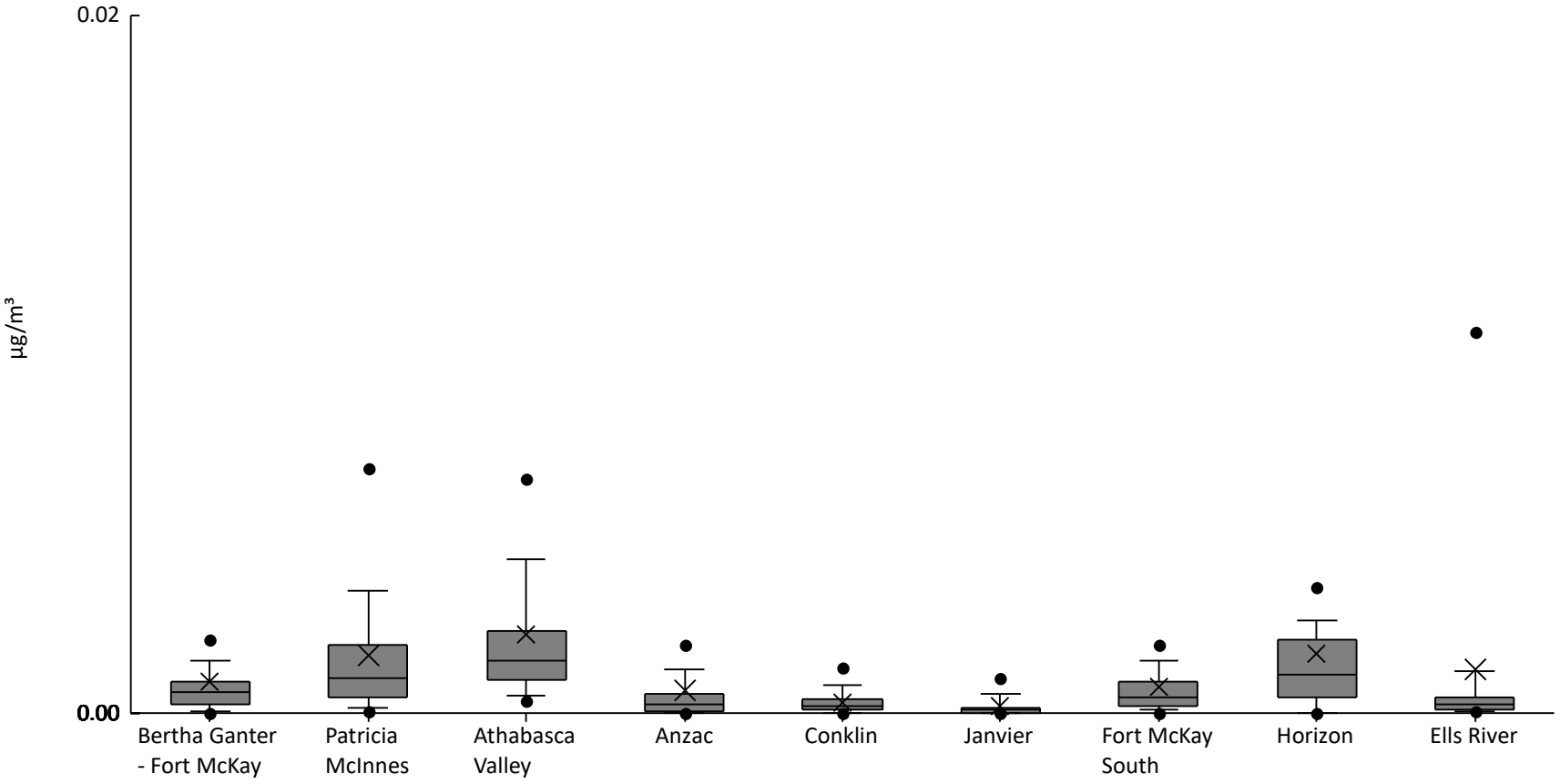
Particulate Matter <10µm Tested For Elements - Cobalt (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.5E-5	3E-5	3.6E-5	6.4E-5	1.1E-4	2.3E-4	4.3E-4	5.1E-4	7.3E-4	1.8E-4	1.6E-4
AMS06	Patricia McInnes	61	100%	1.9E-5	2.2E-5	2.7E-5	4.4E-5	7.3E-5	1.4E-4	2.1E-4	2.8E-4	6.2E-4	1.1E-4	1.1E-4
AMS07	Athabasca Valley	61	100%	1.8E-5	3E-5	3.4E-5	5.9E-5	1.1E-4	2E-4	3.5E-4	4.4E-4	6.6E-4	1.5E-4	1.3E-4
AMS14	Anzac	61	100%	1.1E-5	1.5E-5	1.7E-5	2.6E-5	4.8E-5	1E-4	1.6E-4	1.8E-4	5.8E-4	7.5E-5	8.2E-5
AMS21	Conklin	31	100%	1.1E-5	1.7E-5	1.9E-5	2.6E-5	4.3E-5	9.6E-5	2.6E-4	4E-4	5.9E-4	9.5E-5	1.3E-4
AMS22	Janvier	21	100%	9E-6	1.4E-5	1.8E-5	2.4E-5	3.3E-5	5.1E-5	9.9E-5	1.6E-4	2E-4	4.8E-5	4.4E-5
AMS13	Fort McKay South	60	100%	1.5E-5	2.2E-5	3.6E-5	5.1E-5	1E-4	1.9E-4	3.8E-4	4.9E-4	5.7E-4	1.5E-4	1.4E-4
AMS15	Horizon	41	100%	1.9E-5	3.3E-5	7.3E-5	1.2E-4	2.7E-4	5.7E-4	9.8E-4	1.1E-3	1.5E-3	3.9E-4	3.6E-4
AMS30	Ells River	18	100%	1.4E-5	1.8E-5	2.4E-5	2.8E-5	5.9E-5	9.7E-5	1.4E-4	3.7E-4	5.3E-4	8.9E-5	1.2E-4



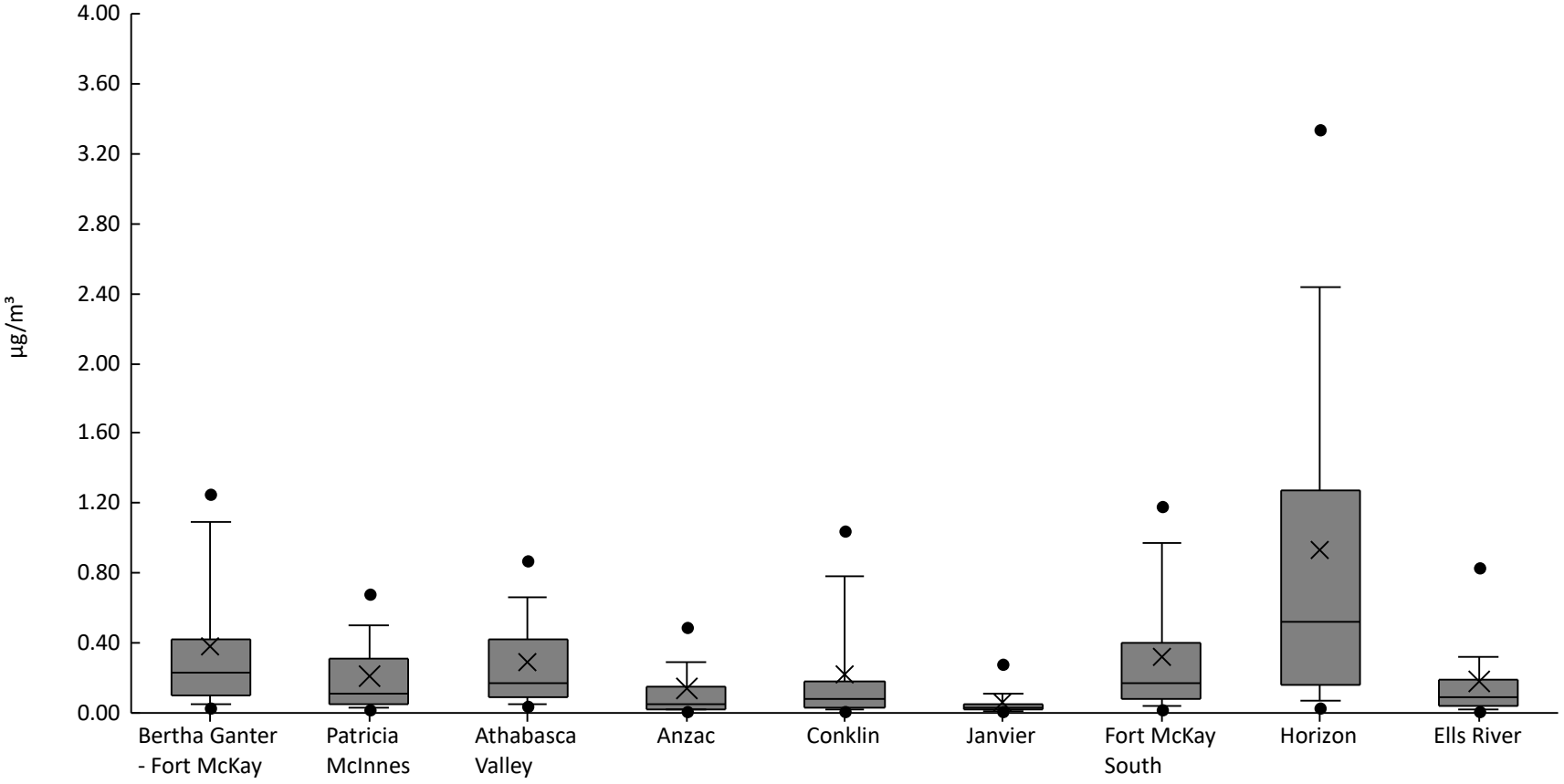
Particulate Matter <10µm Tested For Elements - Copper (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	93%	0	0	7E-5	2.7E-4	5.9E-4	9.1E-4	1.5E-3	2.1E-3	0.013	8.9E-4	1.7E-3
AMS06	Patricia McInnes	61	98%	2.2E-5	6.1E-5	1.5E-4	4.6E-4	9.8E-4	2E-3	3.5E-3	7E-3	0.01	1.7E-3	2.2E-3
AMS07	Athabasca Valley	61	100%	2.4E-4	3.7E-4	5E-4	9.4E-4	1.5E-3	2.3E-3	4.4E-3	6.7E-3	0.018	2.3E-3	2.7E-3
AMS14	Anzac	61	84%	0	0	1.6E-5	7.3E-5	2.6E-4	5.3E-4	1.2E-3	1.9E-3	9.2E-3	6.3E-4	1.5E-3
AMS21	Conklin	31	84%	0	0	5.4E-6	1.1E-4	1.8E-4	4E-4	8.3E-4	1.3E-3	1.9E-3	3.2E-4	4.1E-4
AMS22	Janvier	21	67%	0	0	6E-7	2E-5	8.5E-5	1.4E-4	5.6E-4	1E-3	1.3E-3	1.8E-4	3.1E-4
AMS13	Fort McKay South	60	93%	0	0	8.5E-5	2.2E-4	4.7E-4	8.9E-4	1.5E-3	1.9E-3	6.7E-3	7.5E-4	1E-3
AMS15	Horizon	41	90%	0	0	2.3E-5	4.7E-4	1.1E-3	2.1E-3	2.7E-3	3.6E-3	0.02	1.7E-3	3.1E-3
AMS30	Ells River	18	94%	1.9E-5	2.9E-5	5E-5	1.2E-4	2.6E-4	4.5E-4	1.2E-3	0.011	0.017	1.3E-3	4E-3



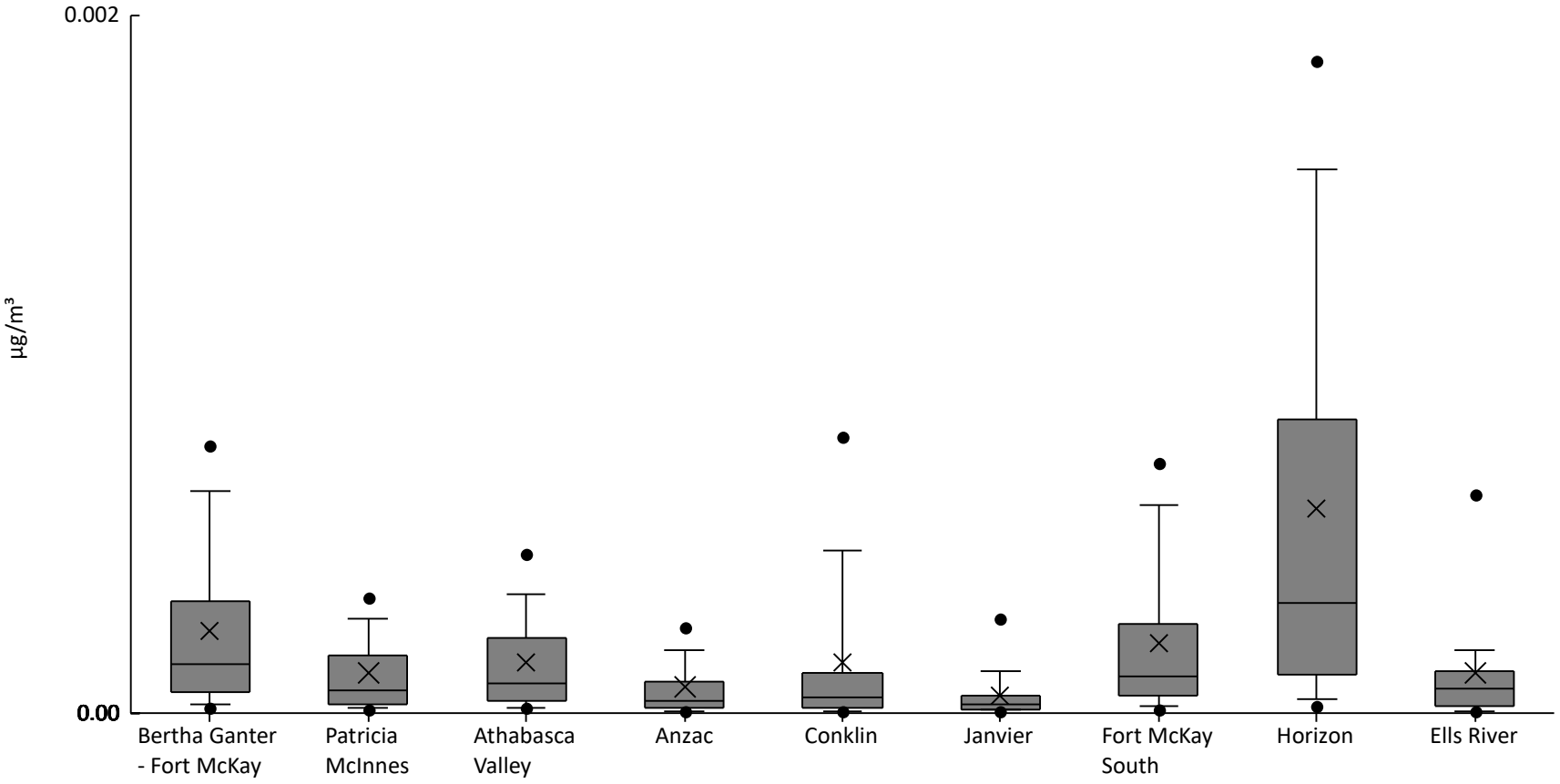
Particulate Matter <10µm Tested For Elements - Iron (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.013	0.027	0.046	0.096	0.23	0.42	1.1	1.2	2.1	0.38	0.43
AMS06	Patricia McInnes	61	100%	9.1E-3	0.022	0.028	0.053	0.11	0.32	0.5	0.69	1.3	0.21	0.24
AMS07	Athabasca Valley	61	100%	0.022	0.041	0.045	0.089	0.17	0.42	0.66	0.87	1.1	0.29	0.27
AMS14	Anzac	61	100%	9.6E-3	0.012	0.015	0.022	0.055	0.15	0.29	0.49	1.8	0.14	0.26
AMS21	Conklin	31	100%	7E-3	0.012	0.016	0.025	0.08	0.18	0.78	1	1.6	0.22	0.37
AMS22	Janvier	21	100%	7.8E-3	9.2E-3	0.011	0.017	0.031	0.052	0.11	0.28	0.46	0.059	0.098
AMS13	Fort McKay South	60	100%	0.011	0.02	0.04	0.082	0.17	0.4	0.97	1.2	1.5	0.32	0.36
AMS15	Horizon	41	100%	0.016	0.029	0.068	0.16	0.52	1.3	2.4	3.3	4.8	0.93	1.1
AMS30	Ells River	18	100%	0.014	0.014	0.017	0.036	0.091	0.19	0.32	0.83	1.2	0.18	0.27



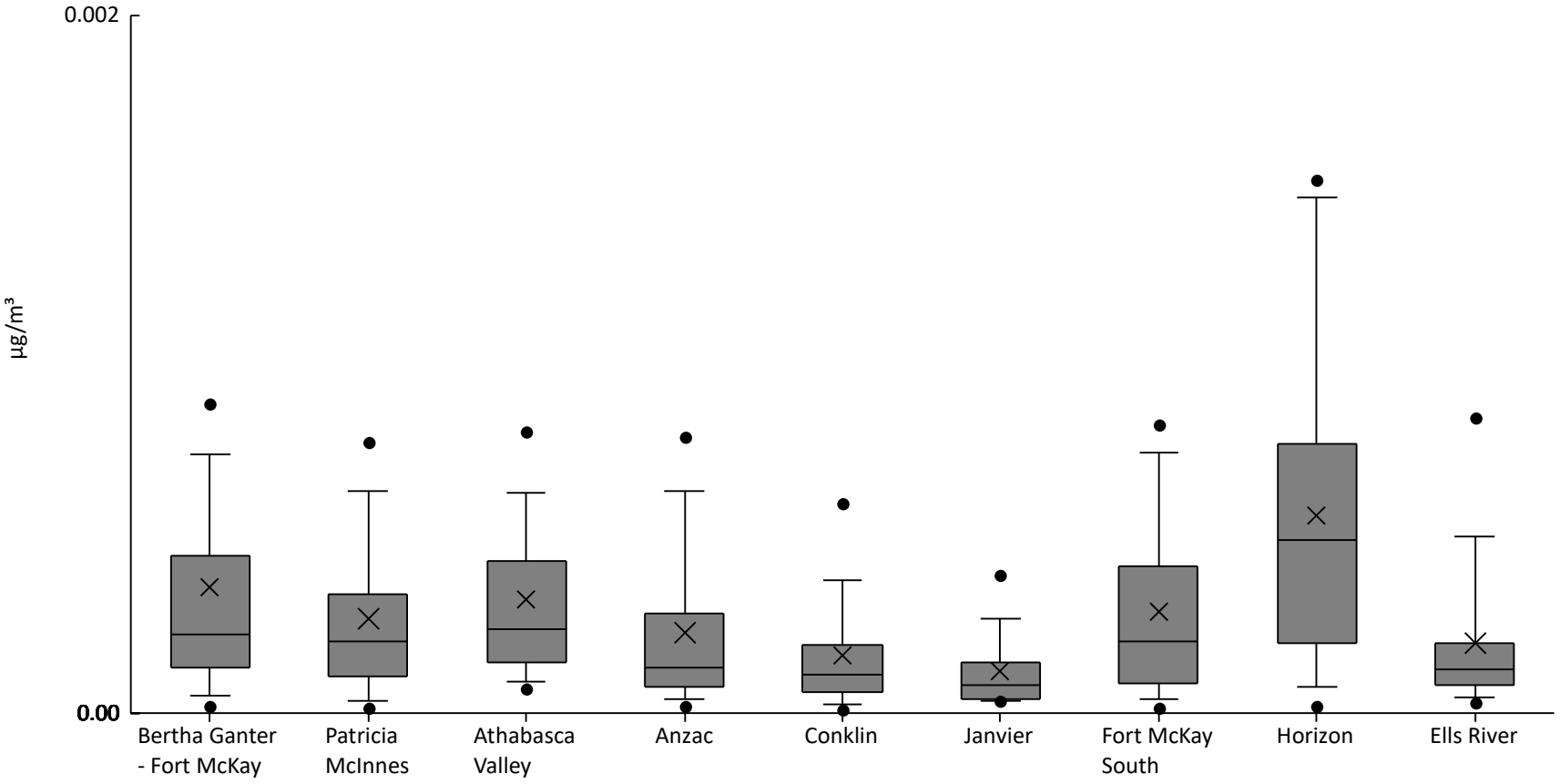
Particulate Matter <10µm Tested For Elements - Lanthanum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	7E-6	1.5E-5	2.4E-5	5.9E-5	1.4E-4	3.2E-4	6.3E-4	7.7E-4	1.3E-3	2.4E-4	2.6E-4
AMS06	Patricia McInnes	61	98%	3E-6	1E-5	1.3E-5	2.7E-5	6.3E-5	1.6E-4	2.7E-4	3.3E-4	8.5E-4	1.2E-4	1.5E-4
AMS07	Athabasca Valley	61	100%	8E-6	1.6E-5	1.7E-5	3.5E-5	8.5E-5	2.2E-4	3.4E-4	4.6E-4	8E-4	1.4E-4	1.6E-4
AMS14	Anzac	61	98%	1E-6	4.6E-6	7E-6	1.3E-5	3.7E-5	9.1E-5	1.8E-4	2.5E-4	1E-3	7.5E-5	1.4E-4
AMS21	Conklin	31	97%	3E-6	4E-6	5.2E-6	1.6E-5	4.4E-5	1.2E-4	4.7E-4	7.9E-4	9.6E-4	1.4E-4	2.4E-4
AMS22	Janvier	21	95%	2E-6	4.2E-6	7.8E-6	1E-5	2.4E-5	5.2E-5	1.2E-4	2.7E-4	3.9E-4	5.2E-5	8.6E-5
AMS13	Fort McKay South	60	98%	0	1.2E-5	2.1E-5	4.8E-5	1E-4	2.6E-4	5.9E-4	7.2E-4	9.7E-4	2E-4	2.2E-4
AMS15	Horizon	41	98%	3E-6	2E-5	3.9E-5	1.1E-4	3.2E-4	8.4E-4	1.6E-3	1.9E-3	2.2E-3	5.9E-4	6.1E-4
AMS30	Ells River	18	100%	4E-6	4.4E-6	5.9E-6	2E-5	7.2E-5	1.2E-4	1.8E-4	6.3E-4	9.2E-4	1.2E-4	2.1E-4



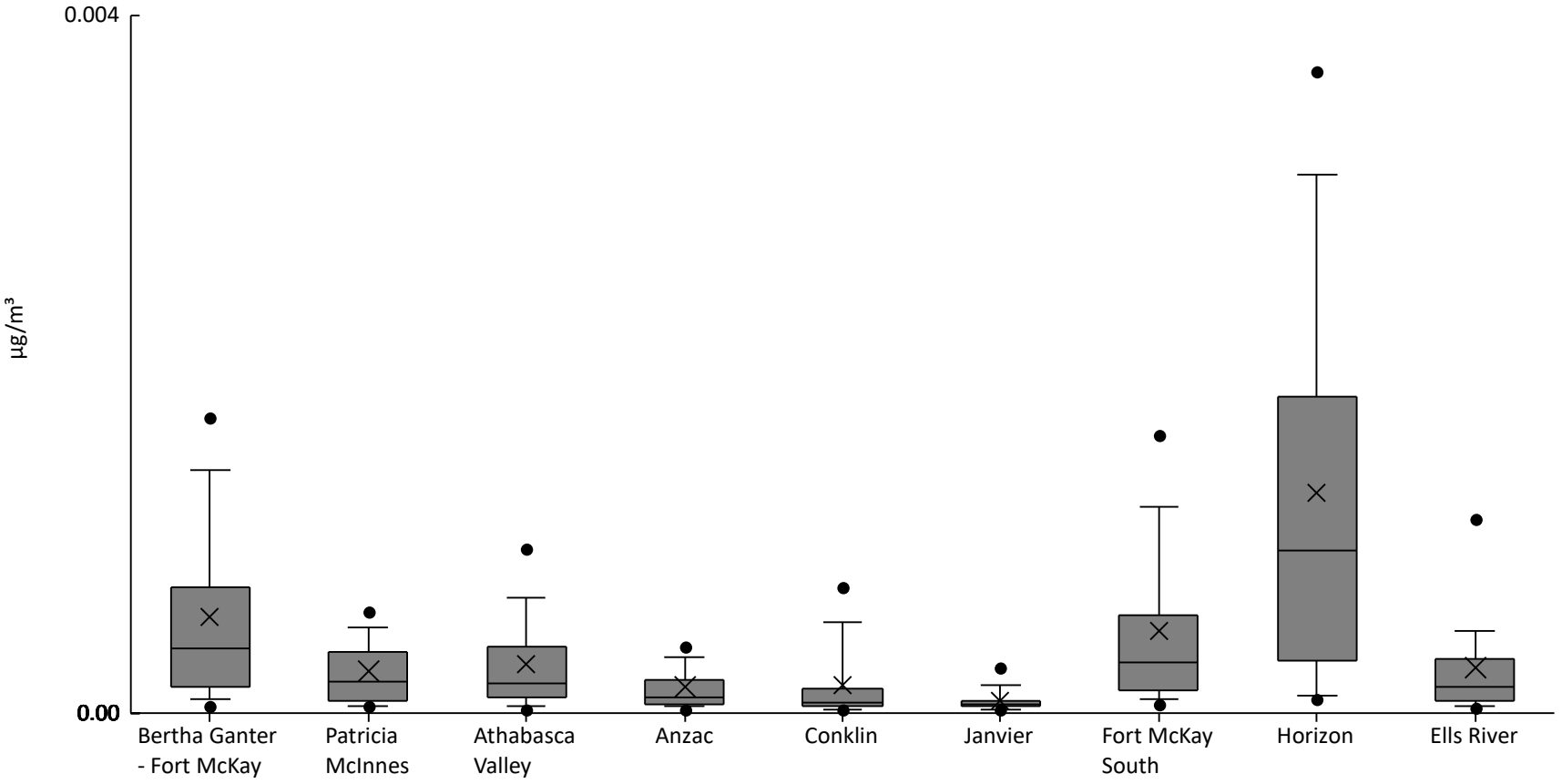
Particulate Matter <10µm Tested For Elements - Lead (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	95%	0	1.8E-5	5.2E-5	1.3E-4	2.3E-4	4.5E-4	7.4E-4	8.9E-4	3E-3	3.6E-4	4.4E-4
AMS06	Patricia McInnes	61	95%	3E-6	1.5E-5	3.6E-5	1E-4	2.1E-4	3.4E-4	6.3E-4	7.8E-4	9.7E-4	2.7E-4	2.4E-4
AMS07	Athabasca Valley	61	100%	4.7E-5	7E-5	8.8E-5	1.4E-4	2.4E-4	4.4E-4	6.3E-4	8.1E-4	1.5E-3	3.3E-4	2.7E-4
AMS14	Anzac	61	97%	2E-6	2.1E-5	4.2E-5	7.7E-5	1.3E-4	2.9E-4	6.4E-4	7.9E-4	1.1E-3	2.3E-4	2.5E-4
AMS21	Conklin	31	94%	0	1.1E-5	2.4E-5	6.2E-5	1.1E-4	1.9E-4	3.8E-4	6E-4	8.2E-4	1.6E-4	1.8E-4
AMS22	Janvier	21	100%	3.4E-5	3.5E-5	3.7E-5	4.2E-5	8.2E-5	1.4E-4	2.7E-4	4E-4	5E-4	1.2E-4	1.1E-4
AMS13	Fort McKay South	60	95%	0	1.8E-5	4E-5	8.6E-5	2E-4	4.2E-4	7.4E-4	8.3E-4	1.1E-3	2.9E-4	2.7E-4
AMS15	Horizon	41	98%	3E-6	2.2E-5	7.5E-5	2E-4	4.9E-4	7.7E-4	1.5E-3	1.5E-3	1.7E-3	5.7E-4	4.7E-4
AMS30	Ells River	18	100%	2.6E-5	3.2E-5	4.6E-5	7.8E-5	1.2E-4	2E-4	5.1E-4	8.4E-4	1E-3	2E-4	2.4E-4



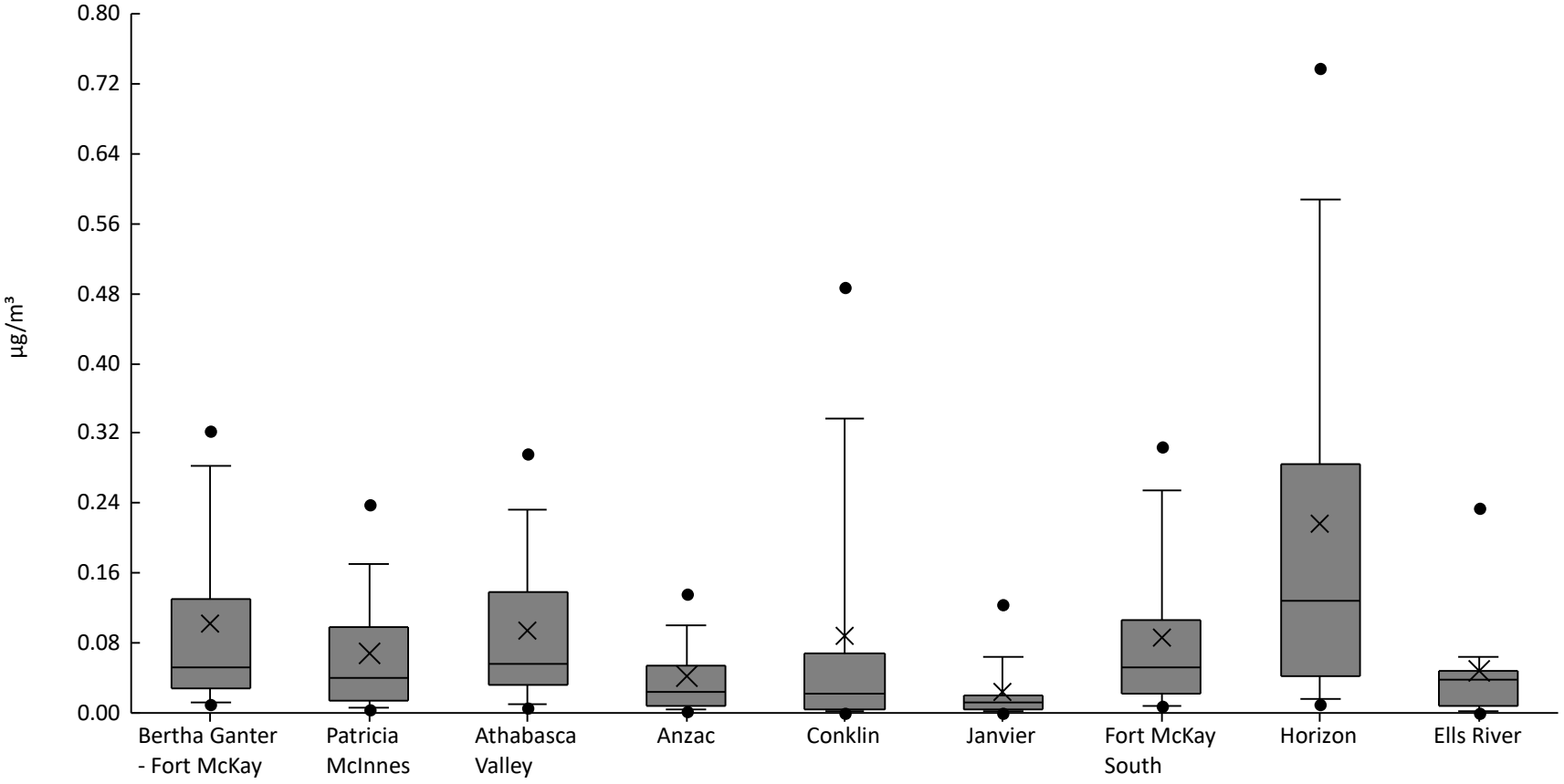
Particulate Matter <10µm Tested For Elements - Lithium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1.7E-5	4.3E-5	7.7E-5	1.5E-4	3.7E-4	7.2E-4	1.4E-3	1.7E-3	2.2E-3	5.5E-4	5.5E-4
AMS06	Patricia McInnes	61	98%	2E-6	3.6E-5	4.4E-5	7.1E-5	1.8E-4	3.5E-4	4.9E-4	5.8E-4	1.5E-3	2.4E-4	2.6E-4
AMS07	Athabasca Valley	61	100%	1.7E-5	2.2E-5	4.5E-5	8.6E-5	1.7E-4	3.8E-4	6.6E-4	9.4E-4	1.7E-3	2.8E-4	3E-4
AMS14	Anzac	61	97%	2E-6	2.2E-5	3.5E-5	5.1E-5	8.8E-5	1.9E-4	3.2E-4	3.8E-4	1.2E-3	1.5E-4	1.8E-4
AMS21	Conklin	31	94%	6E-6	1.6E-5	2E-5	3.7E-5	5.9E-5	1.4E-4	5.2E-4	7.3E-4	9E-4	1.6E-4	2.3E-4
AMS22	Janvier	21	95%	1.2E-5	1.5E-5	2.3E-5	3.6E-5	4.7E-5	7.4E-5	1.6E-4	2.6E-4	3.6E-4	7.4E-5	7.8E-5
AMS13	Fort McKay South	60	100%	3.5E-5	5.3E-5	7.9E-5	1.3E-4	2.9E-4	5.6E-4	1.2E-3	1.6E-3	2E-3	4.7E-4	4.7E-4
AMS15	Horizon	41	100%	5.8E-5	8.4E-5	1E-4	3E-4	9.3E-4	1.8E-3	3.1E-3	3.7E-3	4.6E-3	1.3E-3	1.2E-3
AMS30	Ells River	18	100%	2.9E-5	3.3E-5	4E-5	6.6E-5	1.6E-4	3.1E-4	4.7E-4	1.1E-3	1.5E-3	2.6E-4	3.4E-4



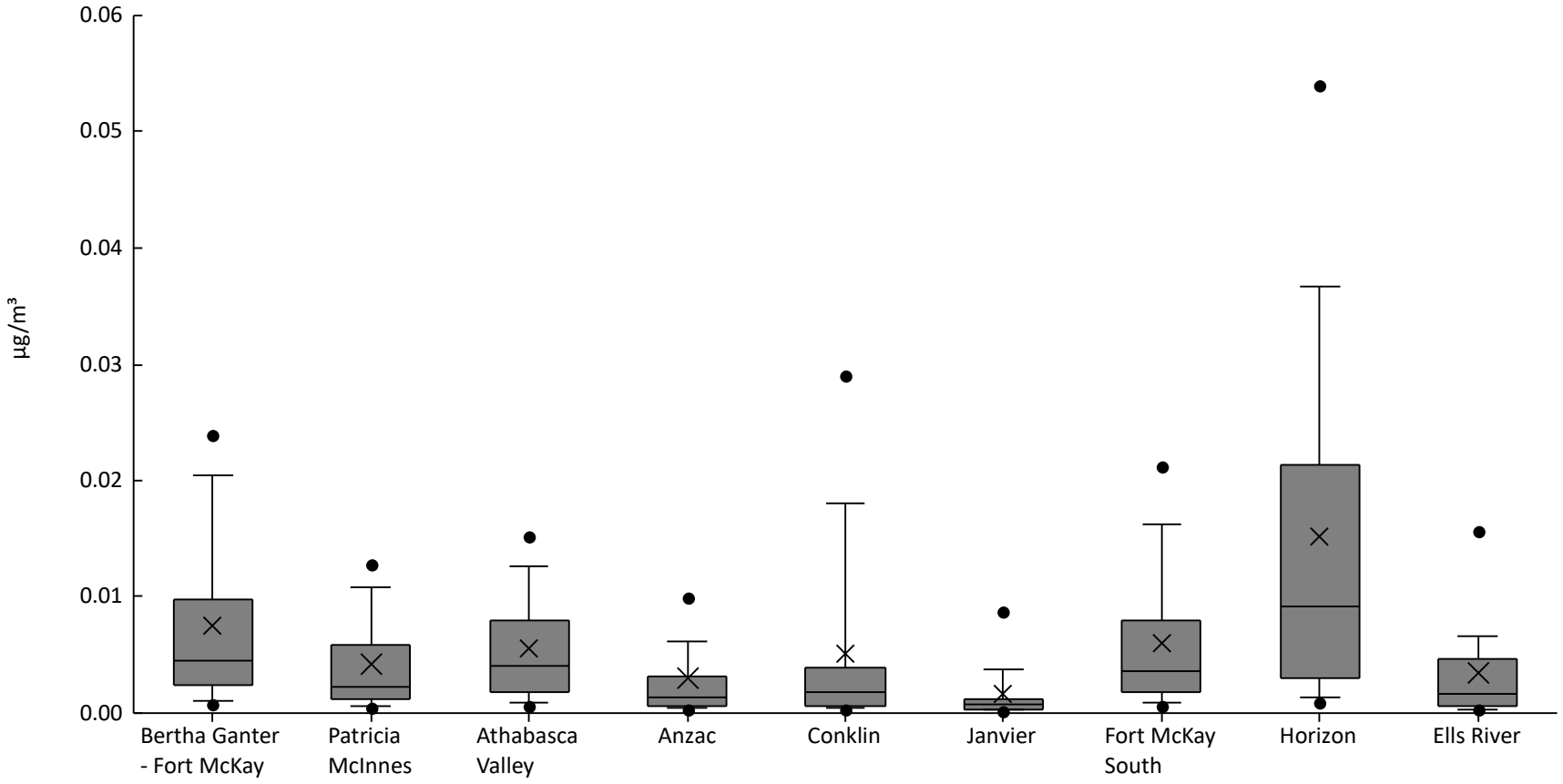
Particulate Matter <10µm Tested For Elements - Magnesium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	3.1E-3	1E-2	0.012	0.029	0.053	0.13	0.28	0.32	0.53	0.1	0.11
AMS06	Patricia McInnes	61	100%	1E-3	4.2E-3	6.6E-3	0.014	0.04	0.099	0.17	0.24	0.43	0.069	0.08
AMS07	Athabasca Valley	61	100%	2.5E-3	6.9E-3	9.9E-3	0.033	0.055	0.14	0.23	0.3	0.33	0.093	0.087
AMS14	Anzac	61	98%	0	2.3E-3	4E-3	8.7E-3	0.024	0.053	0.1	0.14	0.45	0.043	0.065
AMS21	Conklin	31	94%	0	9.2E-5	2.1E-3	4.7E-3	0.023	0.068	0.34	0.49	0.6	0.087	0.15
AMS22	Janvier	21	95%	0	1.9E-4	1E-3	4.1E-3	0.013	0.02	0.064	0.12	0.19	0.024	0.042
AMS13	Fort McKay South	60	100%	2.5E-3	7.1E-3	9E-3	0.022	0.052	0.11	0.25	0.3	0.36	0.086	0.094
AMS15	Horizon	41	100%	9.2E-3	0.011	0.016	0.041	0.13	0.28	0.59	0.74	0.86	0.22	0.23
AMS30	Ells River	18	94%	1.6E-4	9.3E-4	2.5E-3	7.6E-3	0.039	0.047	0.065	0.23	0.35	0.048	0.077



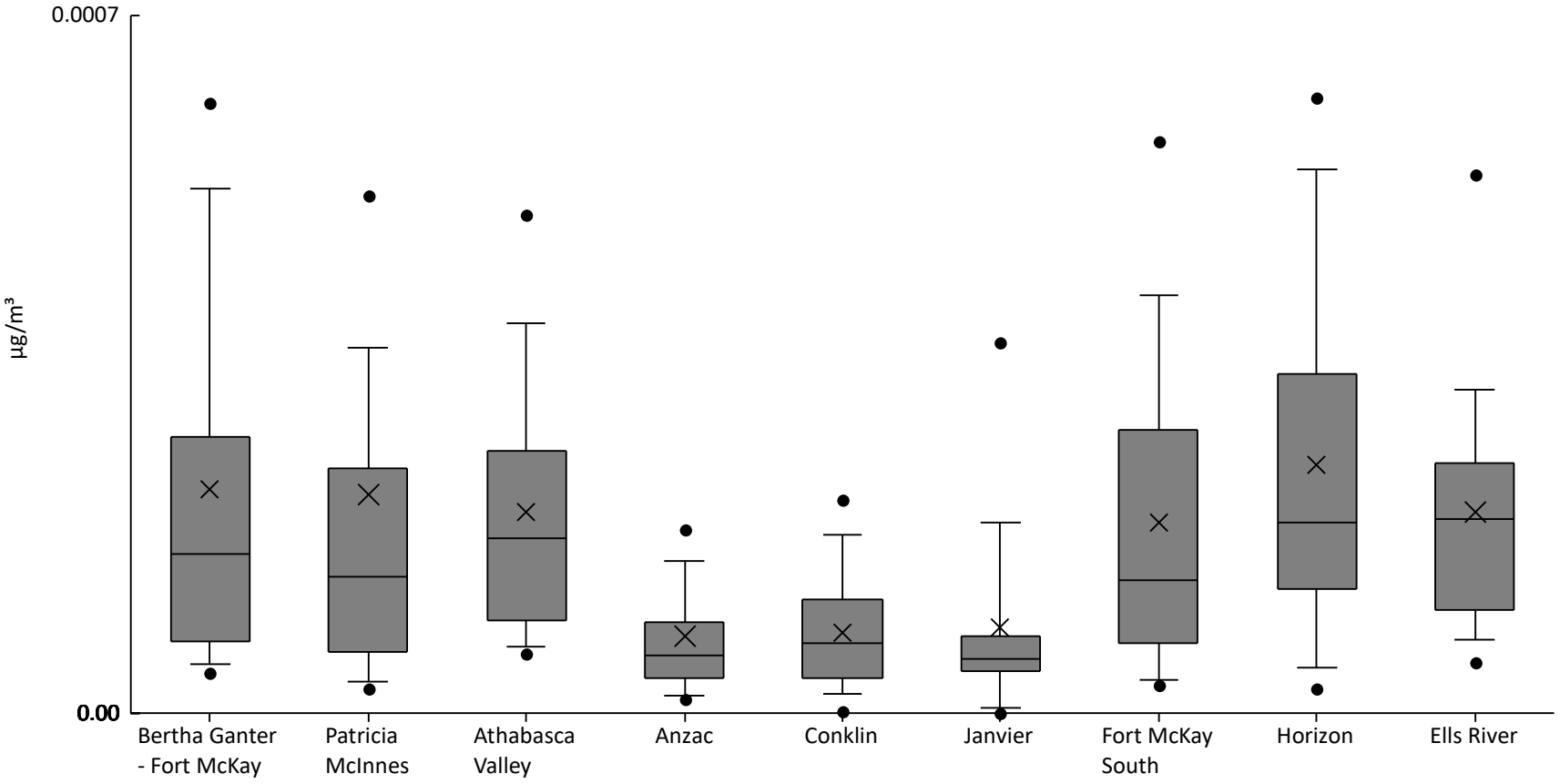
Particulate Matter <10µm Tested For Elements - Manganese (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	3.7E-4	7E-4	1E-3	2.5E-3	4.6E-3	9.8E-3	0.02	0.024	0.038	7.6E-3	7.7E-3
AMS06	Patricia McInnes	61	100%	3.7E-4	5.1E-4	6.4E-4	1.2E-3	2.3E-3	5.9E-3	0.011	0.013	0.025	4.2E-3	4.6E-3
AMS07	Athabasca Valley	61	100%	5.1E-4	6.7E-4	9.6E-4	1.9E-3	4.1E-3	8E-3	0.013	0.015	0.021	5.6E-3	4.9E-3
AMS14	Anzac	61	100%	2.5E-4	3.1E-4	4E-4	5.9E-4	1.3E-3	3.2E-3	6.2E-3	1E-2	0.037	3E-3	5.2E-3
AMS21	Conklin	31	100%	2.2E-4	3.7E-4	4.1E-4	6.7E-4	1.8E-3	3.9E-3	0.018	0.029	0.033	5.1E-3	8.5E-3
AMS22	Janvier	21	100%	1.5E-4	2E-4	2.5E-4	3.4E-4	7.7E-4	1.3E-3	3.7E-3	8.8E-3	0.014	1.7E-3	3E-3
AMS13	Fort McKay South	60	100%	3.2E-4	5.8E-4	9.2E-4	1.7E-3	3.6E-3	8E-3	0.016	0.021	0.027	6.1E-3	6.3E-3
AMS15	Horizon	41	100%	6.2E-4	9.1E-4	1.3E-3	2.9E-3	9.2E-3	0.021	0.037	0.054	0.077	0.015	0.017
AMS30	Ells River	18	100%	2.5E-4	2.6E-4	3.5E-4	6.4E-4	1.7E-3	4.7E-3	6.6E-3	0.016	0.021	3.5E-3	4.9E-3



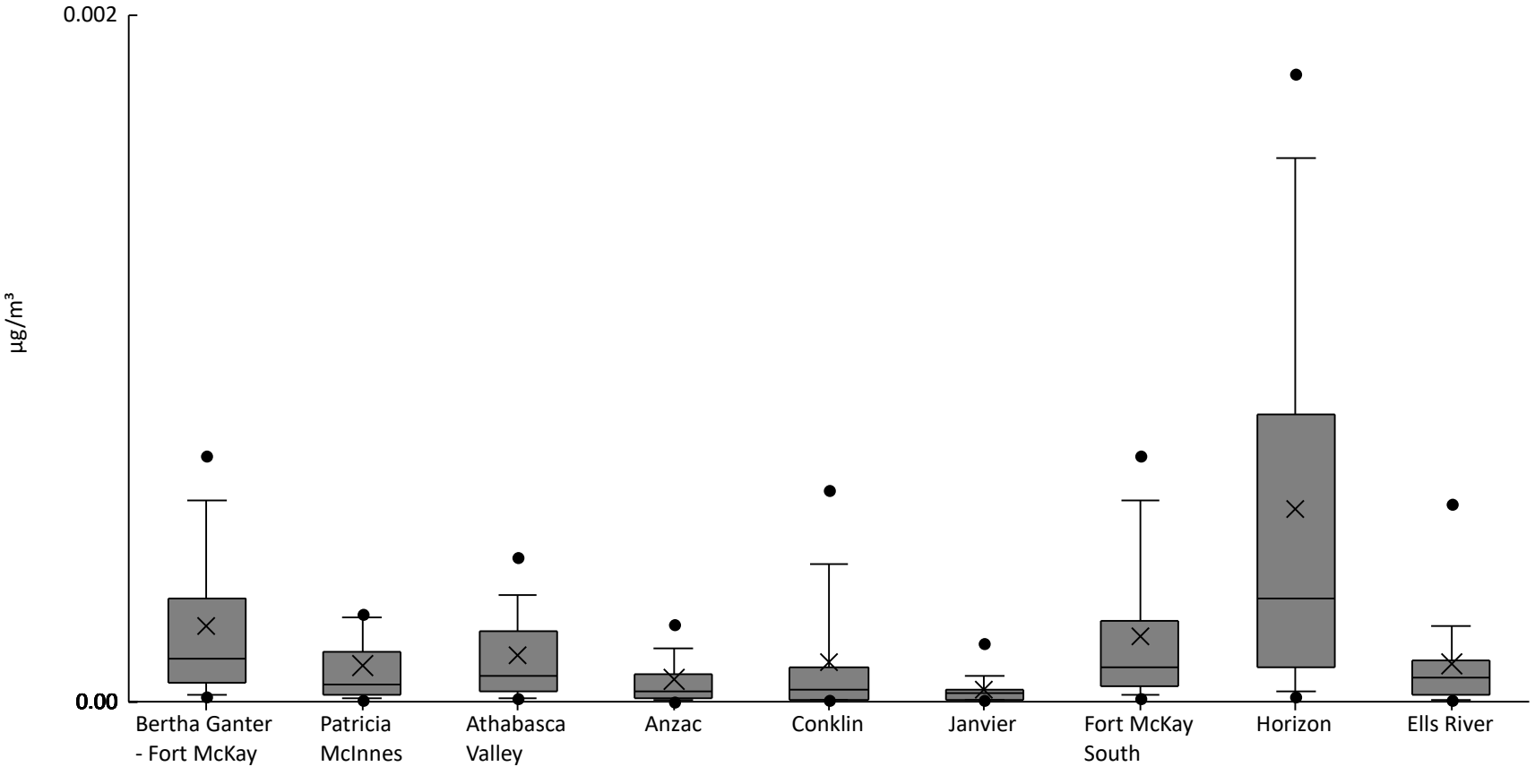
Particulate Matter <10µm Tested For Elements - Molybdenum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	2.2E-5	4E-5	4.9E-5	7.3E-5	1.6E-4	2.8E-4	5.3E-4	6.1E-4	1.2E-3	2.3E-4	2.2E-4
AMS06	Patricia McInnes	61	95%	1.4E-5	2.5E-5	3.1E-5	6.2E-5	1.4E-4	2.5E-4	3.7E-4	5.2E-4	3.2E-3	2.2E-4	4.1E-4
AMS07	Athabasca Valley	61	100%	4.7E-5	6E-5	6.7E-5	9.3E-5	1.8E-4	2.6E-4	3.9E-4	5E-4	8E-4	2E-4	1.4E-4
AMS14	Anzac	61	87%	6E-6	1.4E-5	1.8E-5	3.5E-5	5.8E-5	9.1E-5	1.5E-4	1.8E-4	4.3E-4	7.6E-5	6.8E-5
AMS21	Conklin	31	87%	0	1.6E-6	2E-5	3.5E-5	7E-5	1.1E-4	1.8E-4	2.1E-4	2.2E-4	8E-5	6E-5
AMS22	Janvier	21	86%	0	0	6E-6	4.3E-5	5.4E-5	7.8E-5	1.9E-4	3.7E-4	4.8E-4	8.6E-5	1.1E-4
AMS13	Fort McKay South	60	97%	1.2E-5	2.8E-5	3.3E-5	7.1E-5	1.3E-4	2.8E-4	4.2E-4	5.7E-4	7.7E-4	1.9E-4	1.7E-4
AMS15	Horizon	41	95%	1.7E-5	2.5E-5	4.6E-5	1.2E-4	1.9E-4	3.4E-4	5.5E-4	6.2E-4	6.8E-4	2.5E-4	1.8E-4
AMS30	Ells River	18	100%	3.8E-5	5E-5	7.4E-5	1E-4	2E-4	2.5E-4	3.2E-4	5.4E-4	6.8E-4	2E-4	1.4E-4



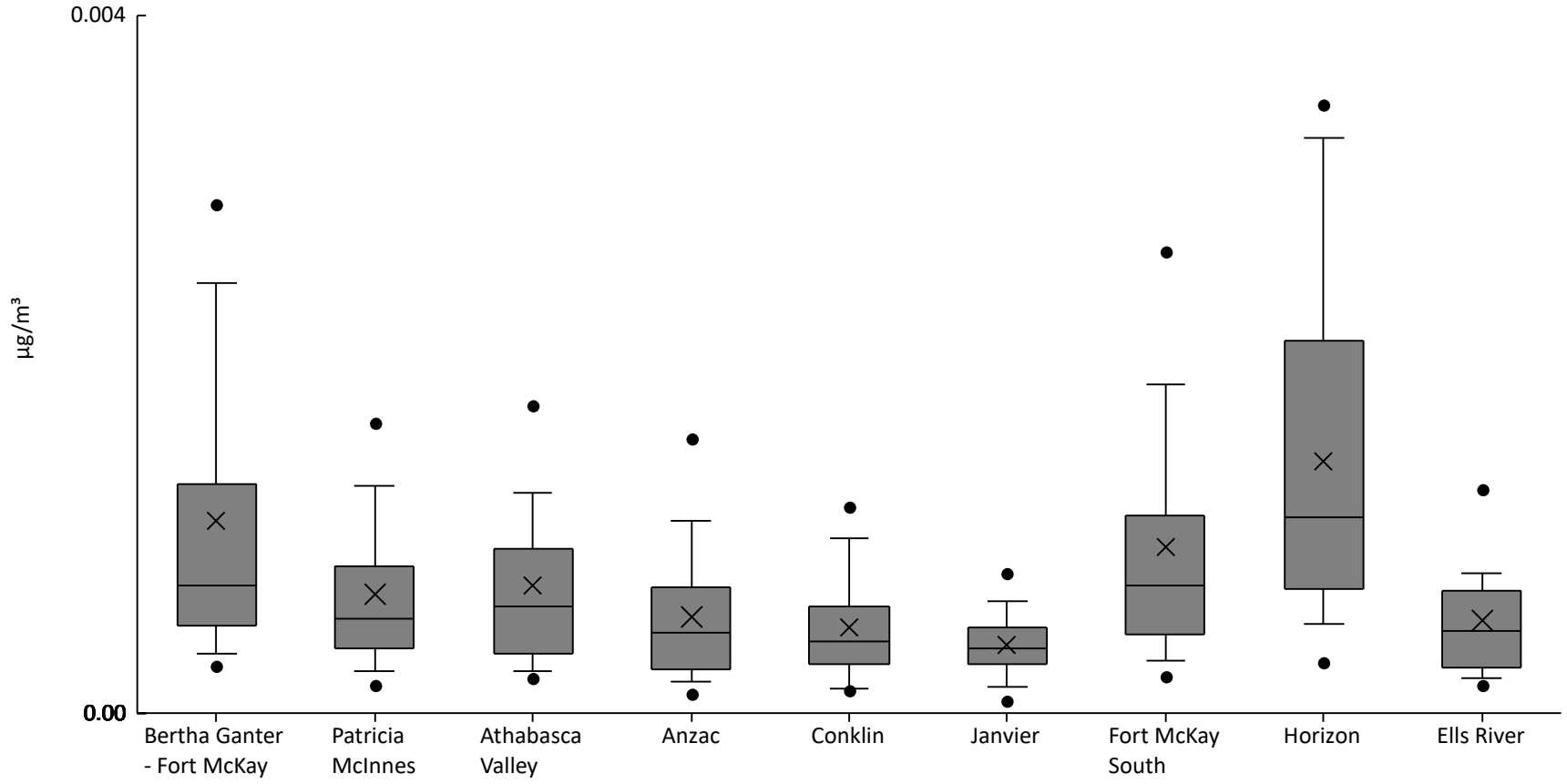
Particulate Matter <10µm Tested For Elements - Neodymium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	6E-6	1.4E-5	1.8E-5	5.3E-5	1.2E-4	3E-4	5.9E-4	7.2E-4	1.2E-3	2.2E-4	2.5E-4
AMS06	Patricia McInnes	61	98%	1E-6	6E-6	9.6E-6	1.9E-5	5.2E-5	1.5E-4	2.5E-4	2.6E-4	7.6E-4	1E-4	1.4E-4
AMS07	Athabasca Valley	61	100%	8E-6	9E-6	1E-5	3.2E-5	7.4E-5	2.1E-4	3.1E-4	4.2E-4	9.1E-4	1.3E-4	1.6E-4
AMS14	Anzac	61	87%	1E-6	2E-6	5E-6	9.5E-6	3E-5	8.2E-5	1.5E-4	2.2E-4	8.7E-4	6.7E-5	1.2E-4
AMS21	Conklin	31	81%	3E-6	3.1E-6	4E-6	7E-6	3.3E-5	1E-4	4E-4	6.2E-4	9.3E-4	1.2E-4	2.1E-4
AMS22	Janvier	21	90%	1E-6	2.7E-6	5.2E-6	7E-6	2.3E-5	3.6E-5	7.4E-5	1.7E-4	2.8E-4	3.7E-5	6.1E-5
AMS13	Fort McKay South	60	97%	0	1E-5	1.9E-5	4.5E-5	1E-4	2.4E-4	5.9E-4	7.2E-4	8.8E-4	1.9E-4	2.2E-4
AMS15	Horizon	41	98%	3E-6	1.5E-5	2.9E-5	1E-4	3E-4	8.4E-4	1.6E-3	1.8E-3	2.1E-3	5.6E-4	5.9E-4
AMS30	Ells River	18	94%	5E-6	5.4E-6	6.6E-6	1.8E-5	7E-5	1.2E-4	2.2E-4	5.8E-4	7.9E-4	1.1E-4	1.8E-4



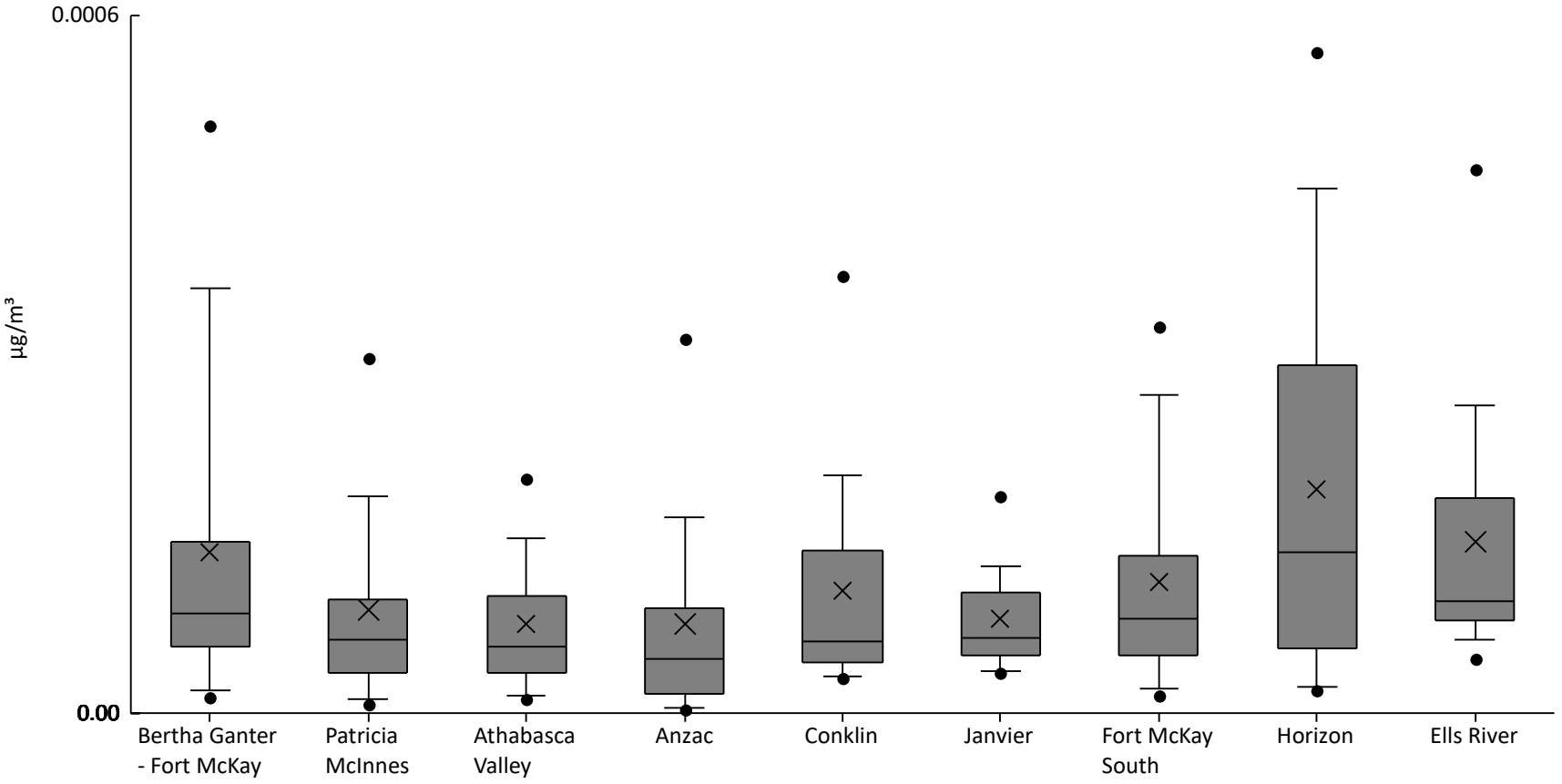
Particulate Matter <10µm Tested For Elements - Nickel (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	7.6E-5	2.7E-4	3.4E-4	5.1E-4	7.4E-4	1.3E-3	2.5E-3	2.9E-3	7.4E-3	1.1E-3	1.1E-3
AMS06	Patricia McInnes	61	98%	0	1.6E-4	2.4E-4	3.7E-4	5.4E-4	8.4E-4	1.3E-3	1.7E-3	2.5E-3	6.8E-4	4.9E-4
AMS07	Athabasca Valley	61	98%	0	2E-4	2.4E-4	3.4E-4	6.1E-4	9.4E-4	1.3E-3	1.8E-3	2.8E-3	7.3E-4	5.4E-4
AMS14	Anzac	61	100%	4.5E-5	1.1E-4	1.8E-4	2.5E-4	4.6E-4	7.2E-4	1.1E-3	1.6E-3	2E-3	5.6E-4	4.3E-4
AMS21	Conklin	31	100%	1.2E-4	1.3E-4	1.4E-4	2.8E-4	4.1E-4	6.1E-4	1E-3	1.2E-3	1.4E-3	4.9E-4	3.2E-4
AMS22	Janvier	21	100%	1.8E-5	7.3E-5	1.5E-4	2.8E-4	3.7E-4	4.9E-4	6.4E-4	8.1E-4	9.9E-4	3.9E-4	2.1E-4
AMS13	Fort McKay South	60	100%	2.9E-5	2.2E-4	3E-4	4.5E-4	7.3E-4	1.1E-3	1.9E-3	2.7E-3	3.9E-3	9.6E-4	7.9E-4
AMS15	Horizon	41	100%	1.6E-4	2.9E-4	5.1E-4	7.1E-4	1.1E-3	2.1E-3	3.3E-3	3.5E-3	3.7E-3	1.4E-3	9.9E-4
AMS30	Ells River	18	100%	1.3E-4	1.6E-4	2E-4	2.6E-4	4.7E-4	7E-4	8E-4	1.3E-3	1.6E-3	5.3E-4	3.4E-4



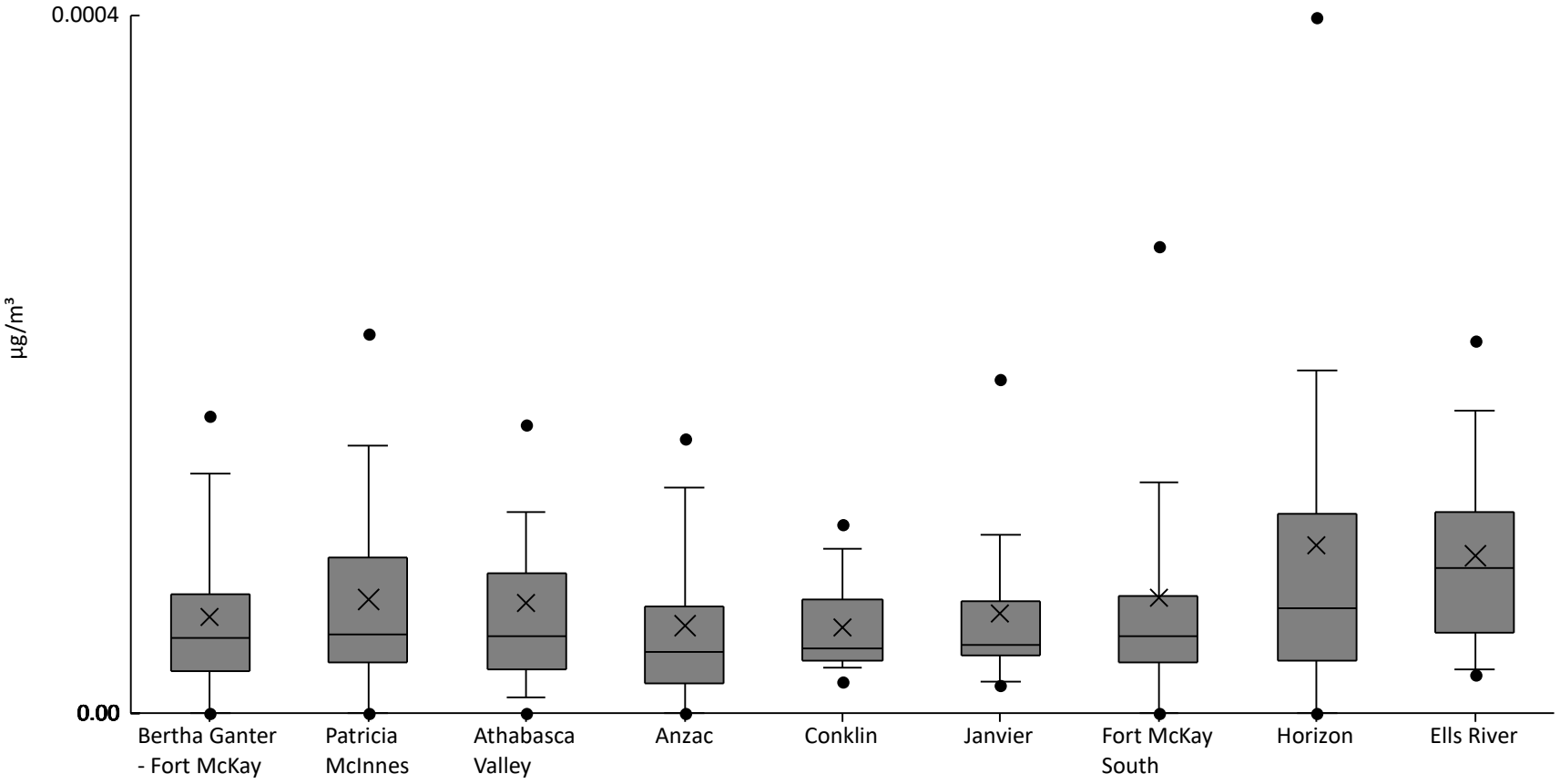
Particulate Matter <10µm Tested For Elements - Niobium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	1E-5	1.4E-5	2E-5	5.7E-5	8.6E-5	1.5E-4	3.7E-4	5.1E-4	6.4E-4	1.4E-4	1.4E-4
AMS06	Patricia McInnes	61	97%	4E-6	7.6E-6	1.2E-5	3.5E-5	6.3E-5	9.8E-5	1.9E-4	3.1E-4	5.2E-4	8.8E-5	9.8E-5
AMS07	Athabasca Valley	61	97%	5E-6	1.2E-5	1.5E-5	3.5E-5	5.7E-5	1E-4	1.5E-4	2E-4	3.2E-4	7.6E-5	6.2E-5
AMS14	Anzac	61	84%	1E-6	2.6E-6	4E-6	1.6E-5	4.6E-5	9.1E-5	1.7E-4	3.2E-4	6.7E-4	7.7E-5	1.1E-4
AMS21	Conklin	31	100%	2.5E-5	3E-5	3.2E-5	4.3E-5	6.2E-5	1.4E-4	2E-4	3.8E-4	5.1E-4	1.1E-4	1.1E-4
AMS22	Janvier	21	100%	3.5E-5	3.5E-5	3.6E-5	5E-5	6.5E-5	1E-4	1.3E-4	1.9E-4	2.5E-4	8.1E-5	4.9E-5
AMS13	Fort McKay South	60	98%	5E-6	1.5E-5	2.2E-5	5E-5	8.2E-5	1.4E-4	2.7E-4	3.3E-4	5.2E-4	1.1E-4	1.1E-4
AMS15	Horizon	41	100%	8E-6	2E-5	2.2E-5	5.5E-5	1.4E-4	3E-4	4.5E-4	5.7E-4	6.1E-4	1.9E-4	1.7E-4
AMS30	Ells River	18	100%	3.7E-5	4.7E-5	6.3E-5	8E-5	9.7E-5	1.9E-4	2.6E-4	4.7E-4	6E-4	1.5E-4	1.3E-4



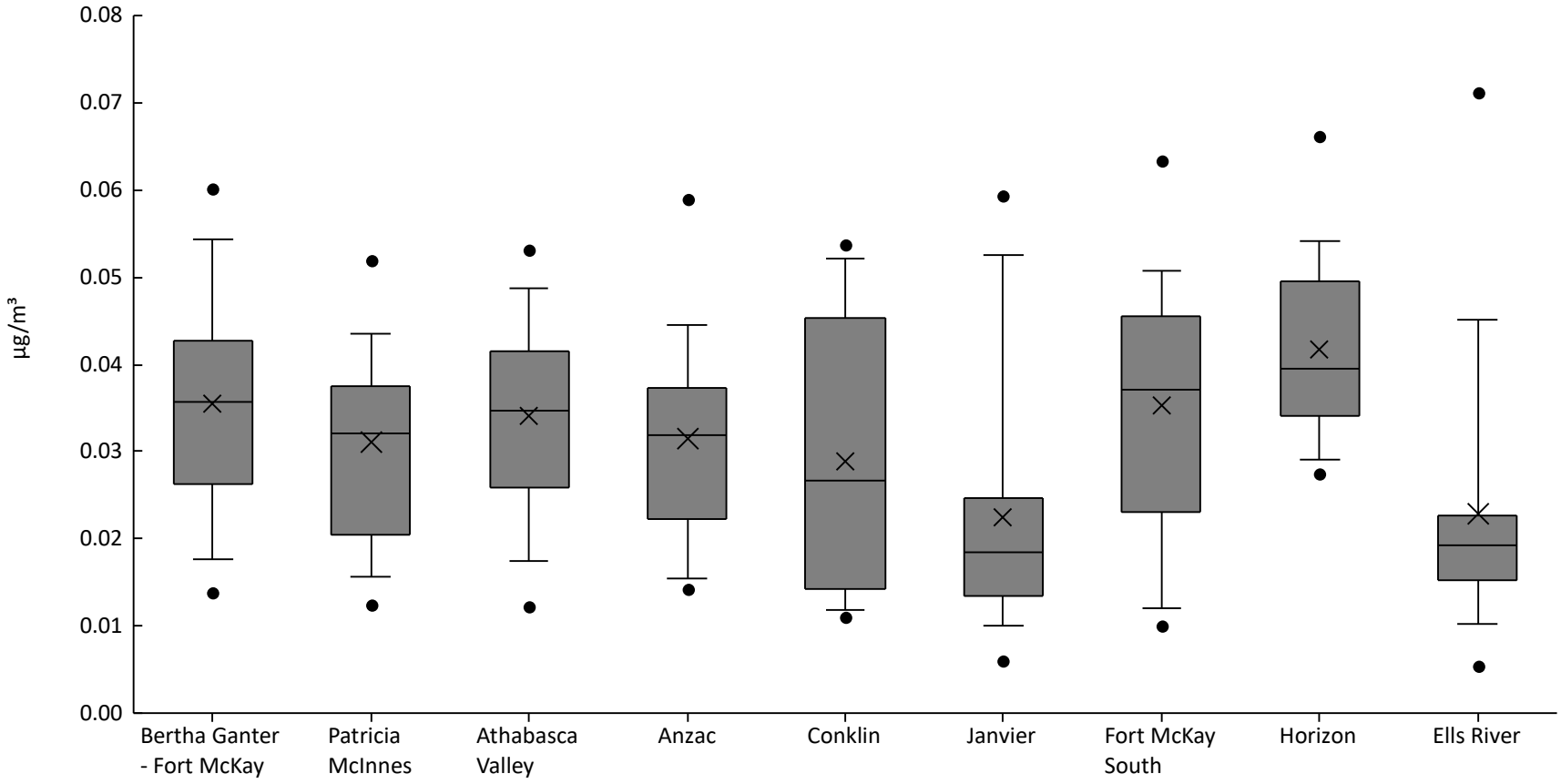
Particulate Matter <10µm Tested For Elements - Palladium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	36%	0	0	0	2.4E-5	4.3E-5	6.8E-5	1.4E-4	1.7E-4	2.2E-4	5.5E-5	5.1E-5
AMS06	Patricia McInnes	61	48%	0	0	0	2.9E-5	4.5E-5	8.9E-5	1.5E-4	2.2E-4	3.1E-4	6.5E-5	6.4E-5
AMS07	Athabasca Valley	61	44%	0	0	9.2E-6	2.5E-5	4.4E-5	8E-5	1.2E-4	1.7E-4	4.7E-4	6.3E-5	7.8E-5
AMS14	Anzac	61	34%	0	0	0	1.7E-5	3.5E-5	6.1E-5	1.3E-4	1.6E-4	2.7E-4	5E-5	5.3E-5
AMS21	Conklin	31	42%	1.1E-5	1.8E-5	2.6E-5	3E-5	3.7E-5	6.5E-5	9.4E-5	1.1E-4	1.1E-4	4.9E-5	2.7E-5
AMS22	Janvier	21	33%	1.5E-5	1.6E-5	1.8E-5	3.3E-5	3.9E-5	6.5E-5	1E-4	1.9E-4	2.6E-4	5.7E-5	5.4E-5
AMS13	Fort McKay South	60	43%	0	0	0	2.9E-5	4.4E-5	6.8E-5	1.3E-4	2.7E-4	4.3E-4	6.6E-5	7.9E-5
AMS15	Horizon	41	59%	0	0	0	3.1E-5	6E-5	1.1E-4	2E-4	4E-4	5.7E-4	9.7E-5	1.2E-4
AMS30	Ells River	18	72%	2.1E-5	2.2E-5	2.5E-5	4.6E-5	8.3E-5	1.2E-4	1.7E-4	2.1E-4	2.3E-4	9.1E-5	5.8E-5



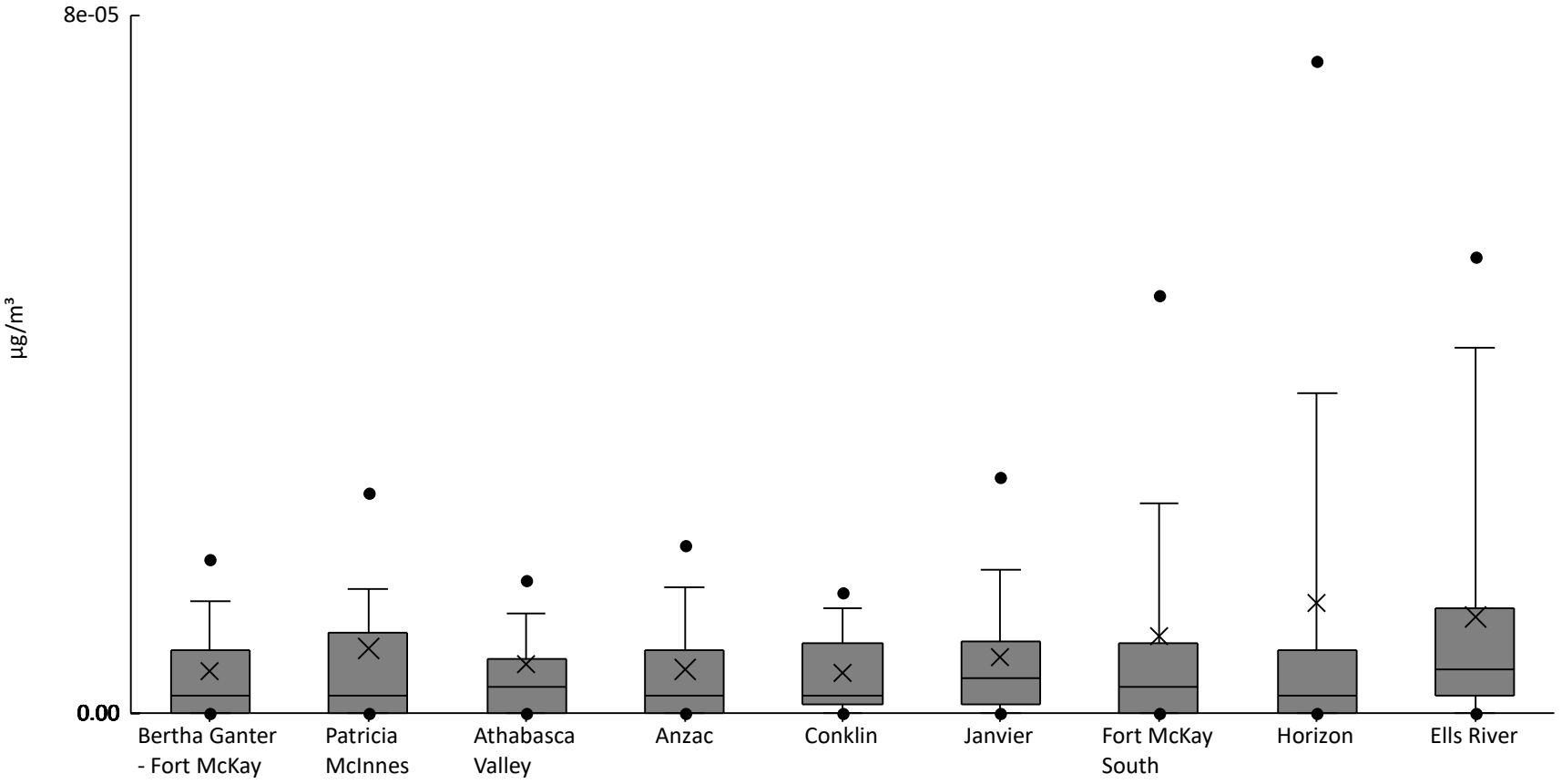
Particulate Matter <10µm Tested For Elements - Phosphorus (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.011	0.014	0.018	0.026	0.036	0.043	0.054	0.06	0.064	0.036	0.013
AMS06	Patricia McInnes	61	100%	0.01	0.012	0.016	0.02	0.032	0.037	0.043	0.052	0.063	0.031	0.011
AMS07	Athabasca Valley	61	100%	6.9E-3	0.012	0.017	0.026	0.035	0.041	0.049	0.053	0.076	0.034	0.013
AMS14	Anzac	61	100%	8.1E-3	0.014	0.015	0.022	0.032	0.037	0.045	0.059	0.078	0.032	0.013
AMS21	Conklin	31	100%	6.3E-3	0.011	0.012	0.014	0.027	0.045	0.052	0.054	0.056	0.029	0.016
AMS22	Janvier	21	95%	1.2E-3	5.9E-3	9.9E-3	0.014	0.018	0.025	0.053	0.059	0.06	0.022	0.016
AMS13	Fort McKay South	60	100%	6.8E-3	1E-2	0.012	0.023	0.037	0.045	0.051	0.063	0.089	0.035	0.017
AMS15	Horizon	41	100%	0.019	0.027	0.029	0.034	0.039	0.05	0.054	0.066	0.073	0.042	0.011
AMS30	Ells River	18	94%	2.6E-3	5.4E-3	0.01	0.015	0.019	0.023	0.045	0.071	0.083	0.023	0.018



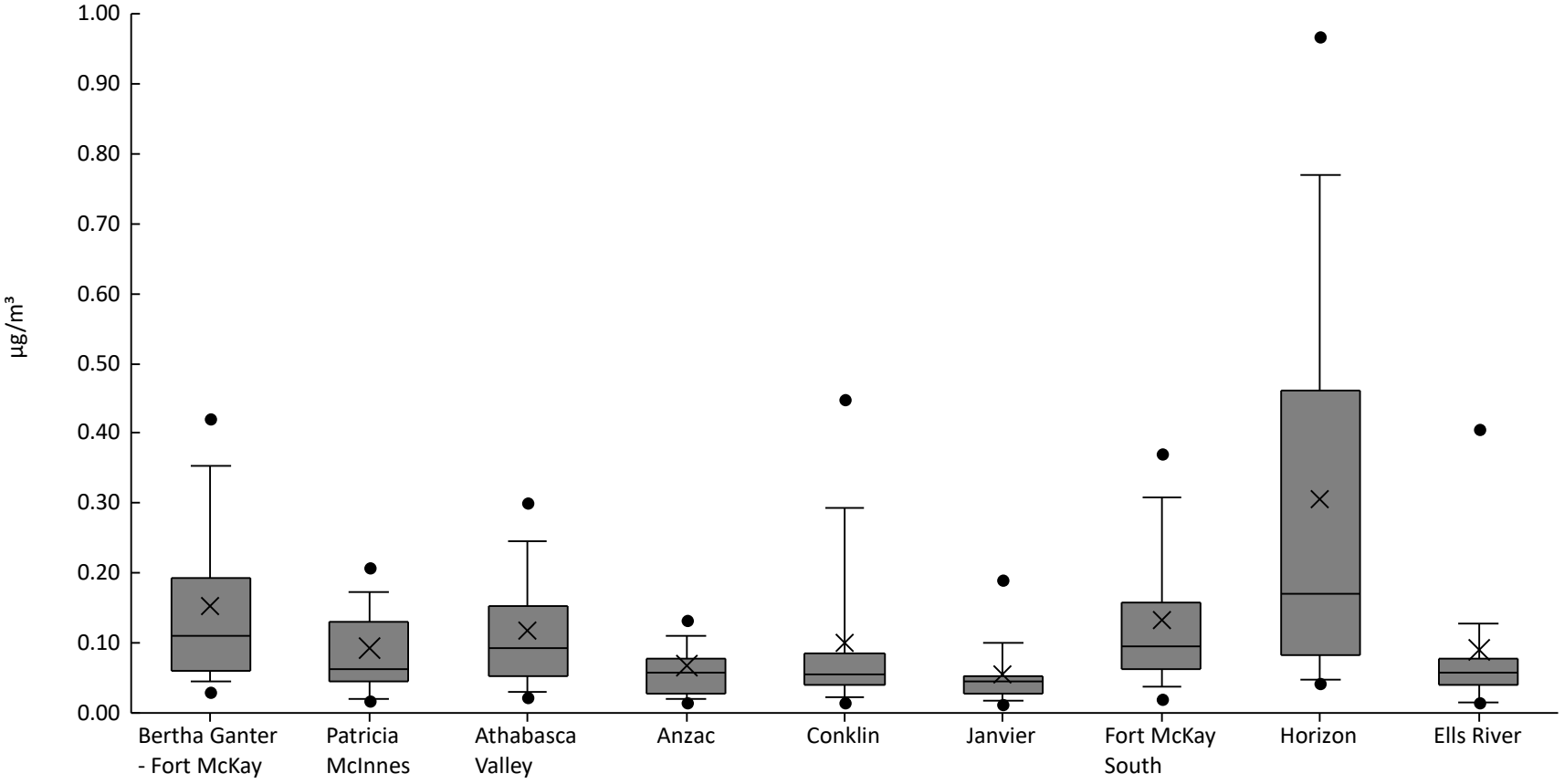
Particulate Matter <10µm Tested For Elements - Platinum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	39%	0	0	0	0	2E-6	7.3E-6	1.3E-5	1.8E-5	3.7E-5	4.9E-6	7.1E-6
AMS06	Patricia McInnes	61	38%	0	0	0	0	2E-6	9.3E-6	1.4E-5	2.5E-5	9.3E-5	7.4E-6	1.6E-5
AMS07	Athabasca Valley	61	33%	0	0	0	0	3E-6	6.3E-6	1.1E-5	1.5E-5	1E-4	5.5E-6	1.3E-5
AMS14	Anzac	61	36%	0	0	0	0	2E-6	7.3E-6	1.4E-5	1.9E-5	3.2E-5	5E-6	6.7E-6
AMS21	Conklin	31	35%	0	0	0	1E-6	2E-6	8E-6	1.2E-5	1.4E-5	2.1E-5	4.7E-6	5.3E-6
AMS22	Janvier	21	43%	0	0	0	1E-6	4E-6	8.3E-6	1.6E-5	2.7E-5	3.2E-5	6.4E-6	8.1E-6
AMS13	Fort McKay South	60	45%	0	0	0	0	3E-6	8E-6	2.4E-5	4.8E-5	7.3E-5	8.8E-6	1.5E-5
AMS15	Horizon	41	37%	0	0	0	0	2E-6	7.3E-6	3.7E-5	7.5E-5	1.8E-4	1.3E-5	3.3E-5
AMS30	Ells River	18	56%	0	0	0	2E-6	5E-6	1.2E-5	4.2E-5	5.2E-5	5.4E-5	1.1E-5	1.6E-5



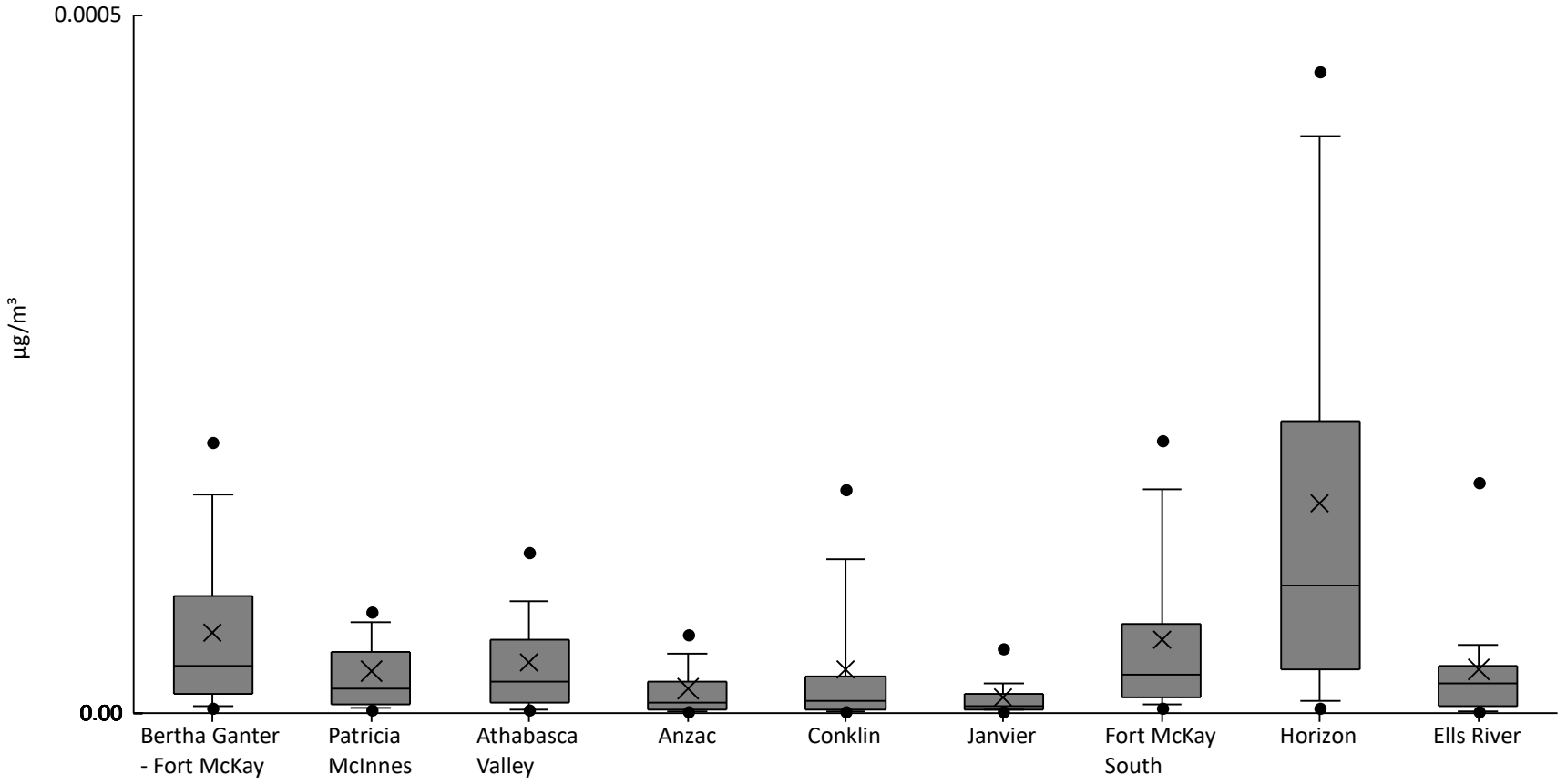
Particulate Matter <10µm Tested For Elements - Potassium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	0.019	0.031	0.045	0.061	0.11	0.19	0.35	0.42	0.66	0.15	0.13
AMS06	Patricia McInnes	61	100%	0.014	0.018	0.021	0.046	0.063	0.13	0.17	0.21	0.48	0.093	0.081
AMS07	Athabasca Valley	61	100%	0.015	0.023	0.031	0.053	0.093	0.15	0.24	0.3	0.6	0.12	0.1
AMS14	Anzac	61	100%	8.7E-3	0.015	0.02	0.028	0.057	0.079	0.11	0.13	0.53	0.067	0.072
AMS21	Conklin	31	100%	8.8E-3	0.014	0.022	0.04	0.055	0.084	0.29	0.45	0.47	0.1	0.12
AMS22	Janvier	21	100%	9.4E-3	0.012	0.016	0.027	0.046	0.054	0.1	0.19	0.27	0.055	0.055
AMS13	Fort McKay South	60	100%	9.6E-3	0.019	0.037	0.064	0.094	0.16	0.31	0.37	0.51	0.13	0.11
AMS15	Horizon	41	100%	0.021	0.043	0.047	0.082	0.17	0.46	0.77	0.97	1	0.31	0.29
AMS30	Ells River	18	100%	0.016	0.016	0.016	0.039	0.058	0.079	0.13	0.41	0.59	0.089	0.13



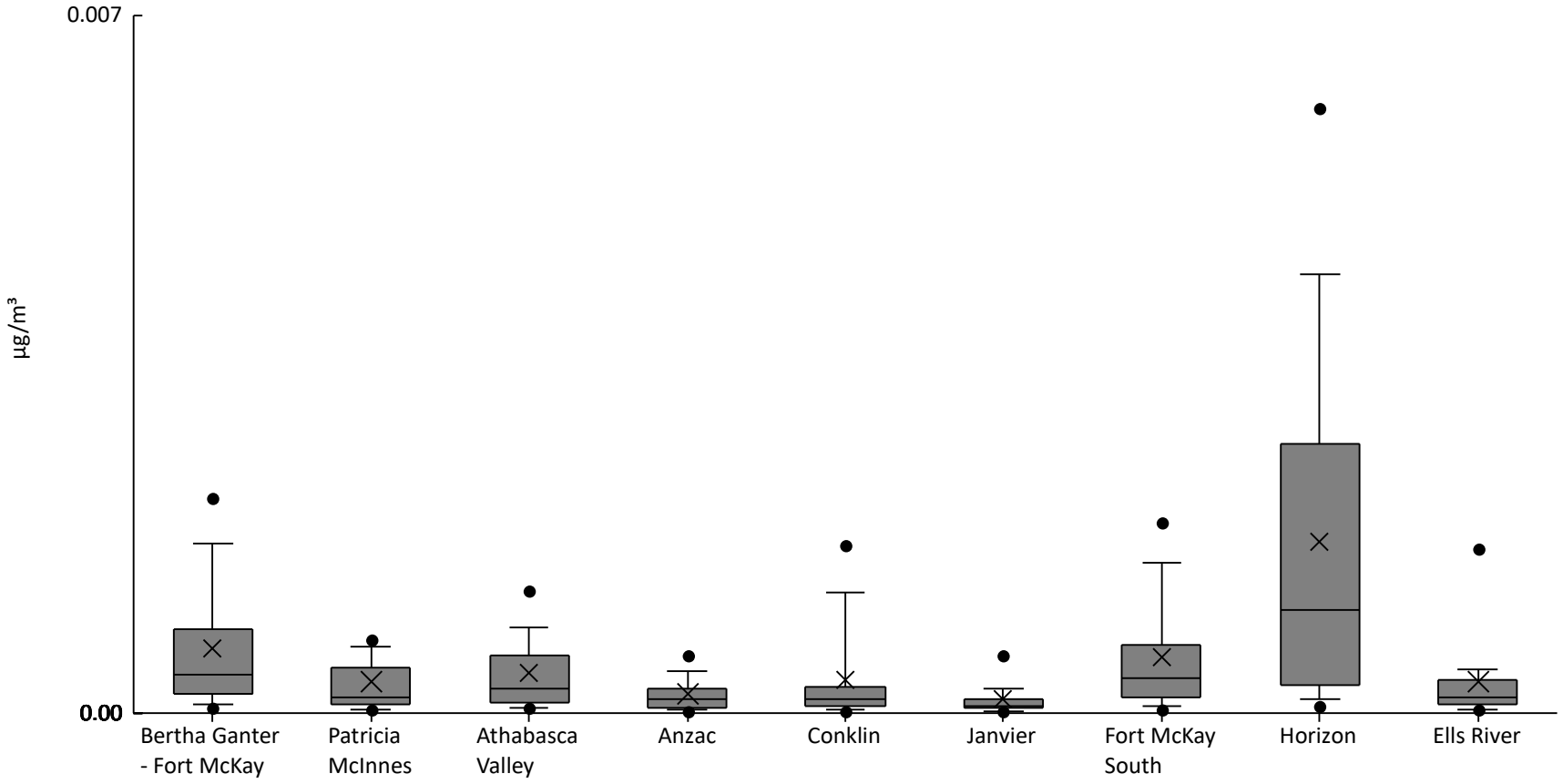
Particulate Matter <10µm Tested For Elements - Praseodymium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	1E-6	3.6E-6	4.6E-6	1.4E-5	3.4E-5	8.4E-5	1.6E-4	1.9E-4	3E-4	5.8E-5	6.4E-5
AMS06	Patricia McInnes	61	98%	0	2E-6	3.6E-6	6E-6	1.7E-5	4.4E-5	6.5E-5	7.3E-5	2.2E-4	3E-5	3.7E-5
AMS07	Athabasca Valley	61	100%	2E-6	3E-6	3E-6	8E-6	2.2E-5	5.3E-5	8E-5	1.2E-4	2.3E-4	3.6E-5	4.2E-5
AMS14	Anzac	61	89%	0	1E-6	1E-6	3E-6	8E-6	2.3E-5	4.2E-5	5.7E-5	2.4E-4	1.8E-5	3.3E-5
AMS21	Conklin	31	84%	0	1E-6	1E-6	2.3E-6	9E-6	2.6E-5	1.1E-4	1.6E-4	2.2E-4	3.1E-5	5.4E-5
AMS22	Janvier	21	95%	0	1.1E-6	2E-6	2.8E-6	5E-6	1.4E-5	2.2E-5	4.7E-5	7.5E-5	1.1E-5	1.6E-5
AMS13	Fort McKay South	60	98%	0	4E-6	6.5E-6	1.2E-5	2.8E-5	6.4E-5	1.6E-4	2E-4	2.4E-4	5.2E-5	5.9E-5
AMS15	Horizon	41	95%	0	3.8E-6	9E-6	3.1E-5	9.1E-5	2.1E-4	4.1E-4	4.6E-4	5.5E-4	1.5E-4	1.5E-4
AMS30	Ells River	18	89%	1E-6	1E-6	1.3E-6	5E-6	2.1E-5	3.4E-5	4.9E-5	1.7E-4	2.4E-4	3.1E-5	5.5E-5



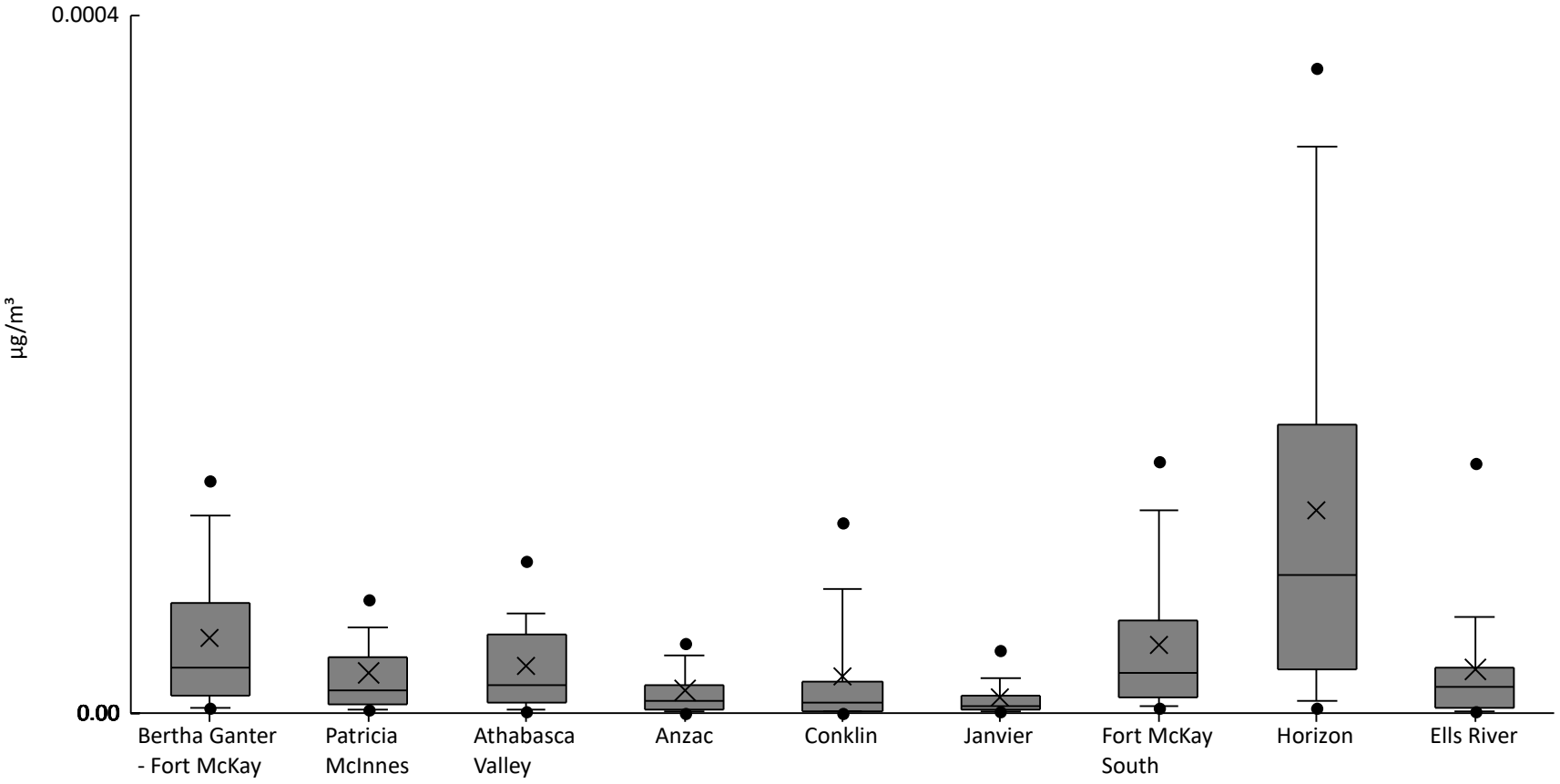
Particulate Matter <10µm Tested For Elements - Rubidium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.1E-5	4.5E-5	8.3E-5	1.9E-4	3.9E-4	8.5E-4	1.7E-3	2.2E-3	3.4E-3	6.5E-4	7E-4
AMS06	Patricia McInnes	61	100%	1.1E-5	3.4E-5	4.1E-5	8.9E-5	1.6E-4	4.5E-4	6.7E-4	7.3E-4	2.4E-3	3.2E-4	4E-4
AMS07	Athabasca Valley	61	100%	2.7E-5	4.4E-5	4.7E-5	1E-4	2.5E-4	5.9E-4	8.5E-4	1.2E-3	2.7E-3	4E-4	4.6E-4
AMS14	Anzac	61	97%	0	1.7E-5	2.8E-5	4.9E-5	1.4E-4	2.5E-4	4.2E-4	5.8E-4	2.4E-3	2E-4	3.2E-4
AMS21	Conklin	31	100%	1.5E-5	1.7E-5	2.9E-5	6.5E-5	1.3E-4	2.6E-4	1.2E-3	1.7E-3	1.9E-3	3.3E-4	5.1E-4
AMS22	Janvier	21	100%	1.5E-5	1.7E-5	2.4E-5	4.8E-5	7.6E-5	1.4E-4	2.5E-4	5.8E-4	9.6E-4	1.4E-4	2E-4
AMS13	Fort McKay South	60	100%	3.2E-5	4.2E-5	6.6E-5	1.7E-4	3.5E-4	6.9E-4	1.5E-3	1.9E-3	2.6E-3	5.6E-4	6E-4
AMS15	Horizon	41	100%	3.1E-5	7.8E-5	1.4E-4	2.8E-4	1E-3	2.7E-3	4.4E-3	6.1E-3	6.9E-3	1.7E-3	1.9E-3
AMS30	Ells River	18	100%	3E-5	3E-5	3.7E-5	7.9E-5	1.6E-4	3.3E-4	4.3E-4	1.6E-3	2.4E-3	3.1E-4	5.5E-4



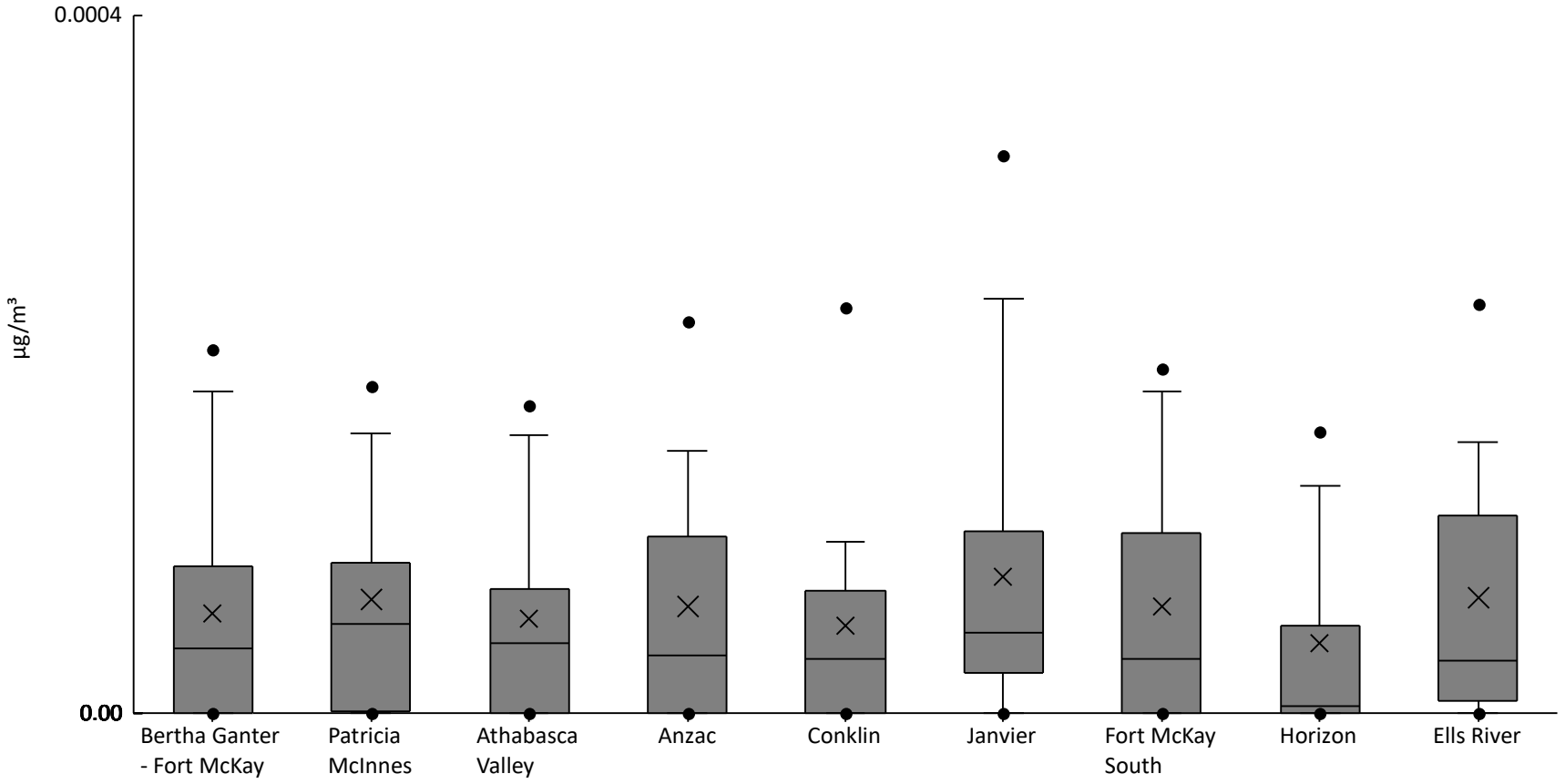
Particulate Matter <10µm Tested For Elements - Samarium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	85%	1E-6	3E-6	3E-6	1.1E-5	2.6E-5	6.3E-5	1.1E-4	1.3E-4	2.3E-4	4.3E-5	4.7E-5
AMS06	Patricia McInnes	61	69%	0	1.6E-6	2E-6	4.8E-6	1.3E-5	3.2E-5	4.9E-5	6.5E-5	1.6E-4	2.3E-5	2.8E-5
AMS07	Athabasca Valley	61	79%	1E-6	1E-6	2E-6	6E-6	1.6E-5	4.5E-5	5.7E-5	8.7E-5	2E-4	2.7E-5	3.3E-5
AMS14	Anzac	61	52%	0	0	1E-6	2E-6	7E-6	1.7E-5	3.3E-5	4E-5	1.8E-4	1.3E-5	2.4E-5
AMS21	Conklin	31	55%	0	0	6E-7	1.3E-6	6E-6	1.8E-5	7.2E-5	1.1E-4	1.5E-4	2.1E-5	3.6E-5
AMS22	Janvier	21	38%	0	5.5E-7	1E-6	1.8E-6	4E-6	9.8E-6	2E-5	3.6E-5	5.5E-5	8.6E-6	1.2E-5
AMS13	Fort McKay South	60	88%	0	3E-6	4E-6	9E-6	2.4E-5	5.3E-5	1.2E-4	1.4E-4	1.8E-4	4E-5	4.5E-5
AMS15	Horizon	41	93%	0	2.7E-6	6.6E-6	2.5E-5	7.9E-5	1.7E-4	3.3E-4	3.7E-4	4.2E-4	1.2E-4	1.2E-4
AMS30	Ells River	18	56%	1E-6	1E-6	1E-6	3E-6	1.6E-5	2.6E-5	5.5E-5	1.4E-4	2E-4	2.6E-5	4.6E-5



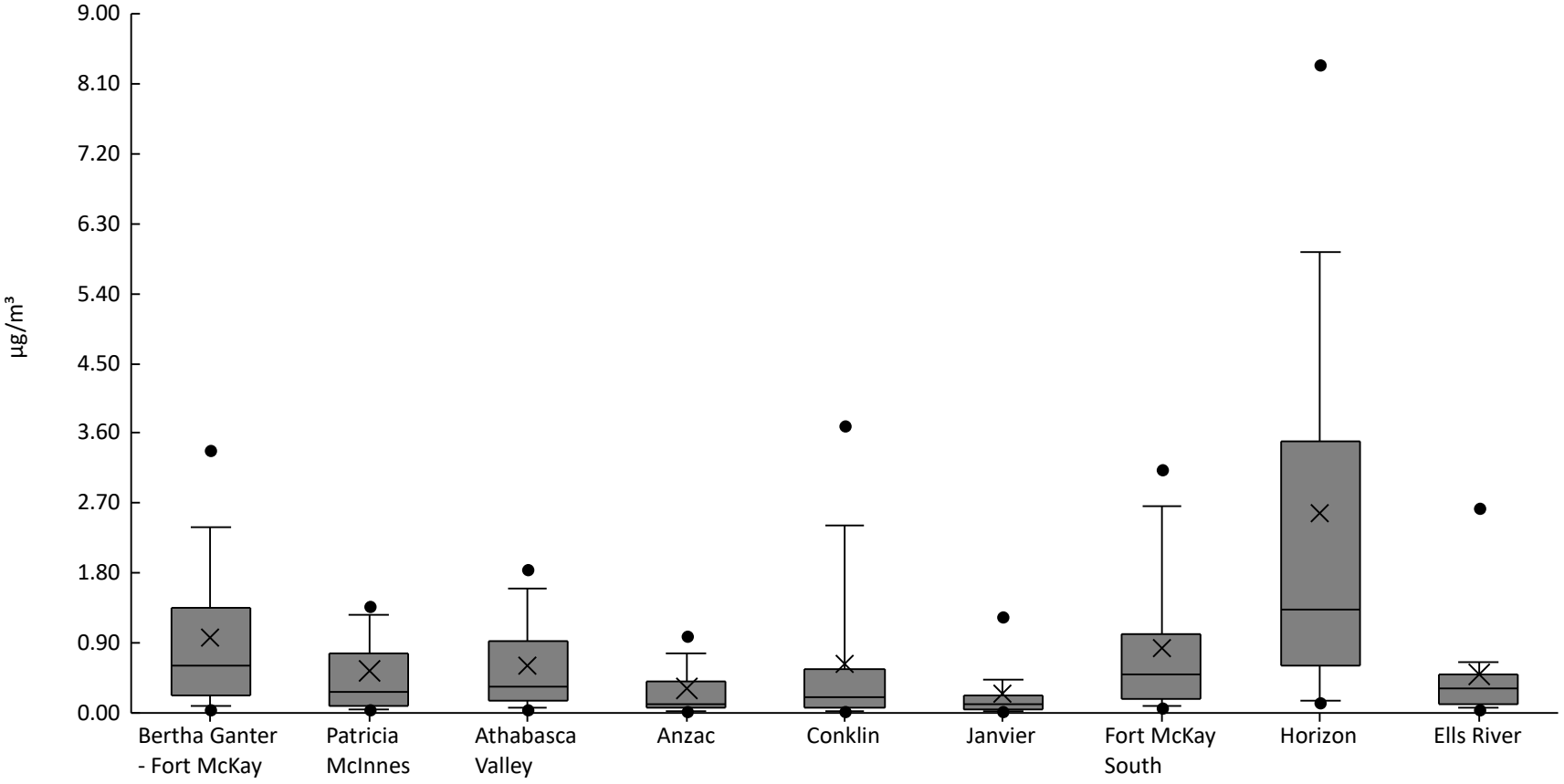
Particulate Matter <10µm Tested For Elements - Selenium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	16%	0	0	0	0	3.7E-5	8.5E-5	1.8E-4	2.1E-4	2.8E-4	5.7E-5	7.1E-5
AMS06	Patricia McInnes	61	13%	0	0	0	7.5E-7	5.1E-5	8.7E-5	1.6E-4	1.9E-4	4.4E-4	6.5E-5	7.8E-5
AMS07	Athabasca Valley	61	11%	0	0	0	0	4E-5	7.1E-5	1.6E-4	1.8E-4	3.9E-4	5.4E-5	6.9E-5
AMS14	Anzac	61	16%	0	0	0	0	3.3E-5	1E-4	1.5E-4	2.2E-4	4.8E-4	6.1E-5	8.8E-5
AMS21	Conklin	31	6%	0	0	0	0	3.1E-5	7E-5	9.8E-5	2.3E-4	3.1E-4	5E-5	7E-5
AMS22	Janvier	21	14%	0	0	0	2.3E-5	4.6E-5	1E-4	2.4E-4	3.2E-4	3.3E-4	7.8E-5	9.3E-5
AMS13	Fort McKay South	60	18%	0	0	0	0	3.2E-5	1E-4	1.8E-4	2E-4	2.5E-4	6.1E-5	6.9E-5
AMS15	Horizon	41	10%	0	0	0	0	4E-6	5E-5	1.3E-4	1.6E-4	3.6E-4	4E-5	6.9E-5
AMS30	Ells River	18	17%	0	0	0	7E-6	3E-5	1.1E-4	1.6E-4	2.4E-4	2.9E-4	6.6E-5	7.8E-5



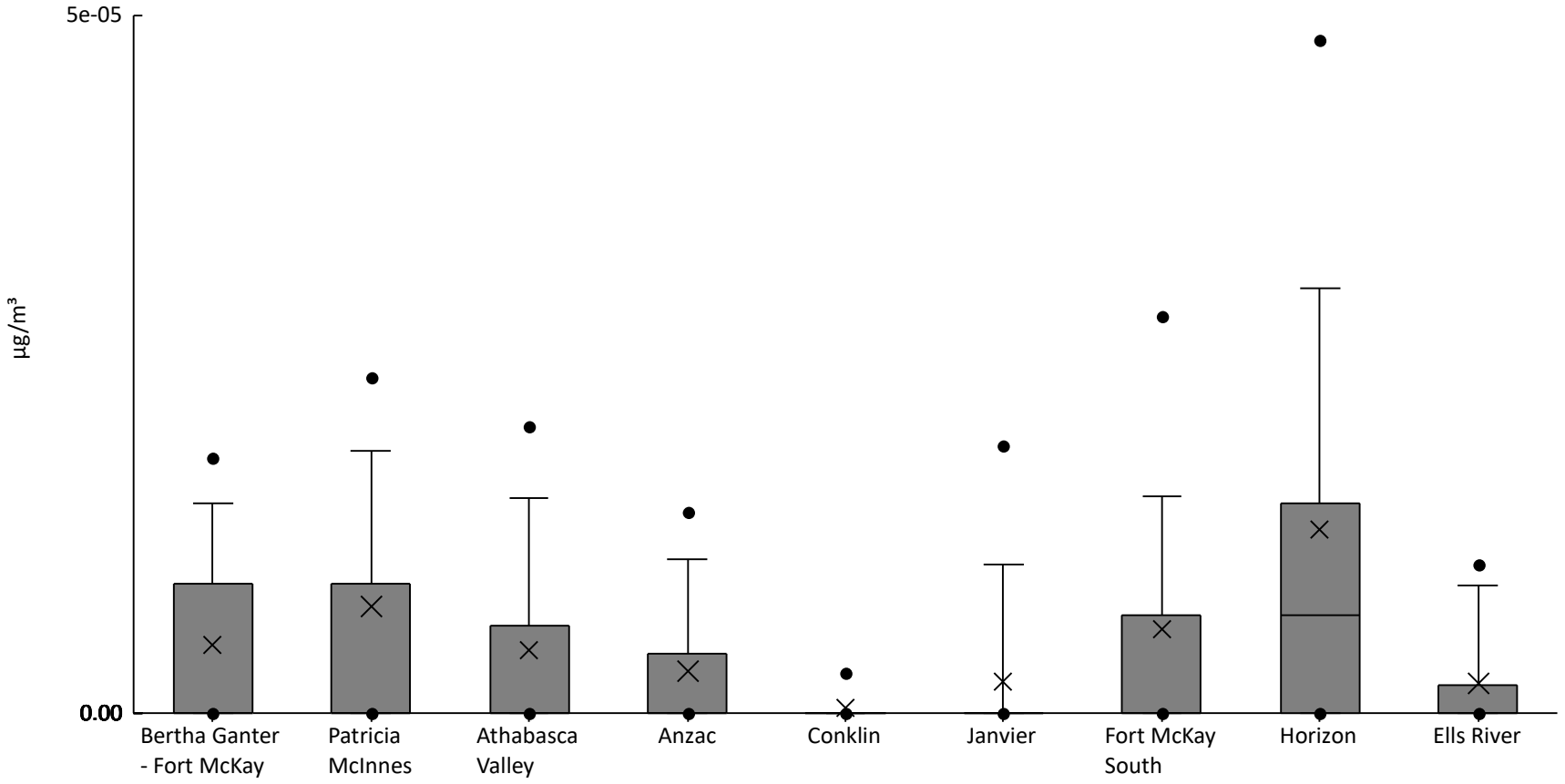
Particulate Matter <10µm Tested For Elements - Silicon (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	2.8E-3	0.054	0.099	0.23	0.6	1.3	2.4	3.4	4.8	0.98	1.1
AMS06	Patricia McInnes	61	98%	0	0.04	0.046	0.089	0.28	0.77	1.3	1.4	4.5	0.53	0.7
AMS07	Athabasca Valley	61	100%	0.024	0.049	0.068	0.15	0.34	0.93	1.6	1.9	2.6	0.61	0.61
AMS14	Anzac	61	97%	0	0.019	0.029	0.06	0.12	0.4	0.77	1	3.8	0.32	0.54
AMS21	Conklin	31	100%	0.02	0.024	0.029	0.075	0.2	0.56	2.4	3.7	3.9	0.63	1.1
AMS22	Janvier	21	100%	0.014	0.019	0.026	0.048	0.12	0.22	0.43	1.2	2.2	0.24	0.46
AMS13	Fort McKay South	60	100%	0.019	0.061	0.091	0.19	0.49	1	2.7	3.1	3.7	0.84	0.97
AMS15	Horizon	41	100%	0.024	0.13	0.16	0.61	1.3	3.5	5.9	8.3	9.9	2.6	2.6
AMS30	Ells River	18	100%	0.022	0.041	0.074	0.11	0.32	0.49	0.66	2.6	3.9	0.5	0.88



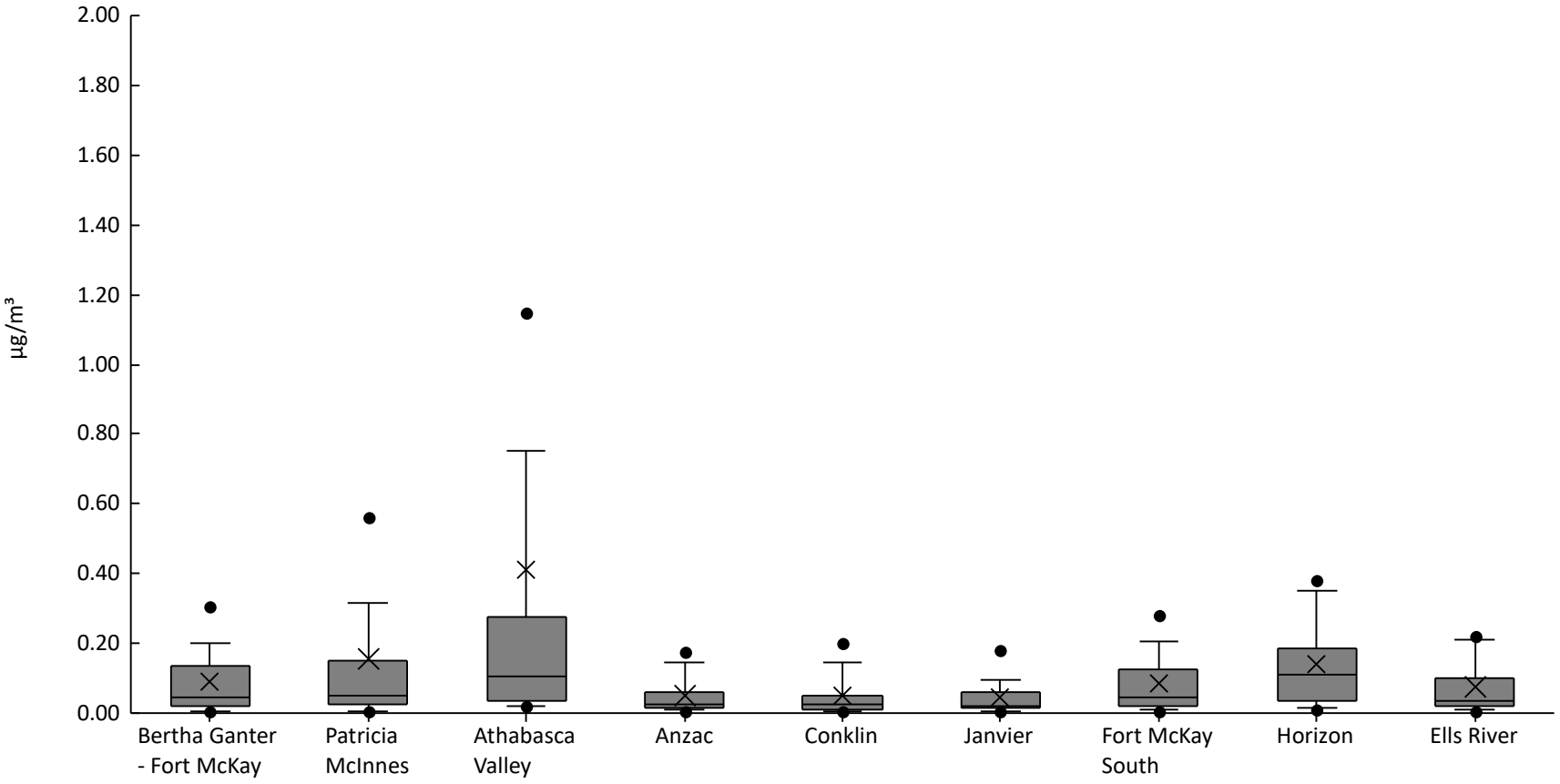
Particulate Matter <10µm Tested For Elements - Silver (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	30%	0	0	0	0	0	9.3E-6	1.5E-5	1.8E-5	3.4E-5	4.9E-6	7.8E-6
AMS06	Patricia McInnes	61	38%	0	0	0	0	0	9.3E-6	1.9E-5	2.4E-5	1.4E-4	7.7E-6	1.8E-5
AMS07	Athabasca Valley	61	30%	0	0	0	0	0	6.3E-6	1.5E-5	2.1E-5	3.2E-5	4.6E-6	7.7E-6
AMS14	Anzac	61	20%	0	0	0	0	0	4.3E-6	1.1E-5	1.4E-5	3.2E-5	3E-6	5.8E-6
AMS21	Conklin	31	3%	0	0	0	0	0	0	0	2.9E-6	7E-6	3.2E-7	1.4E-6
AMS22	Janvier	21	14%	0	0	0	0	0	0	1.1E-5	1.9E-5	2.3E-5	2.3E-6	6E-6
AMS13	Fort McKay South	60	32%	0	0	0	0	0	7E-6	1.6E-5	2.9E-5	6E-5	6E-6	1.2E-5
AMS15	Horizon	41	51%	0	0	0	0	7E-6	1.5E-5	3E-5	4.8E-5	1.6E-4	1.3E-5	2.6E-5
AMS30	Ells River	18	22%	0	0	0	0	0	2E-6	9.1E-6	1.1E-5	1.1E-5	2.2E-6	3.8E-6



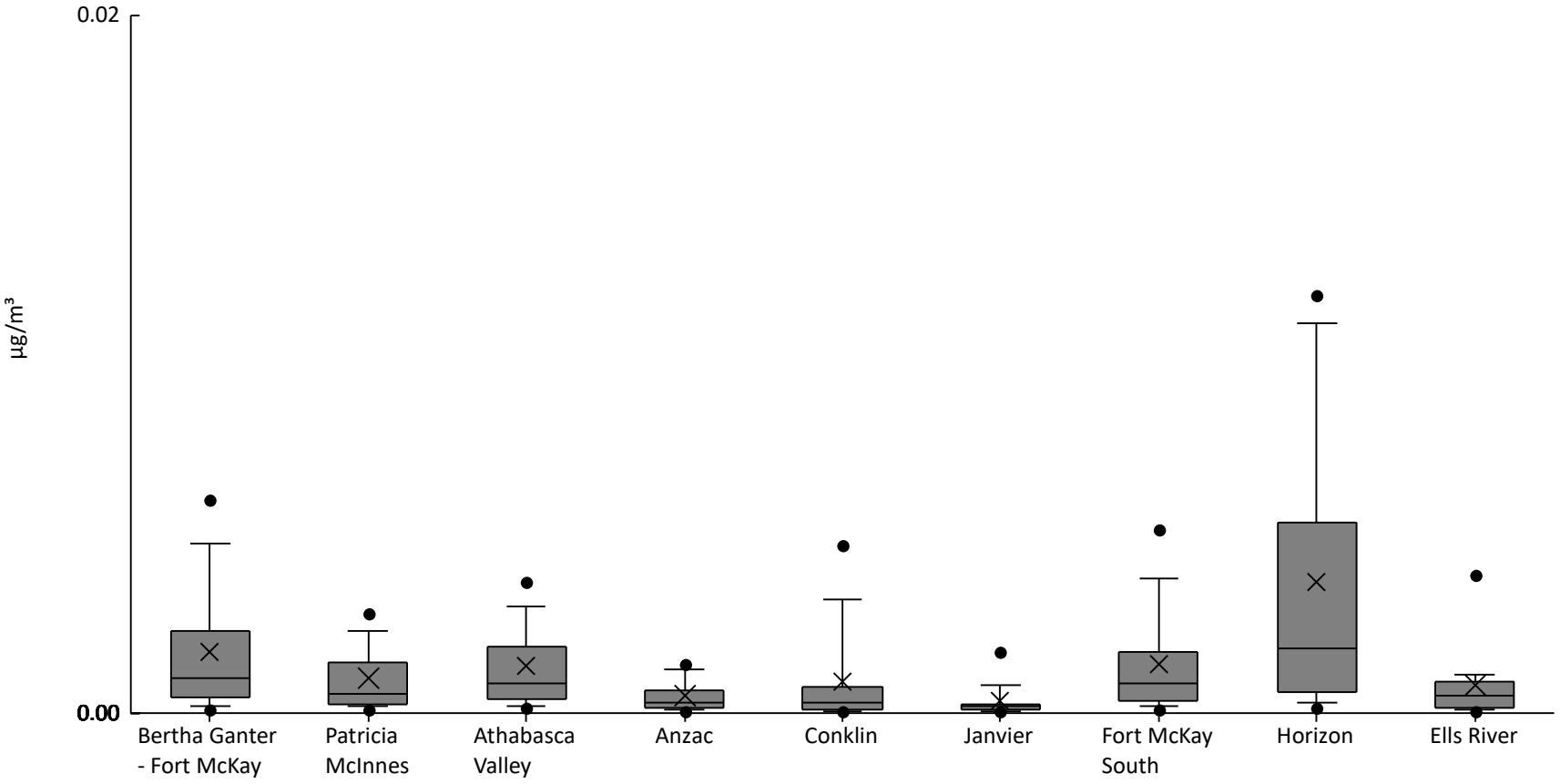
Particulate Matter <10µm Tested For Elements - Sodium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	4.6E-5	3.4E-3	6.8E-3	0.021	0.047	0.14	0.2	0.3	0.46	0.088	0.097
AMS06	Patricia McInnes	61	98%	0	3.7E-3	7.2E-3	0.027	0.05	0.15	0.32	0.56	2.7	0.16	0.36
AMS07	Athabasca Valley	61	100%	6.3E-3	0.018	0.022	0.036	0.1	0.27	0.75	1.1	7.7	0.41	1.2
AMS14	Anzac	61	100%	1.3E-3	5.9E-3	8.5E-3	0.013	0.028	0.06	0.14	0.17	0.28	0.051	0.058
AMS21	Conklin	31	100%	9.1E-4	2.8E-3	5.9E-3	0.01	0.024	0.048	0.15	0.2	0.27	0.049	0.064
AMS22	Janvier	21	100%	3.1E-3	4E-3	6.6E-3	0.014	0.022	0.063	0.095	0.18	0.25	0.045	0.056
AMS13	Fort McKay South	60	100%	1.3E-3	7.2E-3	0.011	0.02	0.043	0.13	0.2	0.28	0.45	0.084	0.091
AMS15	Horizon	41	100%	4.5E-3	0.01	0.015	0.033	0.11	0.18	0.35	0.38	0.58	0.14	0.13
AMS30	Ells River	18	100%	6.2E-3	7.1E-3	9.4E-3	0.021	0.037	0.1	0.21	0.22	0.22	0.073	0.074



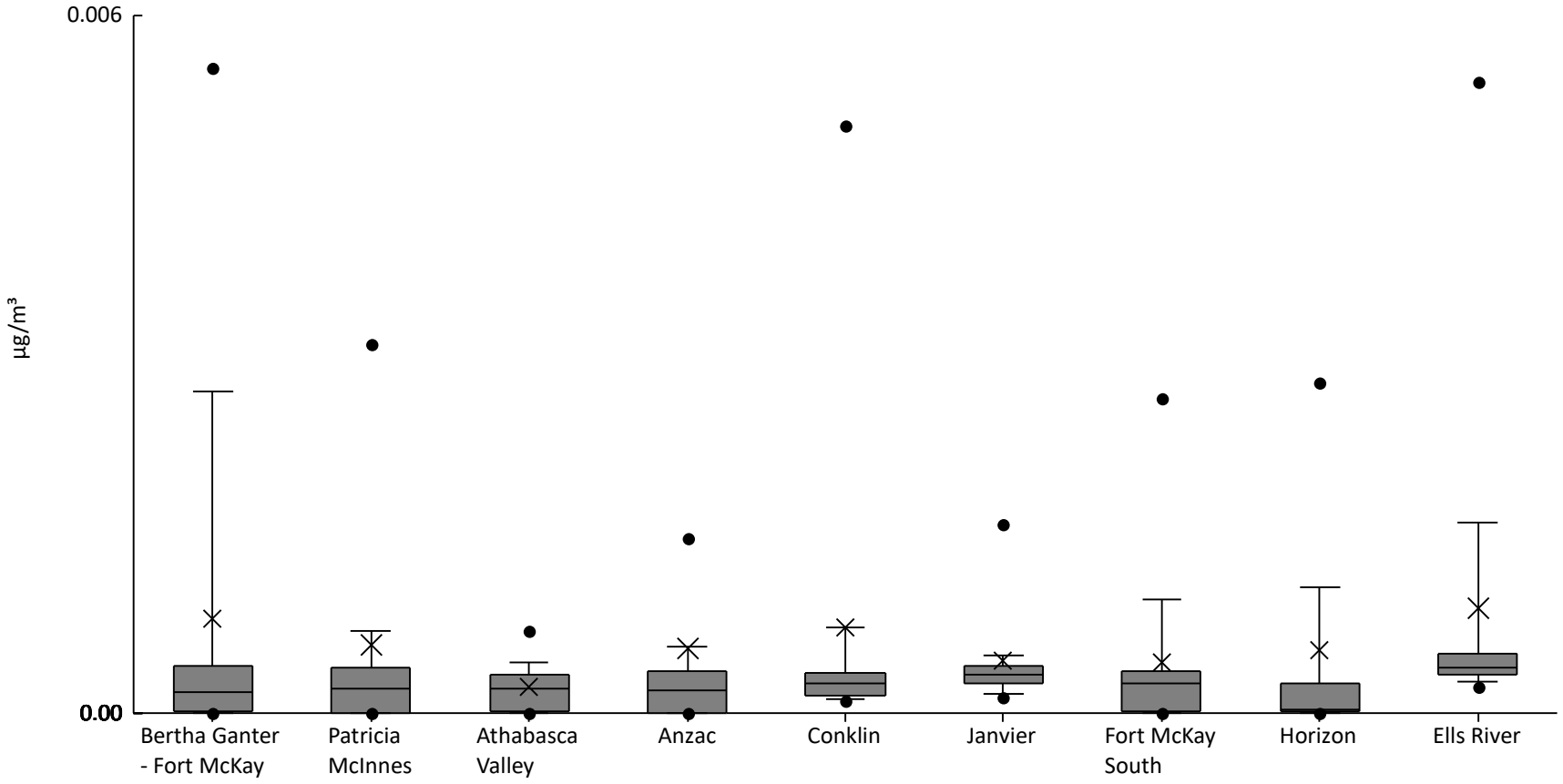
Particulate Matter <10µm Tested For Elements - Strontium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	4.6E-5	1E-4	1.9E-4	4.6E-4	9.9E-4	2.3E-3	4.9E-3	6.1E-3	8.9E-3	1.8E-3	2E-3
AMS06	Patricia McInnes	61	100%	4.9E-5	9.5E-5	1.8E-4	2.3E-4	5.5E-4	1.5E-3	2.4E-3	2.9E-3	6E-3	1E-3	1.2E-3
AMS07	Athabasca Valley	61	100%	1.3E-4	1.6E-4	1.9E-4	4.1E-4	8.7E-4	1.9E-3	3E-3	3.8E-3	8.7E-3	1.3E-3	1.4E-3
AMS14	Anzac	61	100%	4E-5	5E-5	7.5E-5	1.4E-4	2.8E-4	6.6E-4	1.2E-3	1.4E-3	5.6E-3	5.1E-4	7.7E-4
AMS21	Conklin	31	100%	5.8E-5	6.6E-5	6.6E-5	9.9E-5	2.8E-4	7.3E-4	3.3E-3	4.8E-3	6.4E-3	9.1E-4	1.5E-3
AMS22	Janvier	21	100%	4.6E-5	5.4E-5	7E-5	9.9E-5	2E-4	2.6E-4	7.8E-4	1.7E-3	2.3E-3	3.4E-4	5.2E-4
AMS13	Fort McKay South	60	100%	3.9E-5	1.1E-4	2E-4	3.4E-4	8.7E-4	1.7E-3	3.9E-3	5.2E-3	6.7E-3	1.4E-3	1.6E-3
AMS15	Horizon	41	100%	7.6E-5	1.5E-4	2.8E-4	5.8E-4	1.8E-3	5.5E-3	0.011	0.012	0.019	3.7E-3	4.3E-3
AMS30	Ells River	18	100%	5.5E-5	6.8E-5	8.7E-5	1.5E-4	5.2E-4	8.8E-4	1.1E-3	4E-3	5.9E-3	7.9E-4	1.3E-3



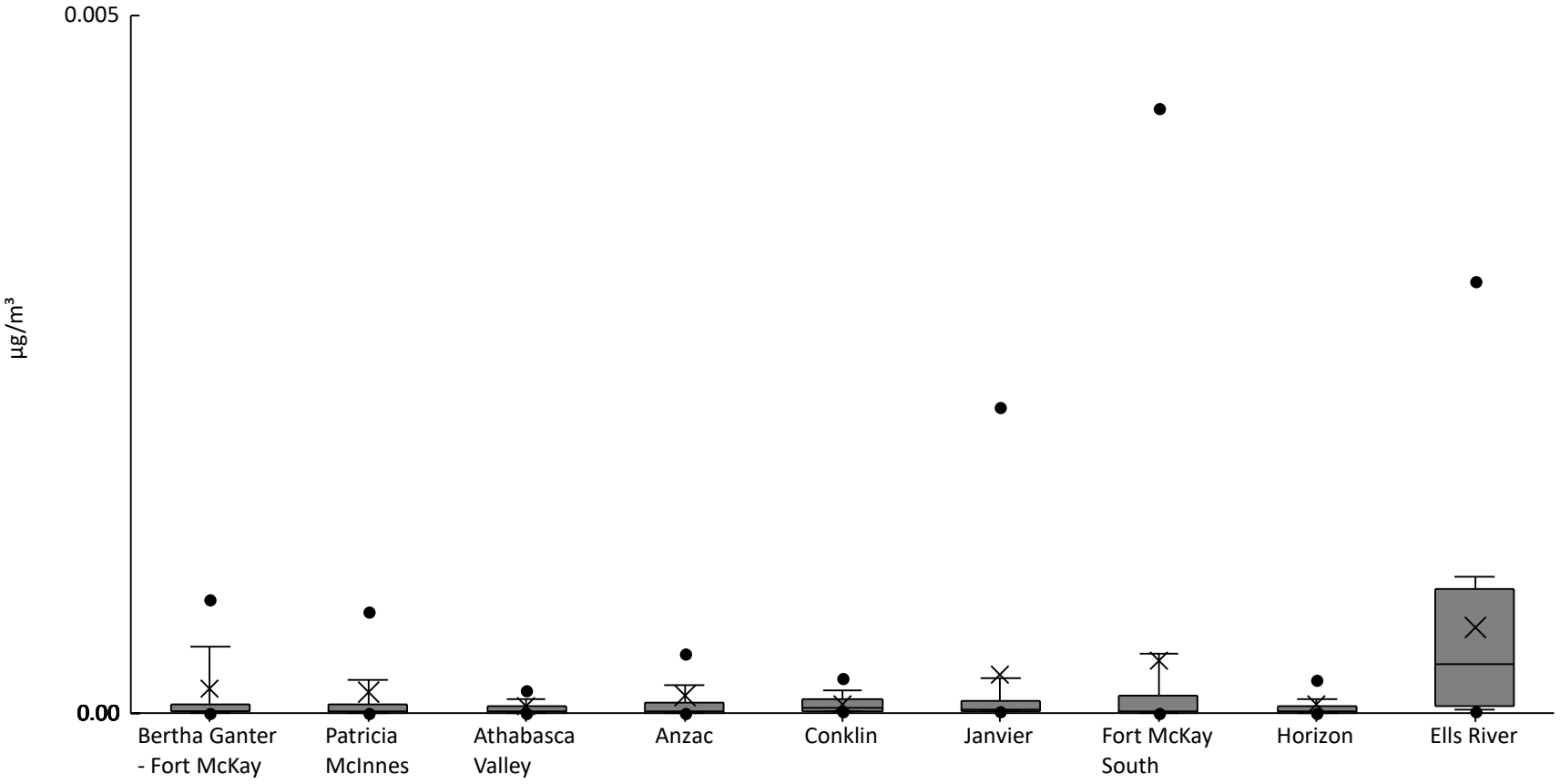
Particulate Matter <10µm Tested For Elements - Tantalum (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	89%	0	0	2.6E-6	7.8E-6	1.7E-4	4.1E-4	2.8E-3	5.6E-3	9.5E-3	8.1E-4	1.9E-3
AMS06	Patricia McInnes	61	79%	0	0	1E-6	4.8E-6	2.1E-4	3.9E-4	7E-4	3.2E-3	0.013	5.9E-4	1.8E-3
AMS07	Athabasca Valley	61	84%	0	1E-6	1E-6	9.8E-6	2.1E-4	3.3E-4	4.4E-4	7.1E-4	9.2E-4	2.2E-4	2.2E-4
AMS14	Anzac	61	72%	0	0	0	1E-6	2E-4	3.6E-4	5.8E-4	1.5E-3	0.014	5.5E-4	1.9E-3
AMS21	Conklin	31	100%	1.1E-4	1.1E-4	1.2E-4	1.5E-4	2.6E-4	3.5E-4	7.3E-4	5.1E-3	9.4E-3	7.3E-4	1.9E-3
AMS22	Janvier	21	100%	1.3E-4	1.3E-4	1.6E-4	2.6E-4	3.4E-4	4E-4	4.9E-4	1.6E-3	3E-3	4.4E-4	5.9E-4
AMS13	Fort McKay South	60	85%	0	5E-7	2E-6	8E-6	2.5E-4	3.5E-4	9.8E-4	2.7E-3	4.2E-3	4.4E-4	8.3E-4
AMS15	Horizon	41	80%	0	5.5E-7	1E-6	8.8E-6	3.4E-5	2.6E-4	1.1E-3	2.8E-3	9.6E-3	5.3E-4	1.6E-3
AMS30	Ells River	18	100%	2E-4	2.2E-4	2.8E-4	3.3E-4	3.9E-4	5.1E-4	1.6E-3	5.4E-3	7.7E-3	9.1E-4	1.7E-3



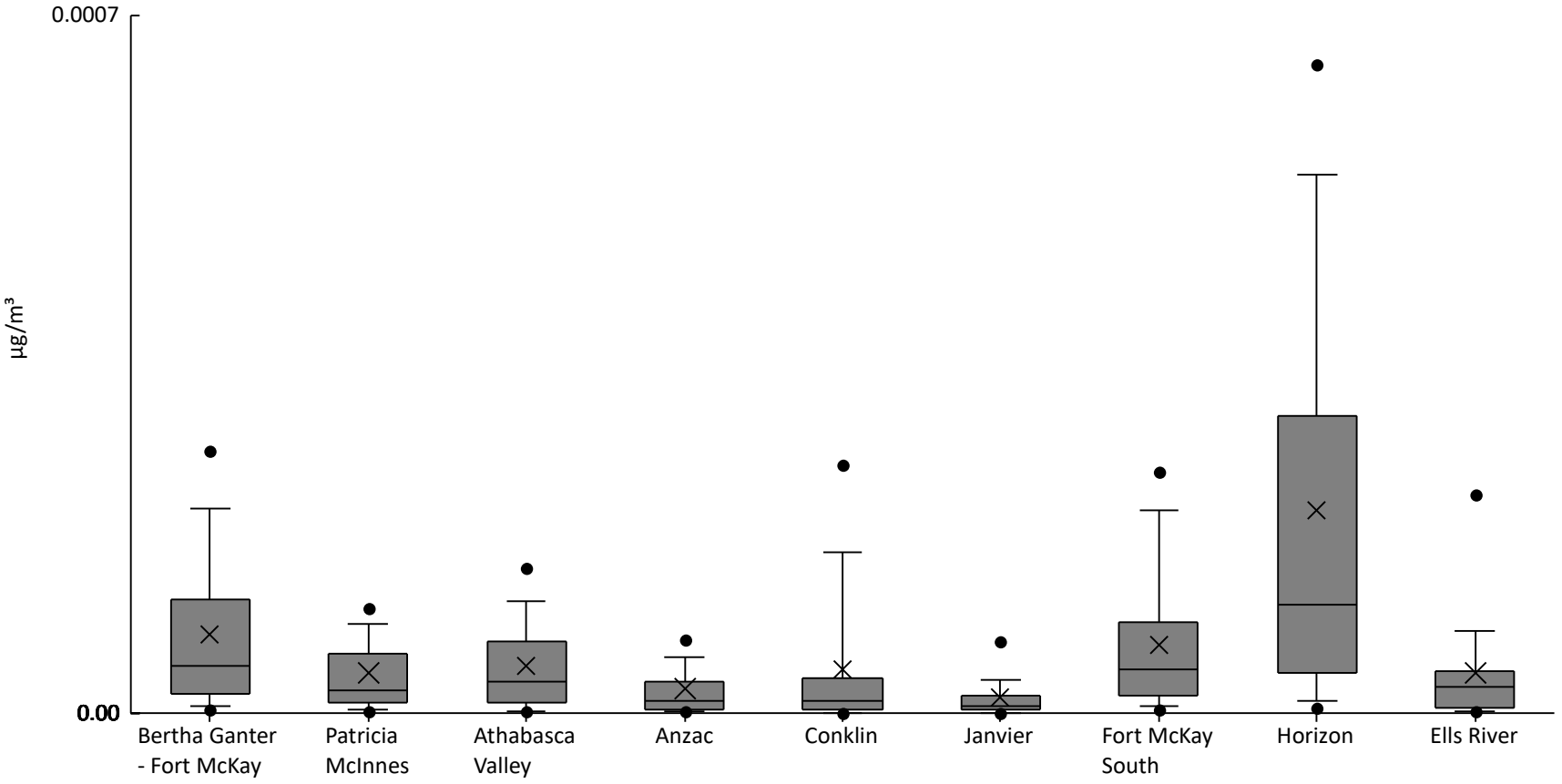
Particulate Matter <10µm Tested For Elements - Thallium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	77%	0	0	1.6E-6	6.8E-6	1.6E-5	6.8E-5	4.7E-4	8.2E-4	4.7E-3	1.7E-4	6.3E-4
AMS06	Patricia McInnes	61	69%	0	0	0	3.8E-6	1.6E-5	6.7E-5	2.4E-4	7.3E-4	4.1E-3	1.5E-4	5.6E-4
AMS07	Athabasca Valley	61	75%	0	0	1E-6	4.8E-6	1.3E-5	5.4E-5	1E-4	1.7E-4	1.2E-3	5.4E-5	1.6E-4
AMS14	Anzac	61	57%	0	0	0	1.8E-6	1.4E-5	8E-5	2E-4	4.3E-4	4.3E-3	1.3E-4	5.6E-4
AMS21	Conklin	31	100%	7E-6	8.2E-6	1.2E-5	1.6E-5	3.6E-5	9.6E-5	1.6E-4	2.5E-4	3E-4	6.8E-5	7.3E-5
AMS22	Janvier	21	95%	3E-6	6.3E-6	1.1E-5	1.6E-5	3E-5	8.6E-5	2.5E-4	2.2E-3	4.4E-3	2.7E-4	9.5E-4
AMS13	Fort McKay South	60	77%	0	0	1E-6	5.5E-6	1.7E-5	1.2E-4	4.3E-4	4.3E-3	4.9E-3	3.8E-4	1.1E-3
AMS15	Horizon	41	78%	0	0	0	6E-6	1.4E-5	4.4E-5	1E-4	2.4E-4	1.4E-3	6.7E-5	2.1E-4
AMS30	Ells River	18	100%	1.1E-5	1.7E-5	2.9E-5	4.7E-5	3.5E-4	9E-4	9.8E-4	3.1E-3	4.5E-3	6.2E-4	1E-3



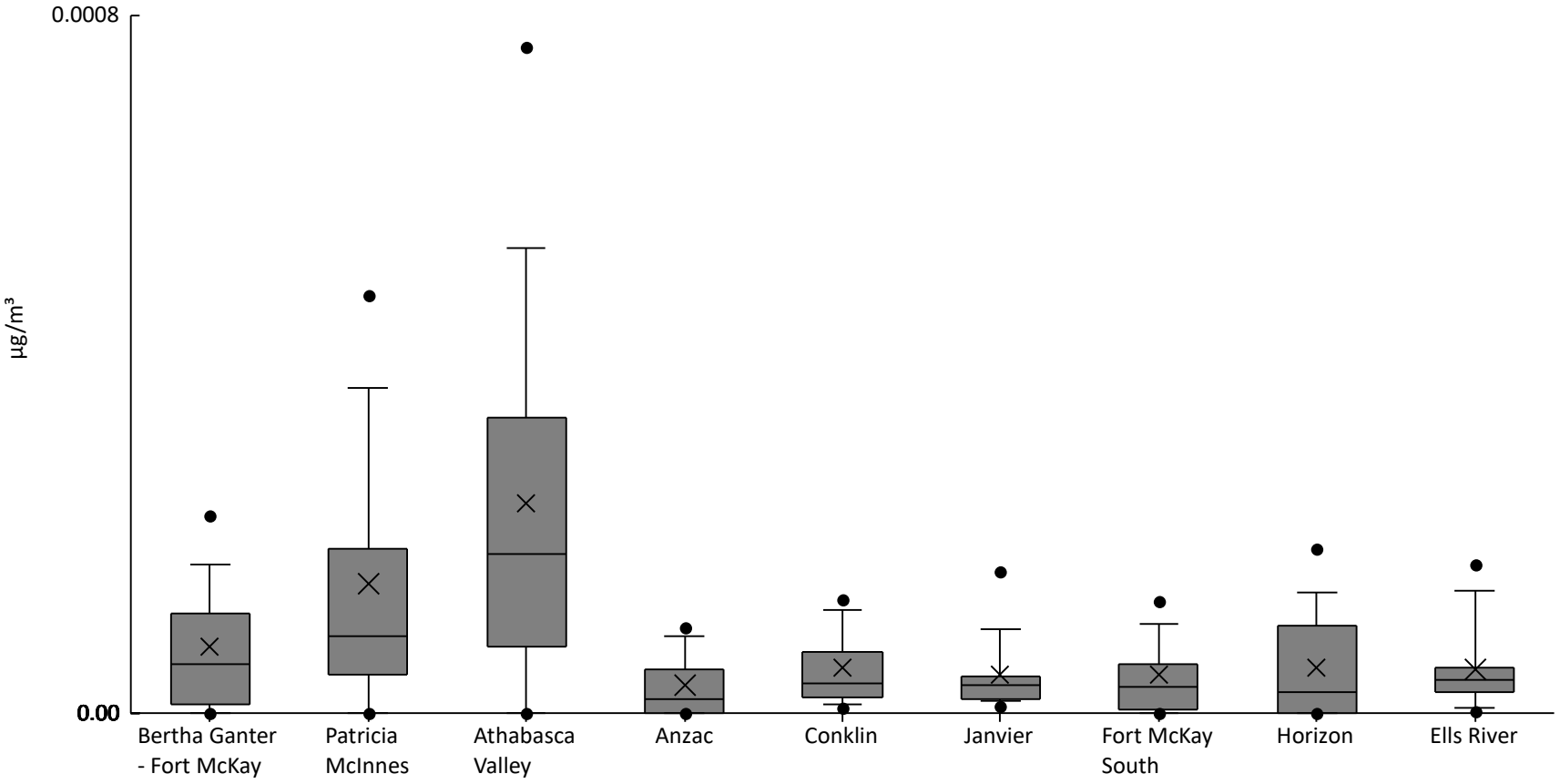
Particulate Matter <10µm Tested For Elements - Thorium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	3.6E-6	7E-6	1.9E-5	4.7E-5	1.1E-4	2.1E-4	2.6E-4	4.3E-4	7.9E-5	8.7E-5
AMS06	Patricia McInnes	61	95%	0	2.1E-6	4E-6	9.8E-6	2.2E-5	6E-5	9E-5	1.1E-4	2.6E-4	4E-5	4.7E-5
AMS07	Athabasca Valley	61	90%	0	1E-6	2.6E-6	9.8E-6	3.2E-5	7.2E-5	1.1E-4	1.5E-4	3.2E-4	4.8E-5	5.5E-5
AMS14	Anzac	61	77%	0	1E-6	1E-6	3E-6	1.2E-5	3.2E-5	5.6E-5	7.4E-5	3.4E-4	2.5E-5	4.7E-5
AMS21	Conklin	31	77%	0	0	6E-7	3E-6	1.3E-5	3.4E-5	1.6E-4	2.5E-4	3.3E-4	4.5E-5	8E-5
AMS22	Janvier	21	81%	0	0	6E-7	3E-6	7E-6	1.7E-5	3.3E-5	7.2E-5	1.1E-4	1.5E-5	2.4E-5
AMS13	Fort McKay South	60	97%	0	4E-6	6.5E-6	1.7E-5	4.4E-5	9.1E-5	2E-4	2.4E-4	3E-4	6.9E-5	7.5E-5
AMS15	Horizon	41	95%	0	4.4E-6	1.2E-5	4.1E-5	1.1E-4	3E-4	5.4E-4	6.5E-4	8.1E-4	2E-4	2.1E-4
AMS30	Ells River	18	89%	1E-6	1.4E-6	2.3E-6	5E-6	2.6E-5	4.2E-5	8.3E-5	2.2E-4	3E-4	4.1E-5	7E-5



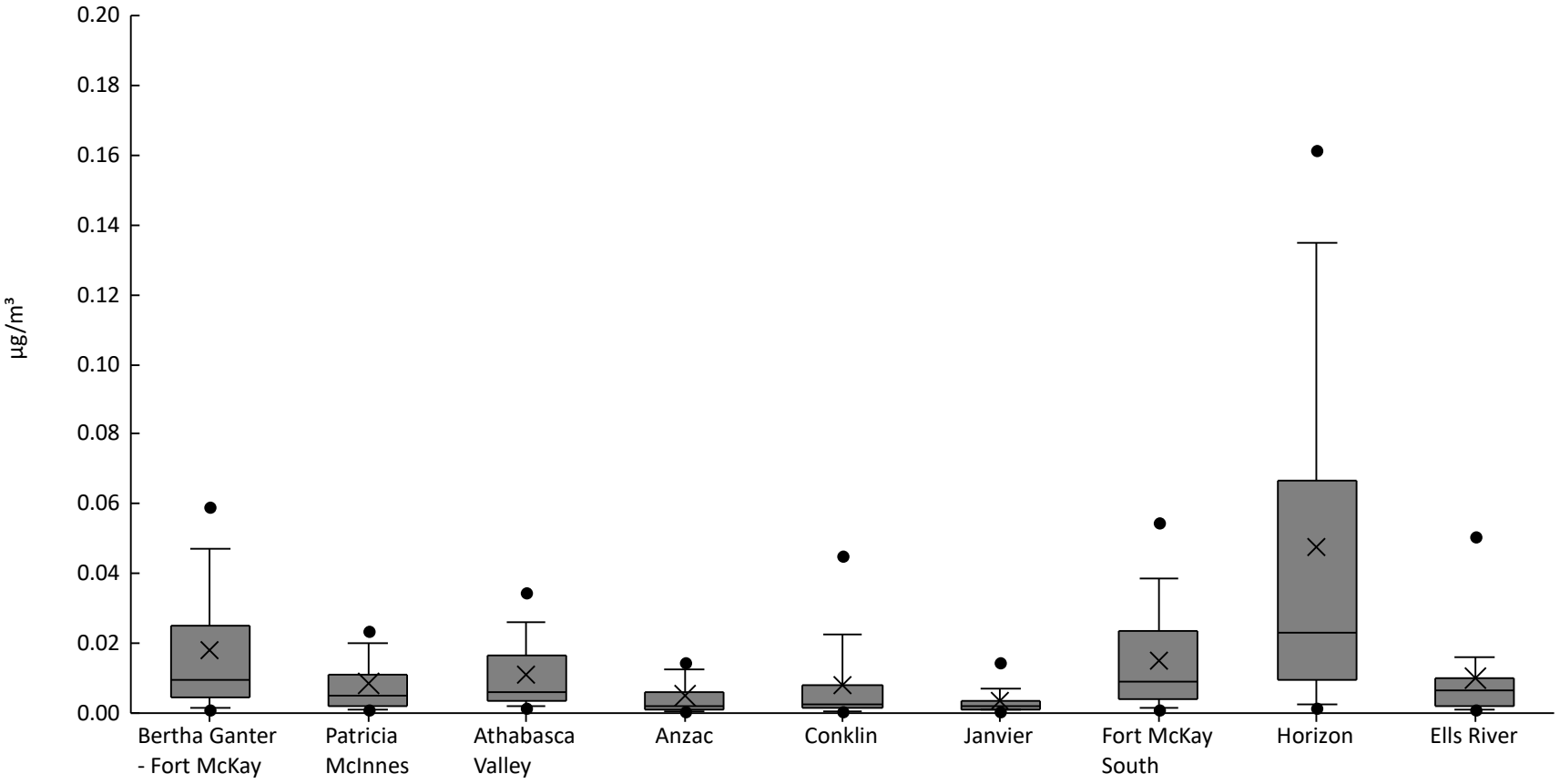
Particulate Matter <10µm Tested For Elements - Tin (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	75%	0	0	0	1E-5	5.6E-5	1.1E-4	1.7E-4	2.3E-4	4.3E-4	7.6E-5	8.4E-5
AMS06	Patricia McInnes	61	84%	0	0	0	4.4E-5	8.9E-5	1.9E-4	3.7E-4	4.8E-4	9.8E-4	1.5E-4	1.8E-4
AMS07	Athabasca Valley	61	89%	0	0	0	7.7E-5	1.8E-4	3.4E-4	5.3E-4	7.6E-4	1E-3	2.4E-4	2.2E-4
AMS14	Anzac	61	56%	0	0	0	0	1.6E-5	4.9E-5	8.7E-5	9.9E-5	2.1E-4	3.1E-5	4.2E-5
AMS21	Conklin	31	94%	5E-6	6.2E-6	9.6E-6	1.8E-5	3.5E-5	7E-5	1.2E-4	1.3E-4	2.8E-4	5.2E-5	5.5E-5
AMS22	Janvier	21	95%	1E-6	7.6E-6	1.4E-5	1.7E-5	3.2E-5	4.3E-5	9.6E-5	1.6E-4	2.2E-4	4.4E-5	4.8E-5
AMS13	Fort McKay South	60	72%	0	0	0	5E-6	3.1E-5	5.7E-5	1E-4	1.3E-4	3.8E-4	4.5E-5	5.8E-5
AMS15	Horizon	41	63%	0	0	0	0	2.5E-5	1E-4	1.4E-4	1.9E-4	2.6E-4	5.2E-5	6.5E-5
AMS30	Ells River	18	83%	1E-6	3E-6	6.6E-6	2.4E-5	3.8E-5	5.2E-5	1.4E-4	1.7E-4	1.7E-4	4.9E-5	4.7E-5



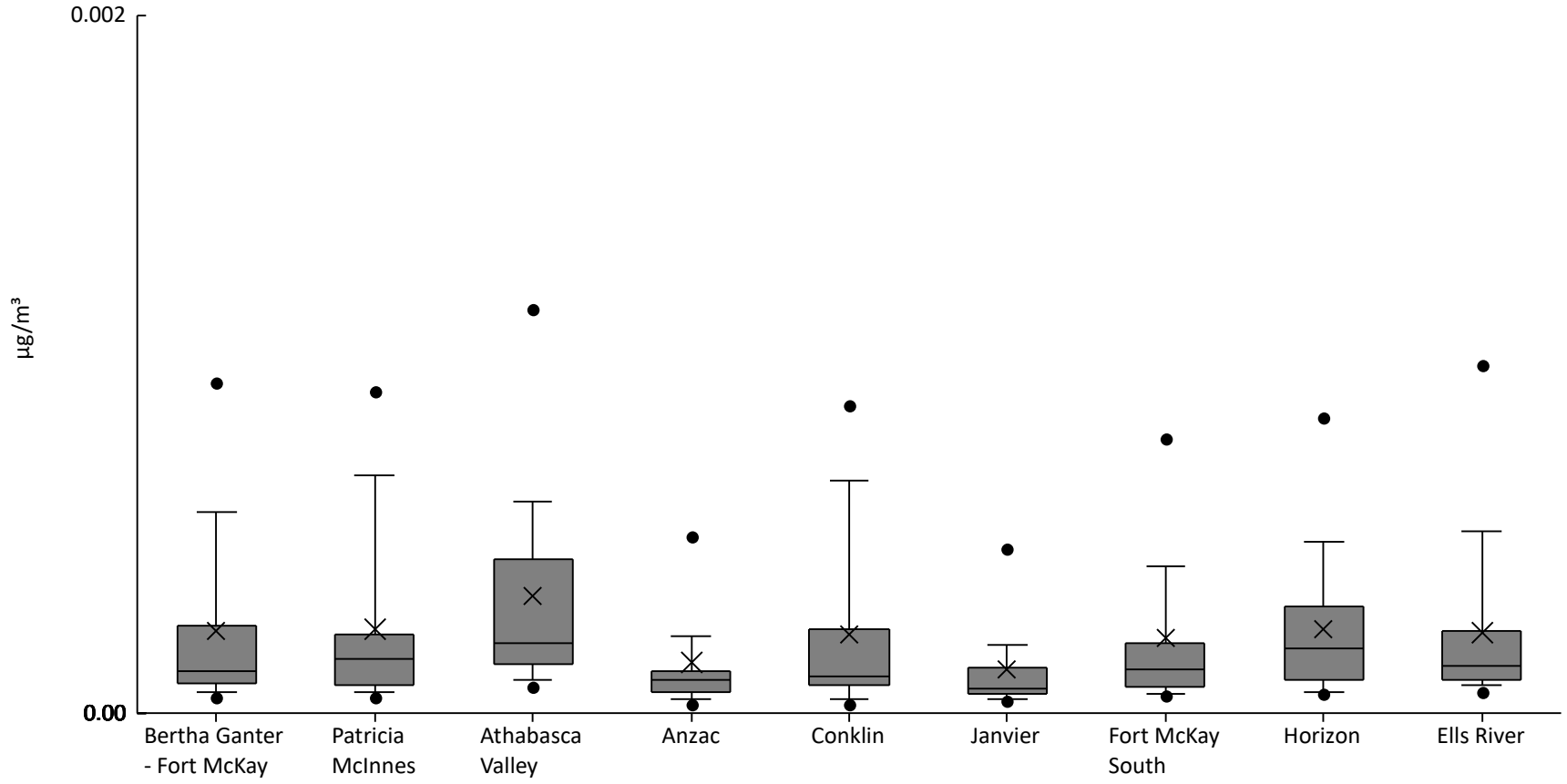
Particulate Matter <10µm Tested For Elements - Titanium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	8.2E-4	1.1E-3	1.5E-3	4.7E-3	9.6E-3	0.025	0.047	0.059	0.1	0.018	0.02
AMS06	Patricia McInnes	61	100%	3.7E-4	9E-4	1E-3	2.1E-3	4.9E-3	0.011	0.02	0.023	0.054	8.6E-3	0.01
AMS07	Athabasca Valley	61	100%	1.2E-3	1.7E-3	2E-3	3.5E-3	6.3E-3	0.016	0.026	0.035	0.065	0.011	0.012
AMS14	Anzac	61	100%	4.2E-4	5.2E-4	6.7E-4	1.2E-3	2E-3	5.8E-3	0.012	0.015	0.067	5.1E-3	9E-3
AMS21	Conklin	31	100%	4.7E-4	6.9E-4	7.1E-4	1.3E-3	2.7E-3	7.8E-3	0.023	0.045	0.06	8.1E-3	0.014
AMS22	Janvier	21	100%	6.1E-4	7.1E-4	8.3E-4	1.1E-3	2.2E-3	3.3E-3	7E-3	0.015	0.024	3.5E-3	5.1E-3
AMS13	Fort McKay South	60	100%	4.7E-4	1.1E-3	1.5E-3	4E-3	9.1E-3	0.023	0.039	0.055	0.073	0.015	0.017
AMS15	Horizon	41	100%	7.6E-4	1.5E-3	2.5E-3	9.6E-3	0.023	0.067	0.13	0.16	0.19	0.048	0.051
AMS30	Ells River	18	100%	1E-3	1E-3	1.2E-3	2E-3	6.3E-3	0.01	0.016	0.051	0.074	0.01	0.017



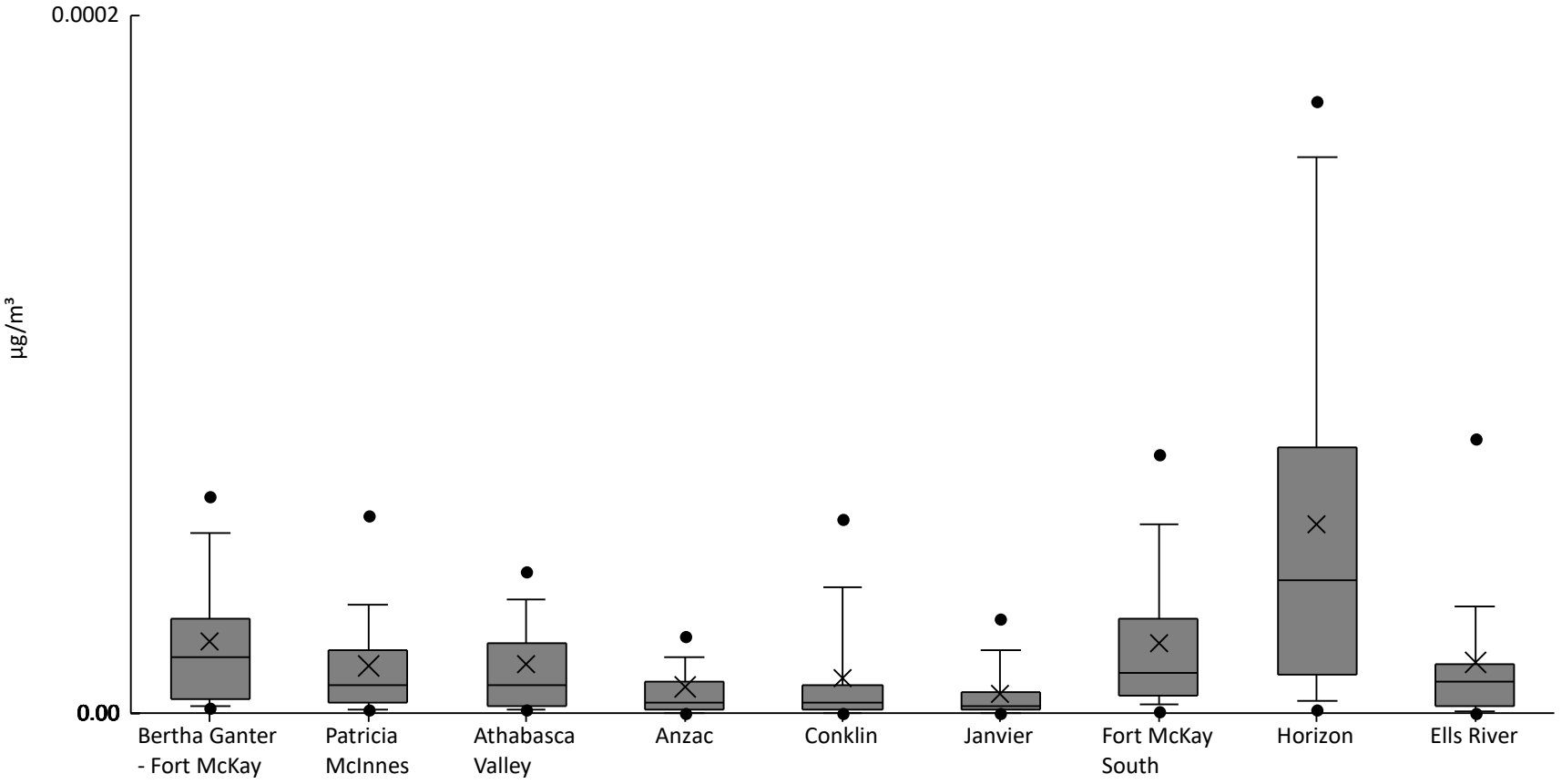
Particulate Matter <10µm Tested For Elements - Tungsten (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.4E-5	4.4E-5	6E-5	8.7E-5	1.2E-4	2.5E-4	5.8E-4	9.5E-4	1.4E-3	2.3E-4	2.7E-4
AMS06	Patricia McInnes	61	100%	3.4E-5	4.8E-5	5.9E-5	8.1E-5	1.5E-4	2.3E-4	6.8E-4	9.2E-4	1E-3	2.4E-4	2.5E-4
AMS07	Athabasca Valley	61	100%	5.4E-5	7.7E-5	9.5E-5	1.4E-4	2E-4	4.4E-4	6.1E-4	1.2E-3	2.1E-3	3.4E-4	3.6E-4
AMS14	Anzac	61	100%	2.1E-5	2.6E-5	3.9E-5	5.8E-5	9.3E-5	1.2E-4	2.2E-4	5.1E-4	1.2E-3	1.4E-4	2.2E-4
AMS21	Conklin	31	100%	2.3E-5	2.4E-5	4.2E-5	8E-5	1.1E-4	2.4E-4	6.7E-4	8.8E-4	1.1E-3	2.2E-4	2.6E-4
AMS22	Janvier	21	100%	3.1E-5	3.3E-5	4.1E-5	5.5E-5	6.9E-5	1.3E-4	2E-4	4.7E-4	8E-4	1.3E-4	1.6E-4
AMS13	Fort McKay South	60	100%	3.8E-5	5.1E-5	5.5E-5	7.6E-5	1.3E-4	2E-4	4.2E-4	7.9E-4	2.2E-3	2.2E-4	3.2E-4
AMS15	Horizon	41	100%	4.3E-5	5.7E-5	6.3E-5	9.3E-5	1.8E-4	3.1E-4	4.9E-4	8.4E-4	9E-4	2.4E-4	2.1E-4
AMS30	Ells River	18	100%	4.6E-5	6E-5	8.1E-5	9.6E-5	1.4E-4	2.4E-4	5.2E-4	9.9E-4	1.2E-3	2.3E-4	2.8E-4



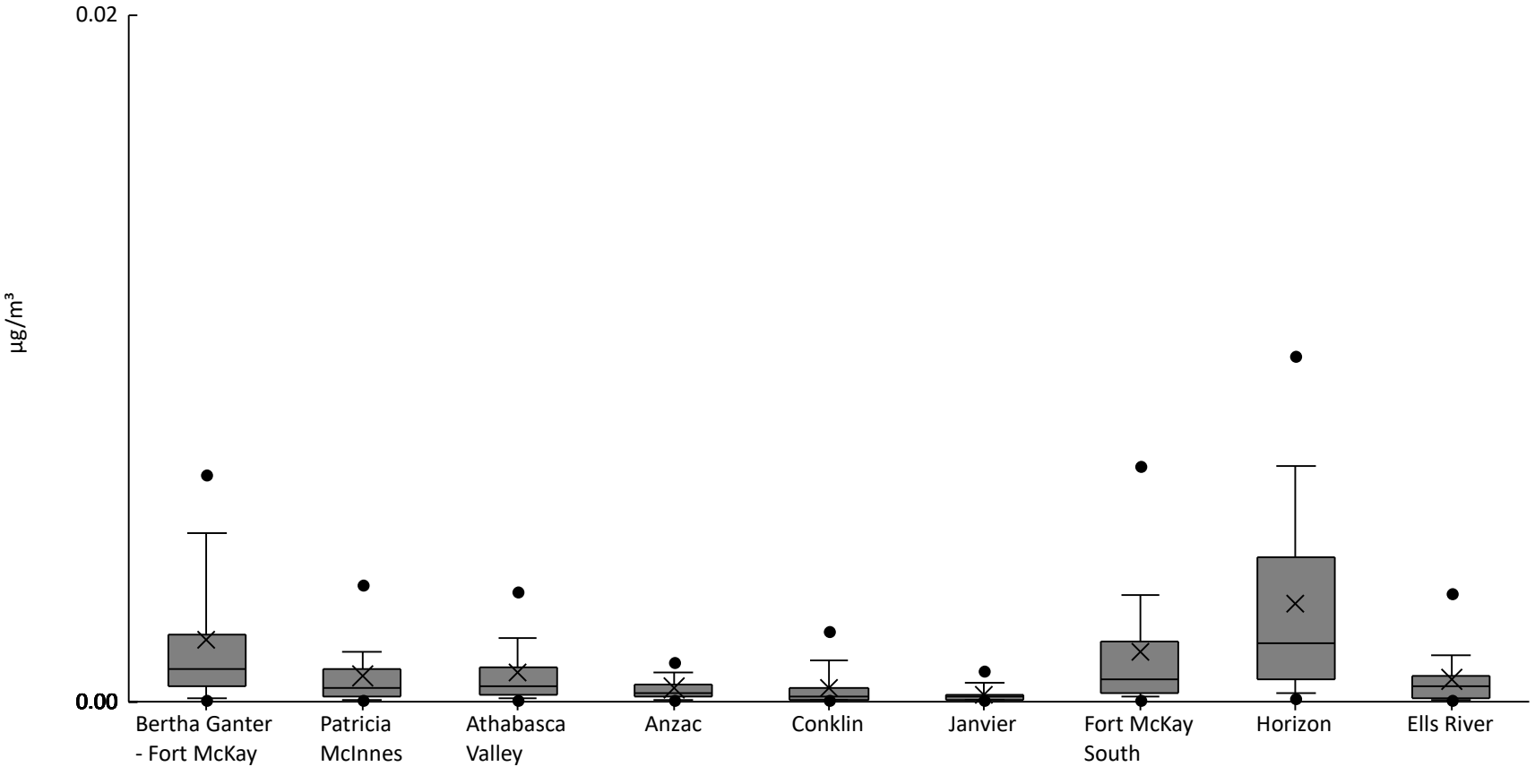
Particulate Matter <10µm Tested For Elements - Uranium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	85%	0	1.6E-6	2E-6	4E-6	1.6E-5	2.7E-5	5.2E-5	6.2E-5	1.1E-4	2.1E-5	2.1E-5
AMS06	Patricia McInnes	61	80%	0	1E-6	1E-6	3E-6	8E-6	1.8E-5	3.1E-5	5.7E-5	6.6E-5	1.4E-5	1.6E-5
AMS07	Athabasca Valley	61	74%	0	1E-6	1E-6	2E-6	8E-6	2E-5	3.3E-5	4.1E-5	1.1E-4	1.4E-5	1.7E-5
AMS14	Anzac	61	56%	0	0	0	1E-6	3E-6	9E-6	1.6E-5	2.2E-5	9.8E-5	7.3E-6	1.3E-5
AMS21	Conklin	31	61%	0	0	0	1E-6	3E-6	8E-6	3.6E-5	5.6E-5	6.1E-5	1E-5	1.6E-5
AMS22	Janvier	21	48%	0	0	0	1E-6	2E-6	6E-6	1.8E-5	2.7E-5	3.3E-5	5.6E-6	8.2E-6
AMS13	Fort McKay South	60	90%	0	5E-7	2.5E-6	5E-6	1.2E-5	2.7E-5	5.4E-5	7.4E-5	1.1E-4	2E-5	2.3E-5
AMS15	Horizon	41	93%	0	1.1E-6	3.6E-6	1.1E-5	3.8E-5	7.6E-5	1.6E-4	1.8E-4	1.9E-4	5.4E-5	5.6E-5
AMS30	Ells River	18	72%	0	0	3E-7	2E-6	9E-6	1.4E-5	3.1E-5	7.9E-5	1.1E-4	1.5E-5	2.5E-5



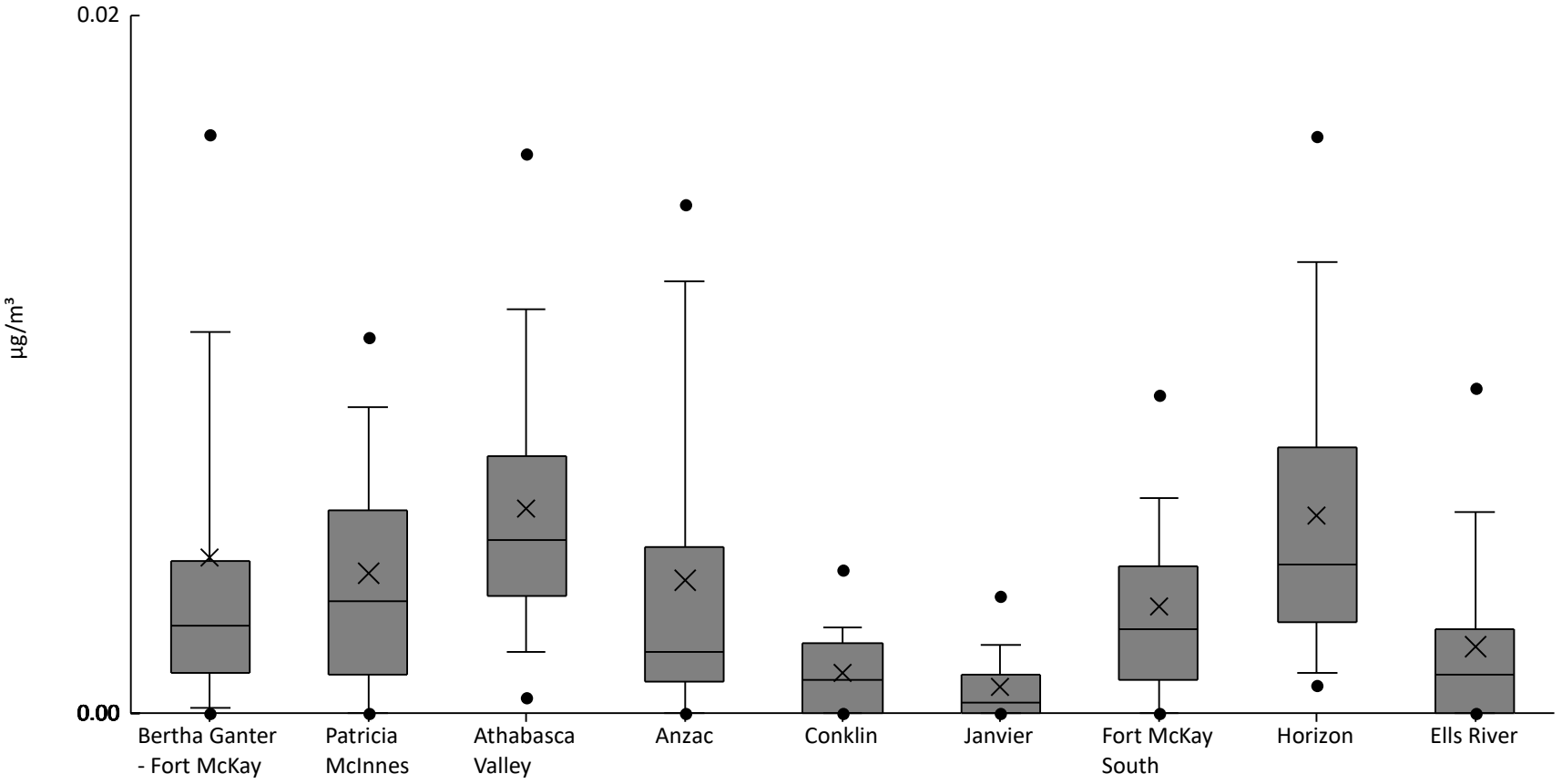
Particulate Matter <10µm Tested For Elements - Vanadium (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	2.9E-5	5.7E-5	1.1E-4	4.5E-4	9.3E-4	2E-3	4.9E-3	6.6E-3	0.018	1.8E-3	2.8E-3
AMS06	Patricia McInnes	61	100%	2.6E-5	5.3E-5	7.4E-5	1.7E-4	3.9E-4	9.4E-4	1.4E-3	3.4E-3	4.4E-3	7.3E-4	9.7E-4
AMS07	Athabasca Valley	61	100%	5.6E-5	7.2E-5	1.1E-4	2.1E-4	4.4E-4	1E-3	1.8E-3	3.2E-3	5.8E-3	8.3E-4	1.1E-3
AMS14	Anzac	61	98%	1.6E-5	3.5E-5	5.4E-5	1.3E-4	2.4E-4	5E-4	8.7E-4	1.2E-3	3.5E-3	4E-4	5.4E-4
AMS21	Conklin	31	100%	2.3E-5	2.8E-5	4.1E-5	6.9E-5	1.6E-4	4.1E-4	1.2E-3	2.1E-3	2.8E-3	4.2E-4	6.4E-4
AMS22	Janvier	21	100%	2.5E-5	3.3E-5	4.1E-5	6.2E-5	1.3E-4	2.1E-4	5.3E-4	8.8E-4	1.1E-3	2.1E-4	2.5E-4
AMS13	Fort McKay South	60	100%	3.5E-5	6.4E-5	1.5E-4	2.5E-4	6.7E-4	1.7E-3	3.1E-3	6.9E-3	0.01	1.5E-3	2.1E-3
AMS15	Horizon	41	100%	5.4E-5	1.1E-4	2.3E-4	6.5E-4	1.7E-3	4.2E-3	6.9E-3	0.01	0.01	2.8E-3	2.9E-3
AMS30	Ells River	18	100%	4.1E-5	4.9E-5	6.2E-5	9.6E-5	4.7E-4	7.5E-4	1.3E-3	3.2E-3	4.3E-3	6.7E-4	9.8E-4



Particulate Matter <10µm Tested For Elements - Zinc (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	90%	0	0	1.3E-4	1.2E-3	2.5E-3	4.4E-3	0.011	0.017	0.041	4.5E-3	6.8E-3
AMS06	Patricia McInnes	61	89%	0	0	0	1.1E-3	3.2E-3	5.8E-3	8.8E-3	0.011	0.018	4E-3	3.7E-3
AMS07	Athabasca Valley	61	95%	0	4.3E-4	1.8E-3	3.4E-3	5E-3	7.4E-3	0.012	0.016	0.019	5.9E-3	4.2E-3
AMS14	Anzac	61	87%	0	0	0	8.8E-4	1.8E-3	4.8E-3	0.012	0.015	0.025	3.8E-3	5E-3
AMS21	Conklin	31	68%	0	0	0	0	9.6E-4	2E-3	2.4E-3	4.1E-3	4.4E-3	1.2E-3	1.2E-3
AMS22	Janvier	21	52%	0	0	0	0	2.8E-4	1.1E-3	2E-3	3.3E-3	4.2E-3	7.5E-4	1.1E-3
AMS13	Fort McKay South	60	87%	0	0	0	9.5E-4	2.4E-3	4.2E-3	6.2E-3	9.1E-3	0.017	3.1E-3	3E-3
AMS15	Horizon	41	100%	3.5E-4	8.1E-4	1.2E-3	2.6E-3	4.3E-3	7.6E-3	0.013	0.017	0.018	5.7E-3	4.7E-3
AMS30	Ells River	18	67%	0	0	0	0	1.1E-3	2.4E-3	5.8E-3	9.3E-3	0.011	1.9E-3	2.9E-3



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

PARTICULATE MATTER – ELEMENTAL CARBON/ORGANIC CARBON DATA SUMMARY 2020

Prepared
March 2021

SAMPLE COLLECTION AND DATA COMPILATION BY:

Wood Buffalo Environmental Association
Fort McMurray, Alberta

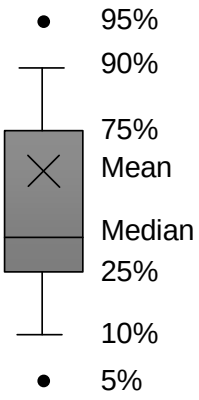
LABORATORY ANALYSIS BY:

EC/OC: Desert Research Institute
Reno, NV

CONTENTS DESCRIPTION	Annual Summary of Partisol Sampler Measurements of elemental carbon (EC) and organic carbon (OC)
SAMPLING PERIOD	24 hour
SAMPLING INTERVAL	Once every 6 days
UNITS	µg/m^3 (microgram per cubic meter)
OBSERVATION TYPE	Particles
FIELD SAMPLING OR MEASUREMENT PRINCIPLE	Filtration with PM_{10} Inlet/Very Sharp Cut Cyclone for $PM_{2.5}$
PARTICLE DIAMETER	< 2.5 µm
MEDIUM	47 mm Quartz Filter
ANALYTICALMETHODS	DRI Model 2001 Thermal/Optical Carbon Analyzer
SAMPLE PREPARATION	NA
ANALYTICAL LABORATORY	Desert Research Institute
USER NOTE 1	Data are blank corrected
USER NOTE 2	Volume is given at actual conditions of temperature and pressure during sampling as measured by the sampler
USER NOTE 3	Blank sample concentration (µg/m^3) is calculated using expected actual volume of sampler
USER NOTE 4	Summary statistics include data with flags beginning with V.
VOLUME STANDARDIZATION	Actual Volume at Ambient Conditions
SAMPLING INSTRUMENT TYPE	FRM Partisol $PM_{2.5}$ sampler

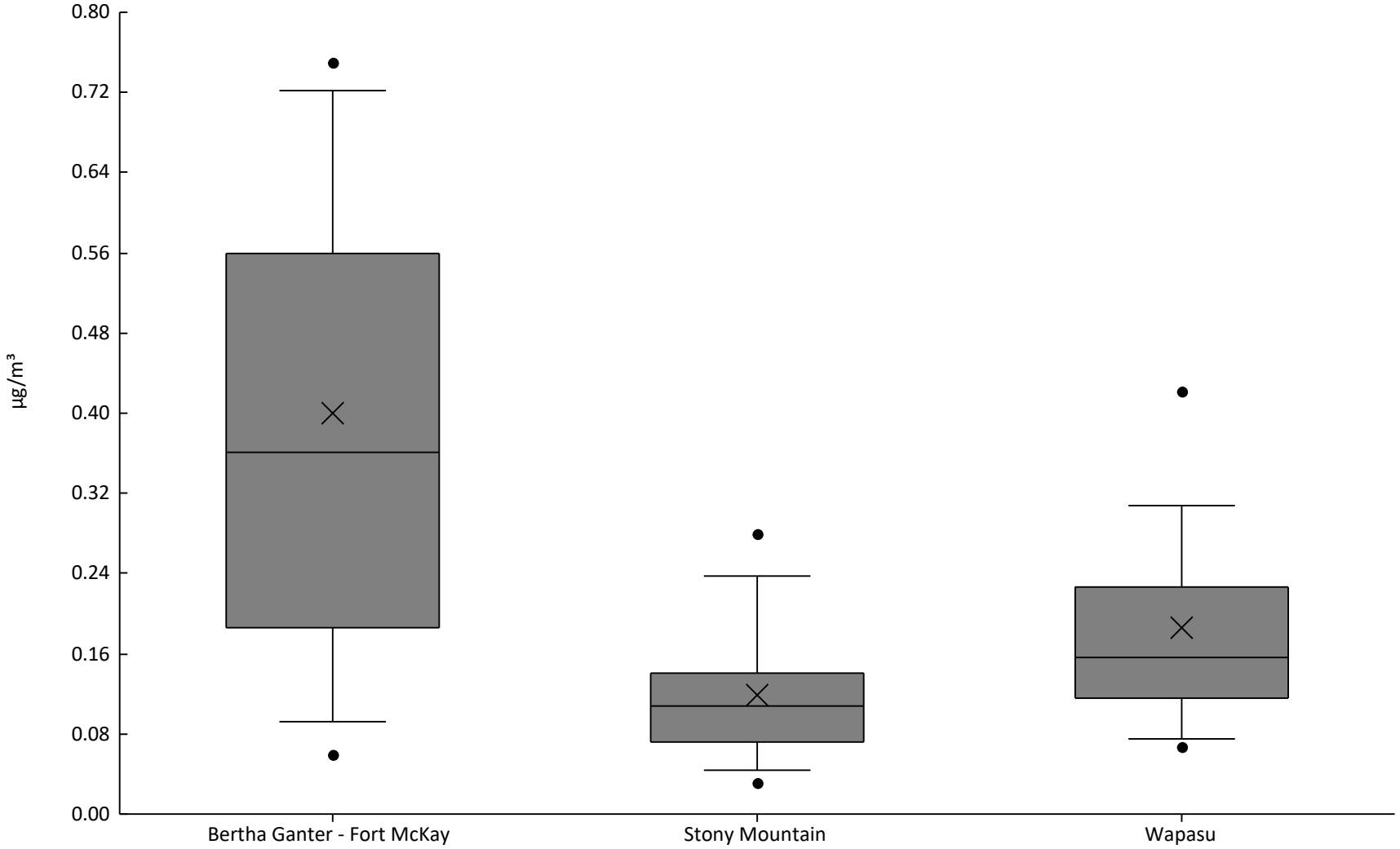
FLAGS USED	
V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination
V6	Valid value but qualified due to non-standard sampling conditions
M1	Missing value because no value is available
M2	Missing value because invalidated by Data Originator

Legend description



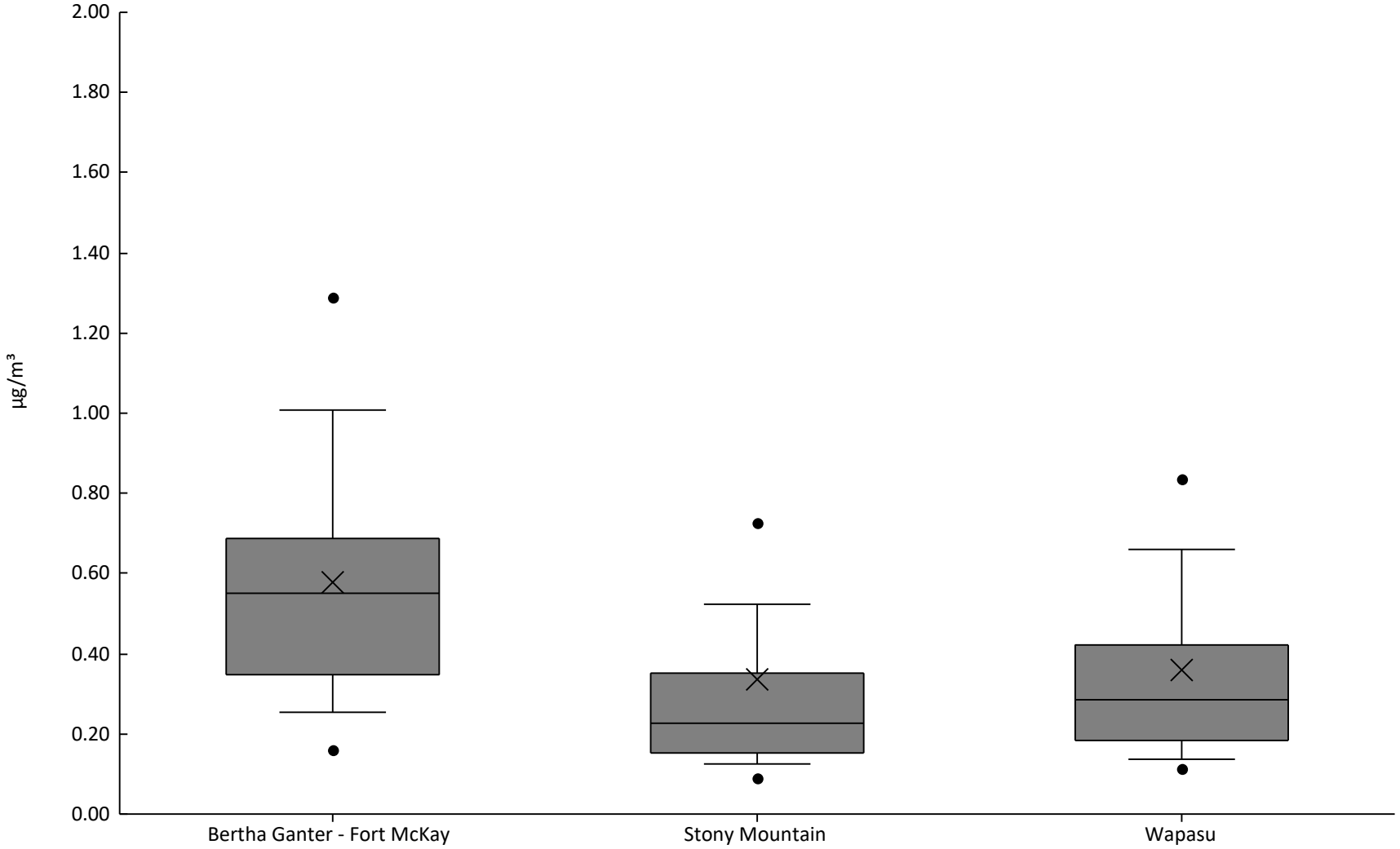
Elemental Carbon Organic Carbon - Organic Carbon Fraction 1 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	8E-3	0.059	0.093	0.19	0.36	0.56	0.72	0.75	1.5	0.4	0.26
AMS18	Stony Mountain	60	100%	8E-3	0.031	0.043	0.072	0.11	0.14	0.24	0.28	0.41	0.12	0.077
AMS17	Wapasu	61	100%	0.03	0.067	0.075	0.12	0.16	0.23	0.31	0.42	0.59	0.19	0.11



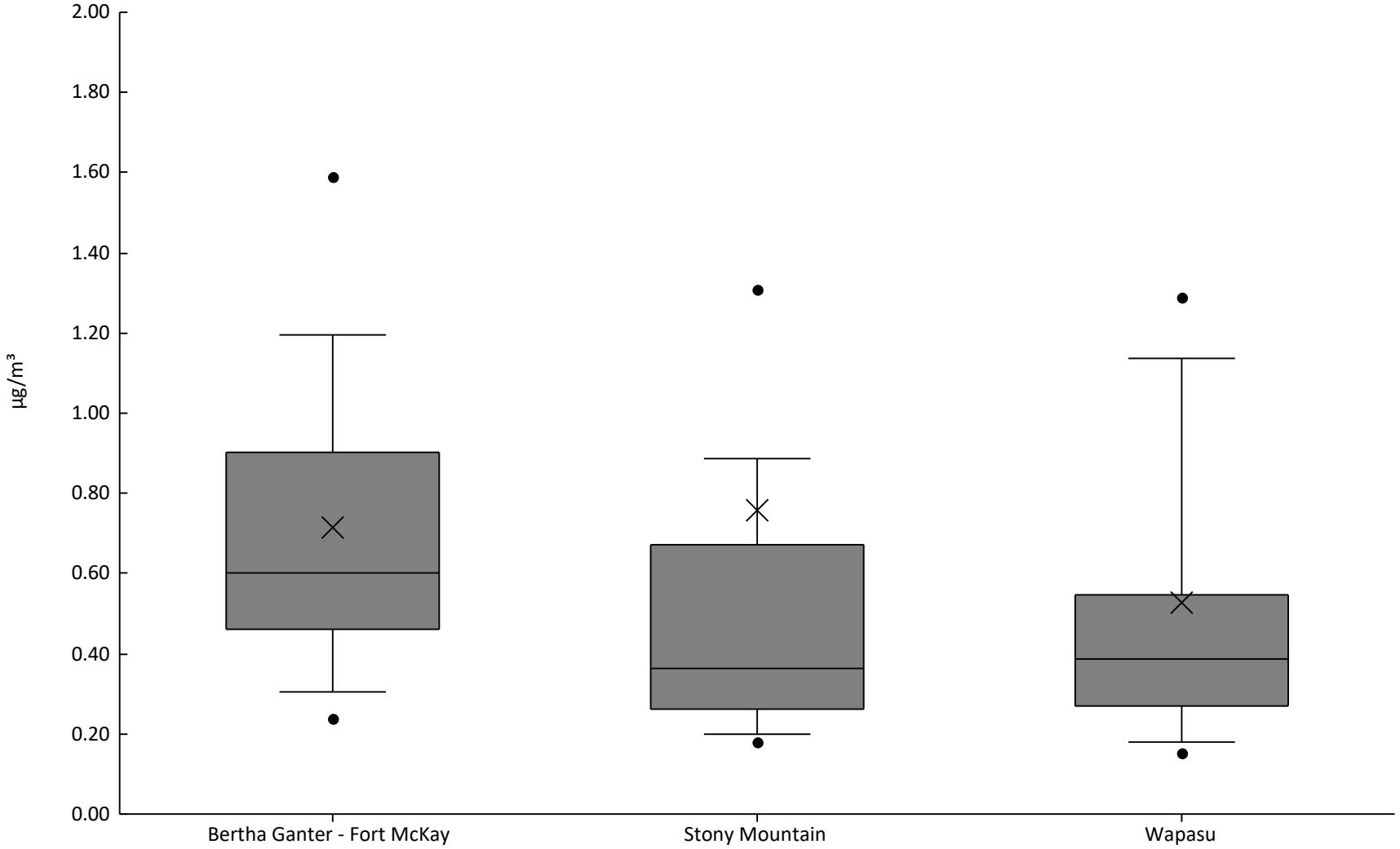
Elemental Carbon Organic Carbon - Organic Carbon Fraction 2 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0.038	0.16	0.25	0.35	0.55	0.69	1	1.3	1.9	0.58	0.34
AMS18	Stony Mountain	60	98%	0.048	0.088	0.13	0.15	0.23	0.35	0.52	0.73	3.9	0.34	0.5
AMS17	Wapasu	61	100%	0.091	0.11	0.14	0.18	0.28	0.42	0.66	0.83	2	0.36	0.3



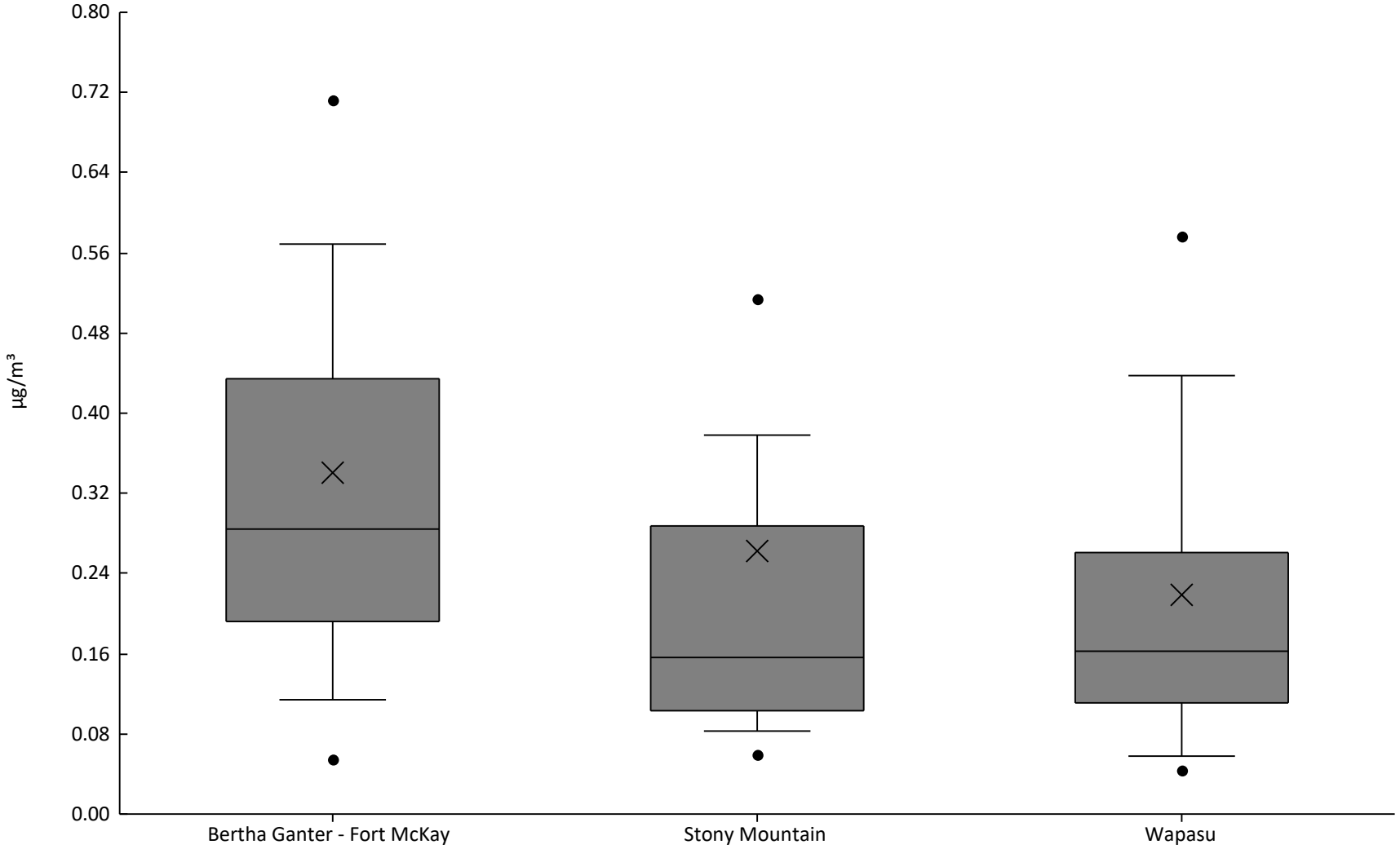
Elemental Carbon Organic Carbon - Organic Carbon Fraction 3 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0.1	0.24	0.3	0.46	0.6	0.9	1.2	1.6	2.5	0.72	0.43
AMS18	Stony Mountain	60	100%	0.15	0.18	0.2	0.26	0.36	0.67	0.89	1.3	17	0.76	2.2
AMS17	Wapasu	61	97%	0.15	0.15	0.18	0.27	0.39	0.55	1.1	1.3	3.3	0.53	0.5



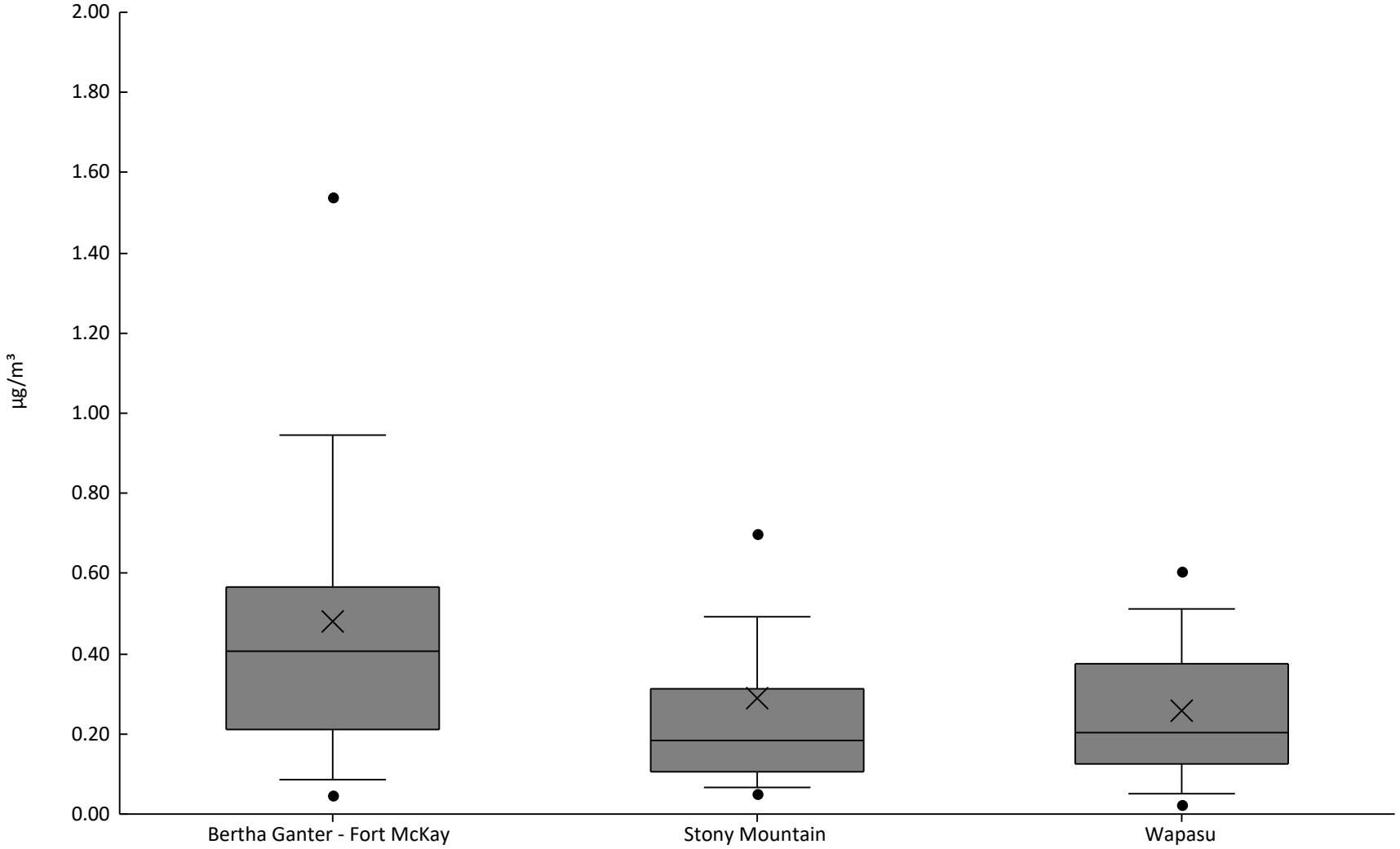
Elemental Carbon Organic Carbon - Organic Carbon Fraction 4 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	1E-3	0.055	0.11	0.19	0.29	0.43	0.57	0.71	2.1	0.34	0.29
AMS18	Stony Mountain	60	100%	0.022	0.06	0.083	0.1	0.16	0.29	0.38	0.51	4.2	0.26	0.53
AMS17	Wapasu	61	100%	0.018	0.044	0.057	0.11	0.16	0.26	0.44	0.58	1.2	0.22	0.2



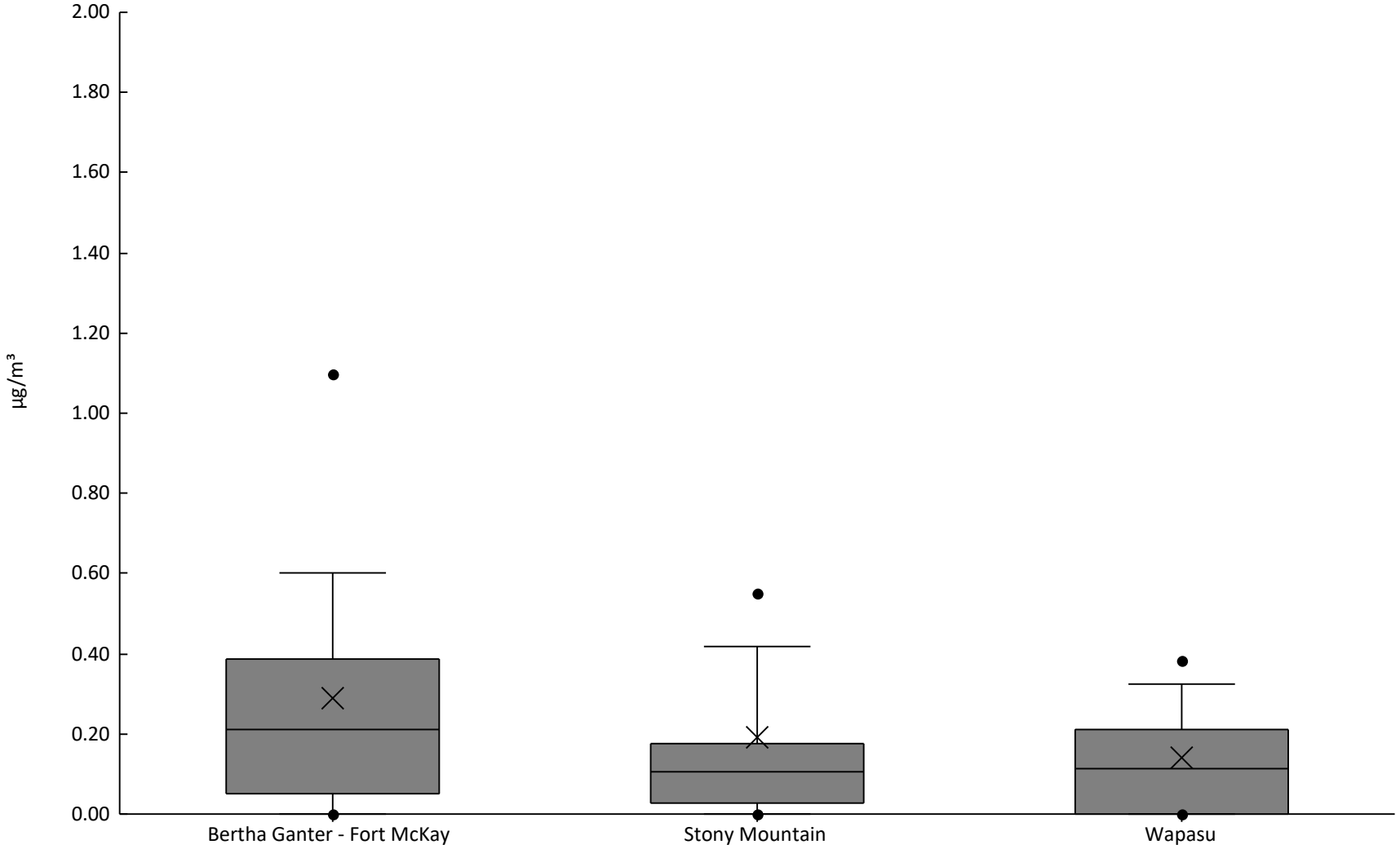
Elemental Carbon Organic Carbon - Pyrolyzed organic carbon, thermal method, transmittance (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	7E-3	0.045	0.085	0.21	0.41	0.57	0.95	1.5	2	0.48	0.42
AMS18	Stony Mountain	60	98%	3E-3	0.05	0.066	0.1	0.18	0.31	0.49	0.7	3.6	0.29	0.48
AMS17	Wapasu	61	98%	0	0.022	0.052	0.12	0.2	0.37	0.51	0.61	0.9	0.26	0.19



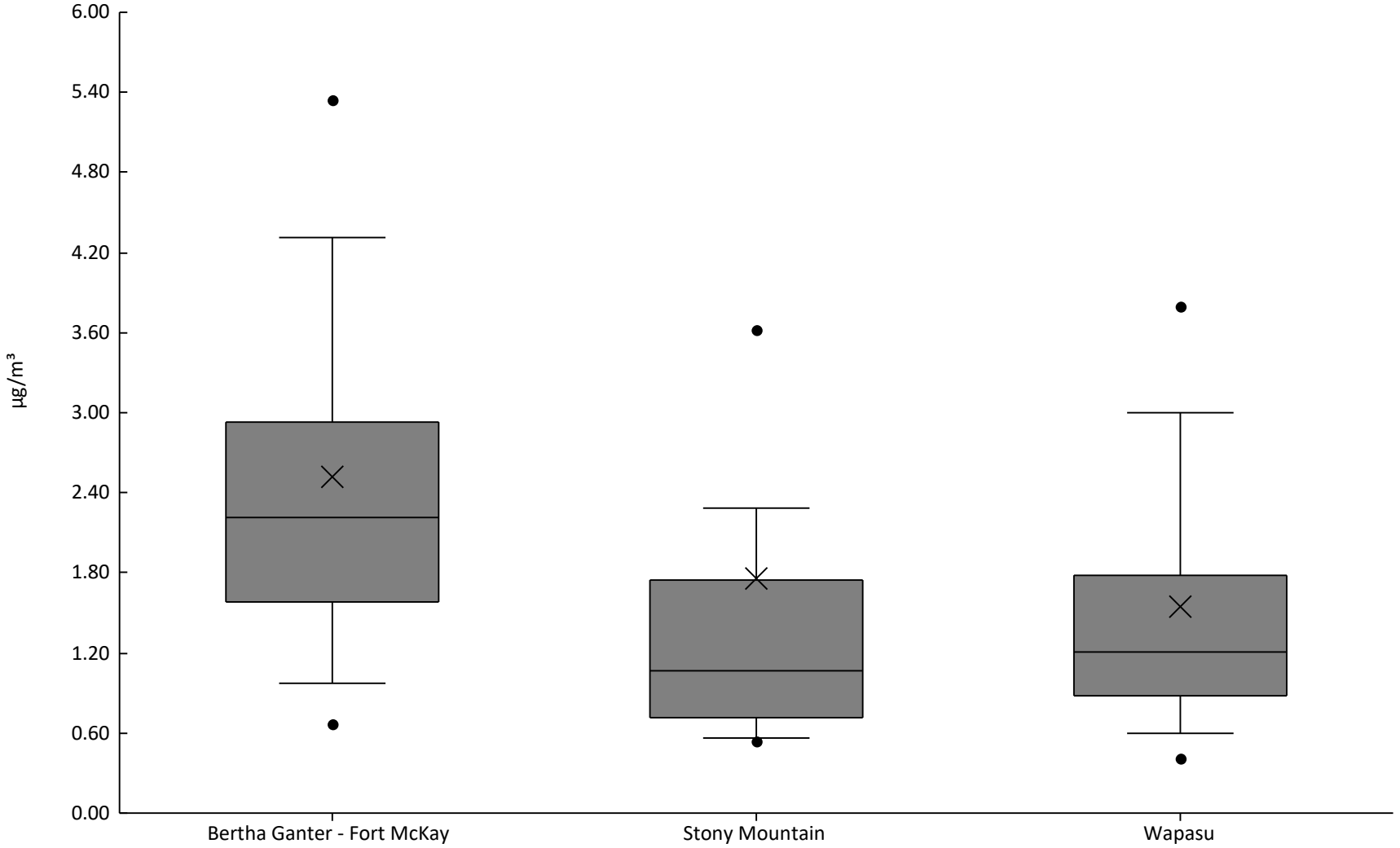
Elemental Carbon Organic Carbon - Pyrolyzed organic carbon, thermal method,reflectance (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	82%	0	0	0	0.053	0.21	0.39	0.6	1.1	1.5	0.29	0.34
AMS18	Stony Mountain	60	80%	0	0	0	0.027	0.11	0.18	0.42	0.55	3	0.19	0.41
AMS17	Wapasu	61	74%	0	0	0	0	0.12	0.21	0.33	0.38	0.72	0.14	0.15



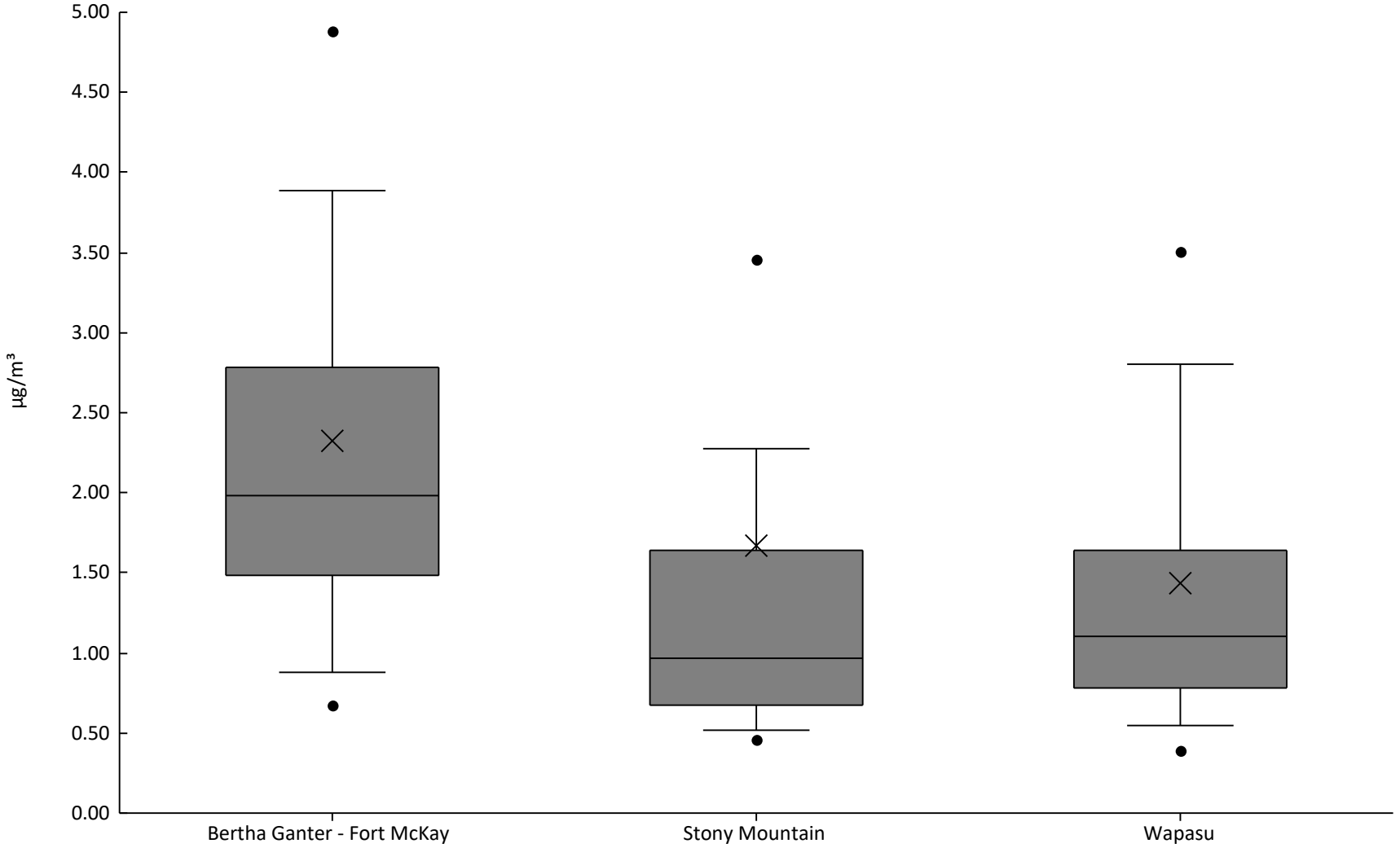
Elemental Carbon Organic Carbon - Organic carbon,thermal method, transmittance (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0.16	0.67	0.97	1.6	2.2	2.9	4.3	5.3	10	2.5	1.6
AMS18	Stony Mountain	60	100%	0.29	0.54	0.57	0.71	1.1	1.7	2.3	3.6	29	1.8	3.7
AMS17	Wapasu	61	100%	0.34	0.41	0.6	0.87	1.2	1.8	3	3.8	7.5	1.5	1.2



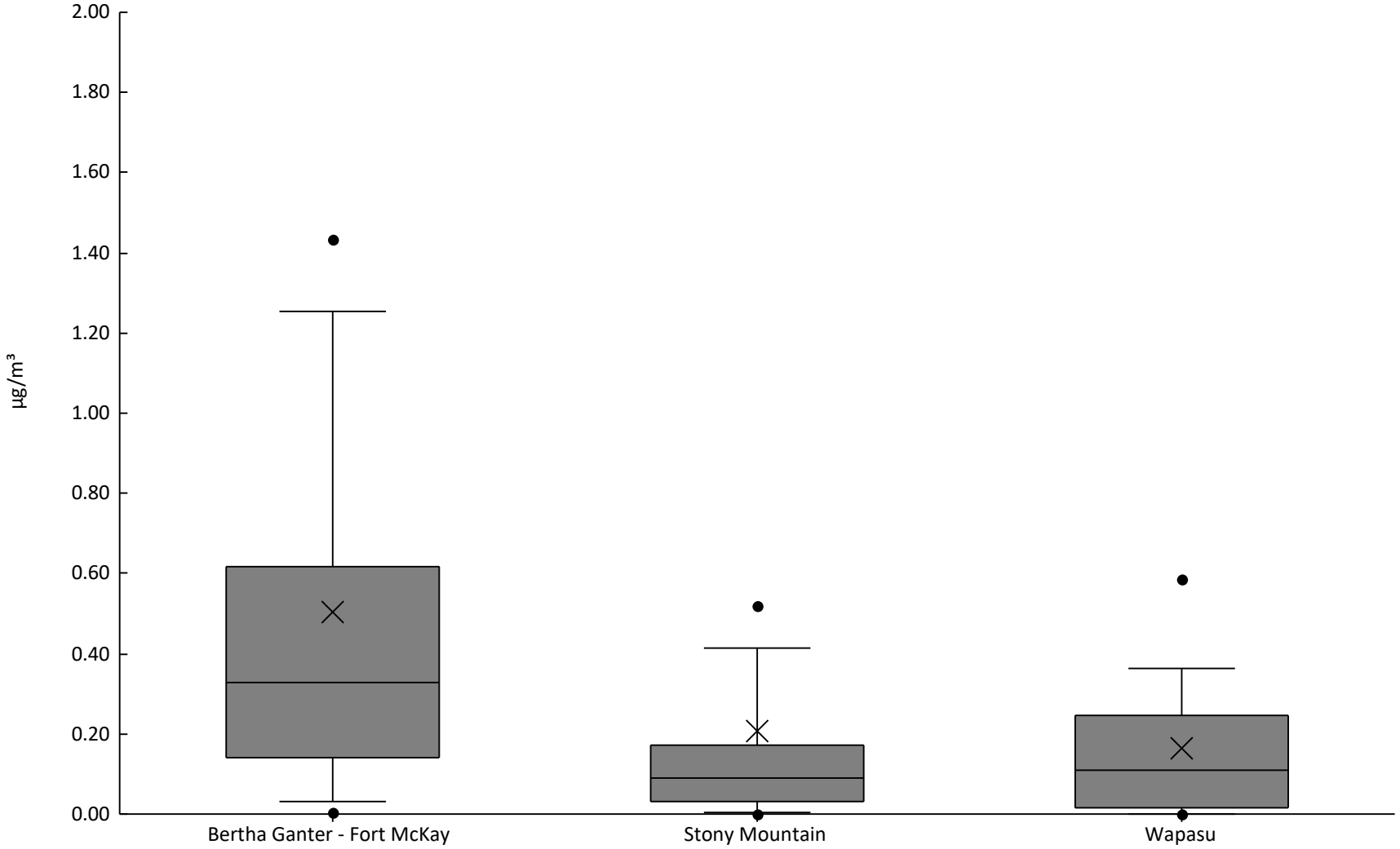
Elemental Carbon Organic Carbon - Organic carbon,thermal method, reflectance (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0.15	0.67	0.88	1.5	2	2.8	3.9	4.9	9.3	2.3	1.5
AMS18	Stony Mountain	60	100%	0.28	0.46	0.51	0.67	0.97	1.6	2.3	3.5	28	1.7	3.6
AMS17	Wapasu	61	100%	0.32	0.39	0.54	0.78	1.1	1.6	2.8	3.5	7.3	1.4	1.1



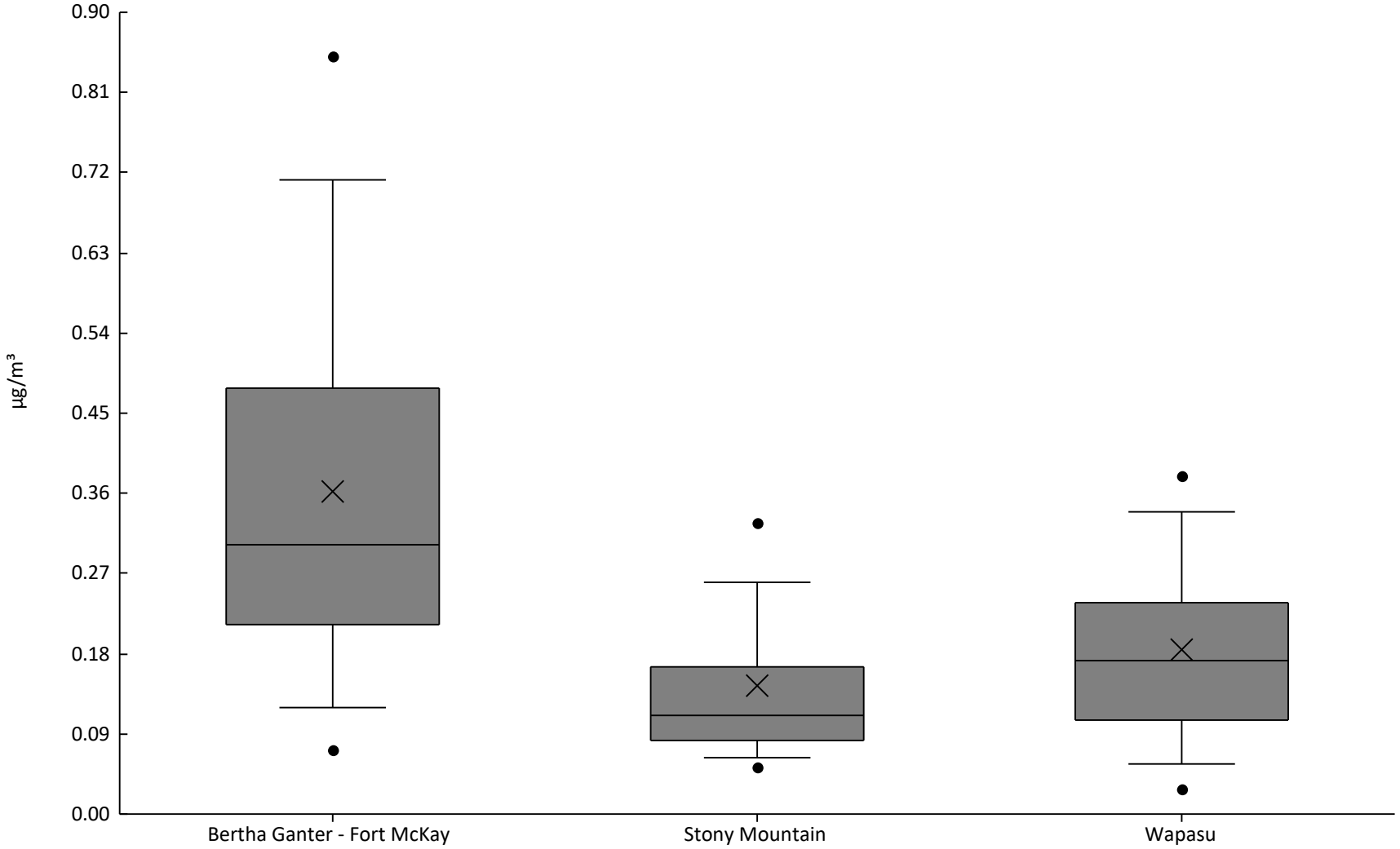
Elemental Carbon Organic Carbon - Elemental Carbon Fraction 1 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	97%	0	3.7E-3	0.033	0.14	0.33	0.62	1.3	1.4	3.7	0.5	0.61
AMS18	Stony Mountain	60	93%	0	1E-3	5E-3	0.033	0.089	0.17	0.42	0.52	4.2	0.21	0.56
AMS17	Wapasu	61	89%	0	0	0	0.015	0.11	0.25	0.36	0.59	0.75	0.16	0.18



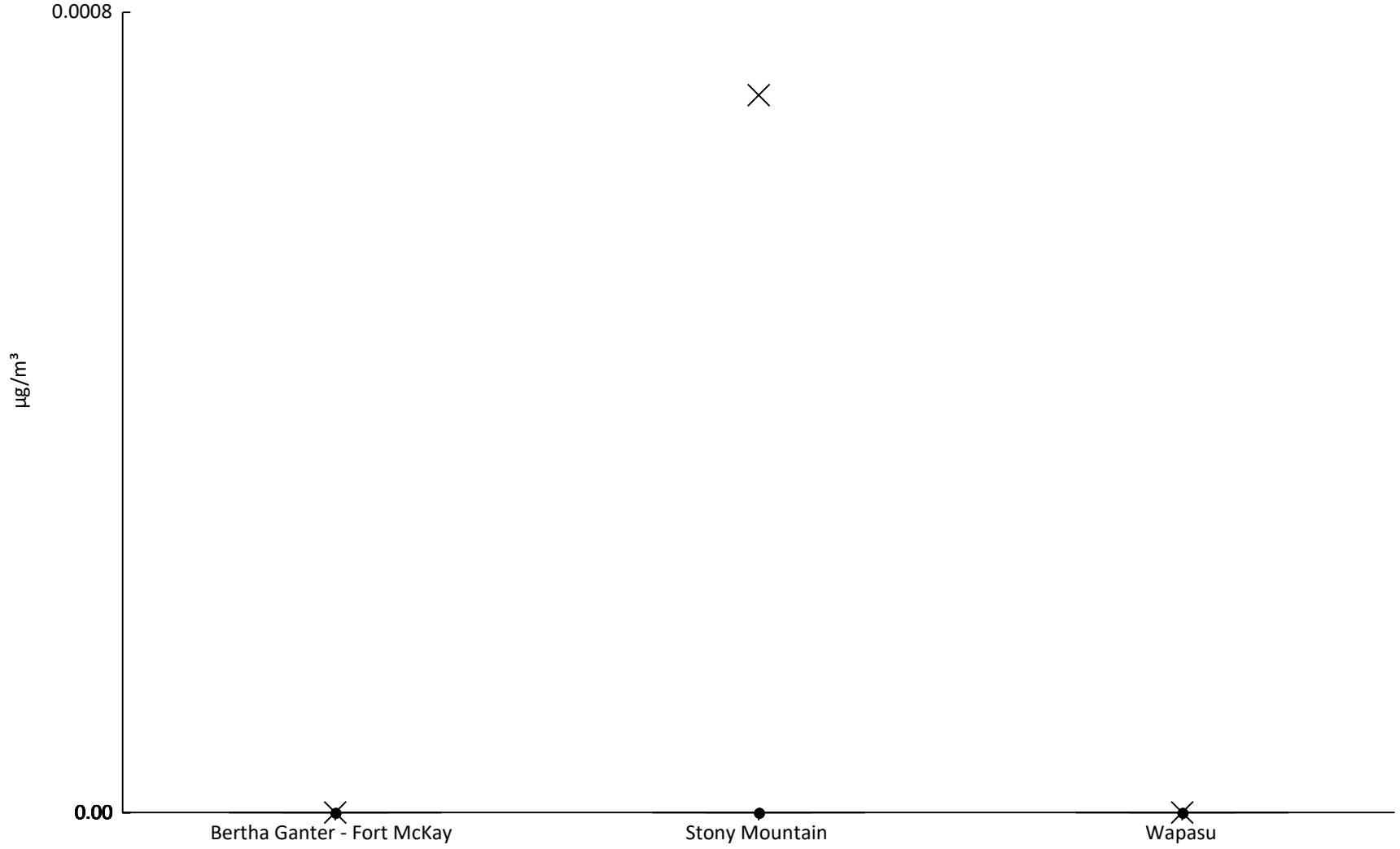
Elemental Carbon Organic Carbon - Elemental Carbon Fraction 2 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	7E-3	0.072	0.12	0.21	0.3	0.48	0.71	0.85	1.1	0.36	0.23
AMS18	Stony Mountain	60	100%	3E-3	0.053	0.064	0.083	0.11	0.16	0.26	0.33	0.81	0.14	0.12
AMS17	Wapasu	61	100%	0.014	0.029	0.057	0.1	0.17	0.24	0.34	0.38	0.51	0.18	0.11



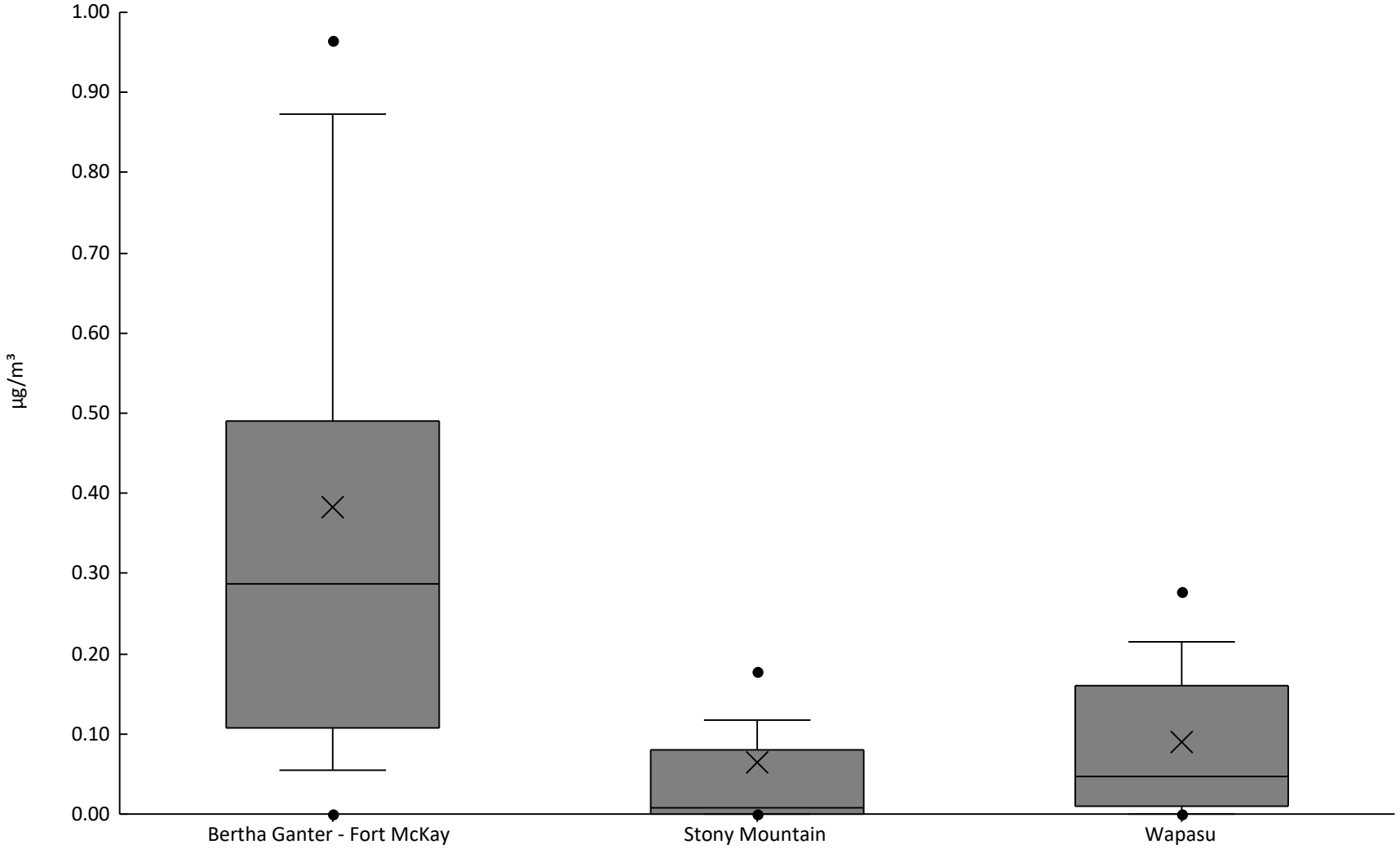
Elemental Carbon Organic Carbon - Elemental Carbon Fraction 3 (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	0%	0	0	0	0	0	0	0	0	0	0	0
AMS18	Stony Mountain	60	2%	0	0	0	0	0	0	0	0	0.043	7.2E-4	5.6E-3
AMS17	Wapasu	61	0%	0	0	0	0	0	0	0	0	0	0	0



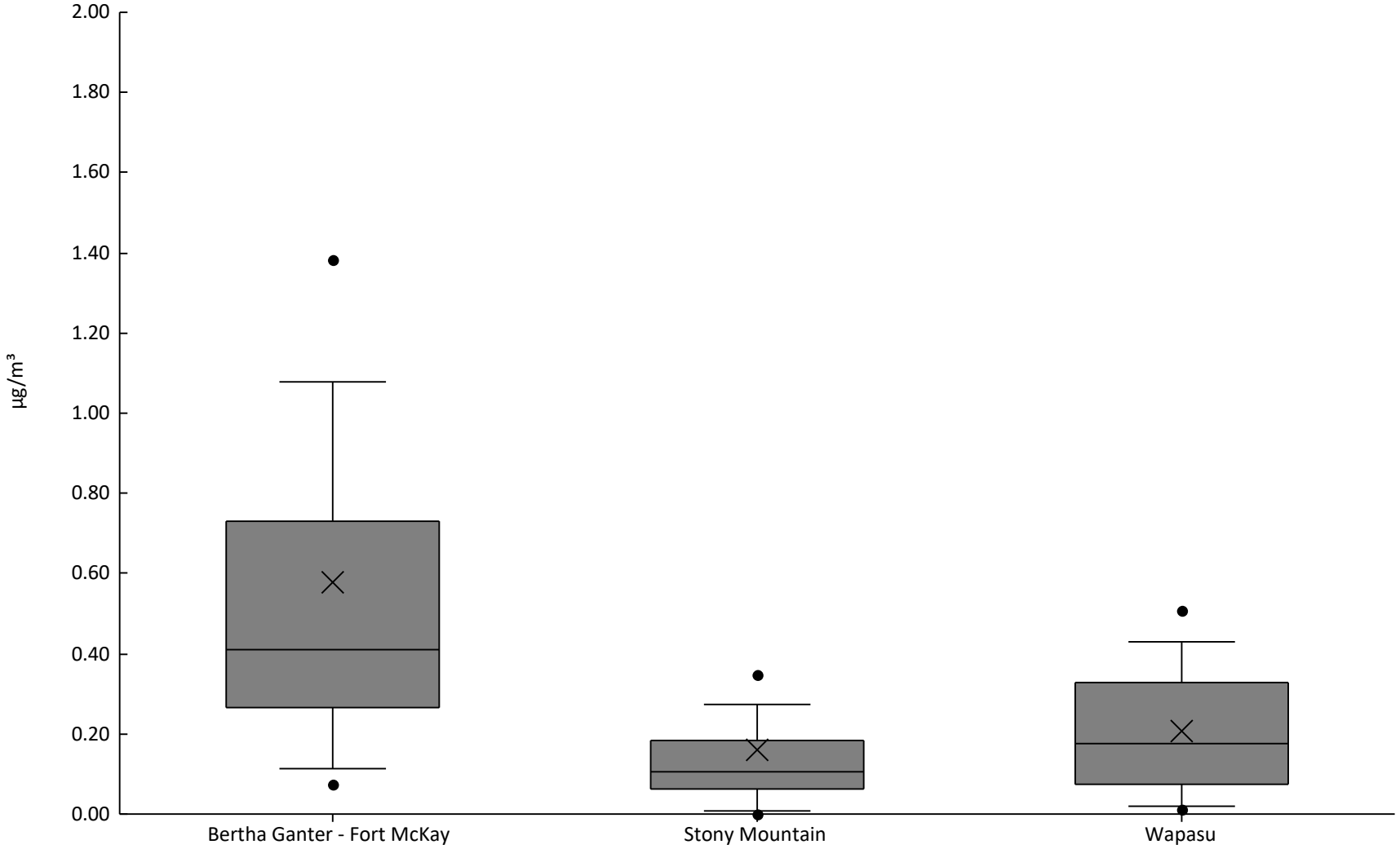
Elemental Carbon Organic Carbon - Elemental carbon,thermal method, transmittance (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	93%	0	5.5E-4	0.055	0.11	0.29	0.49	0.87	0.96	2.8	0.38	0.44
AMS18	Stony Mountain	60	52%	0	0	0	0	8.5E-3	0.08	0.12	0.18	1.5	0.064	0.2
AMS17	Wapasu	61	75%	0	0	0	0.011	0.047	0.16	0.22	0.28	0.49	0.089	0.11



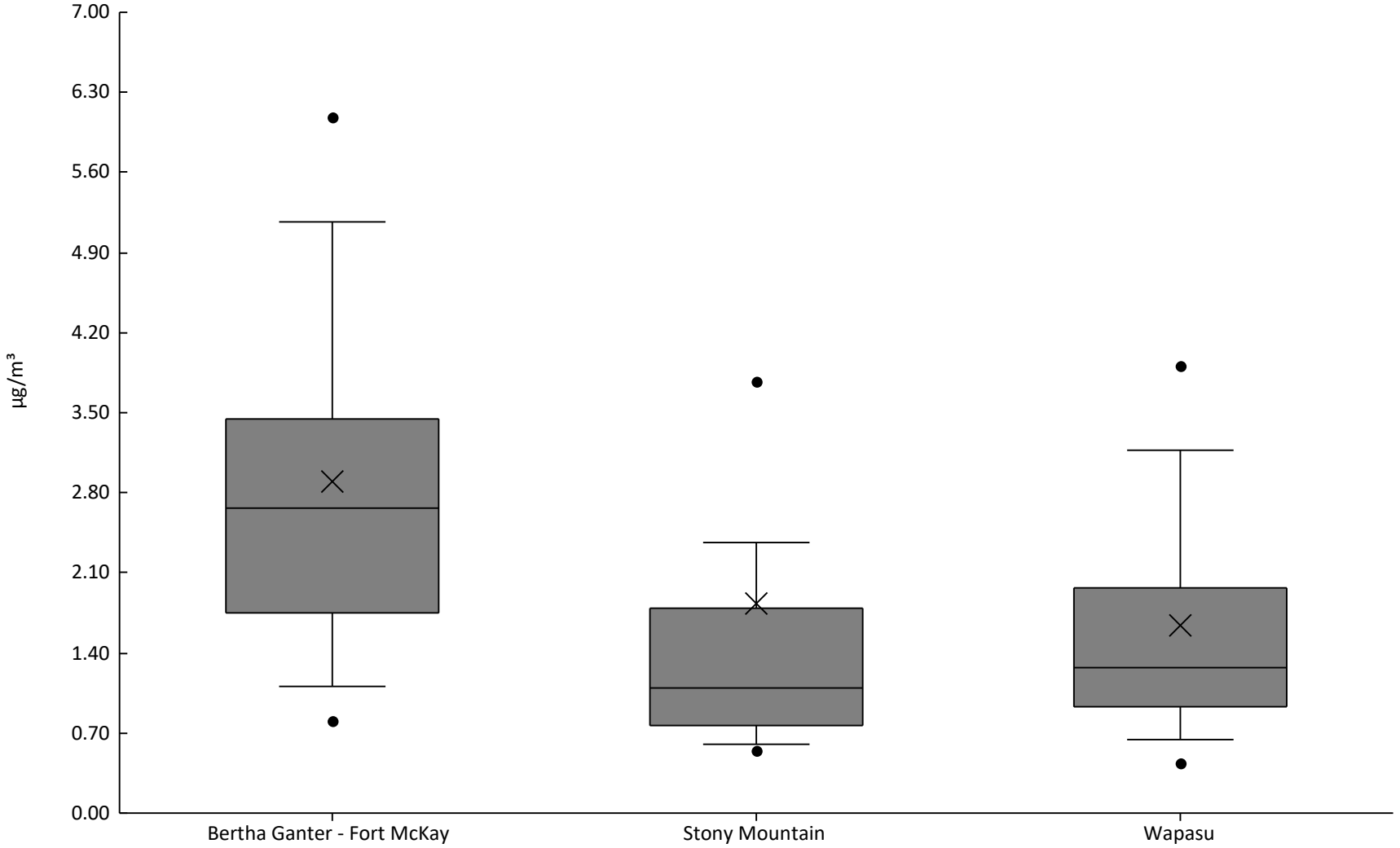
Elemental Carbon Organic Carbon - Elemental carbon,thermal method, reflectance (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	100%	7E-3	0.076	0.11	0.26	0.41	0.73	1.1	1.4	3.4	0.58	0.54
AMS18	Stony Mountain	60	90%	0	0	7E-3	0.061	0.11	0.19	0.27	0.35	2.1	0.16	0.27
AMS17	Wapasu	61	97%	0	0.014	0.021	0.076	0.18	0.33	0.43	0.51	0.62	0.21	0.15



Elemental Carbon Organic Carbon - Total Carbon (µg/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	61	98%	0.16	0.81	1.1	1.8	2.7	3.4	5.2	6.1	13	2.9	1.9
AMS18	Stony Mountain	60	100%	0.29	0.54	0.6	0.76	1.1	1.8	2.4	3.8	31	1.8	3.9
AMS17	Wapasu	61	100%	0.34	0.44	0.64	0.94	1.3	2	3.2	3.9	7.9	1.6	1.2



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

POLYCYCLIC AROMATIC HYDROCARBONS
DATA SUMMARY
2020

Prepared
March 2021

SAMPLE COLLECTION AND DATA COMPILATION BY:

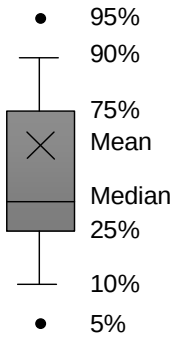
Wood Buffalo Environmental Association
Fort McMurray, Alberta

LABORATORY ANALYSIS BY:

Total PAHs: Air Zone One Incorporated
Mississauga, Ontario

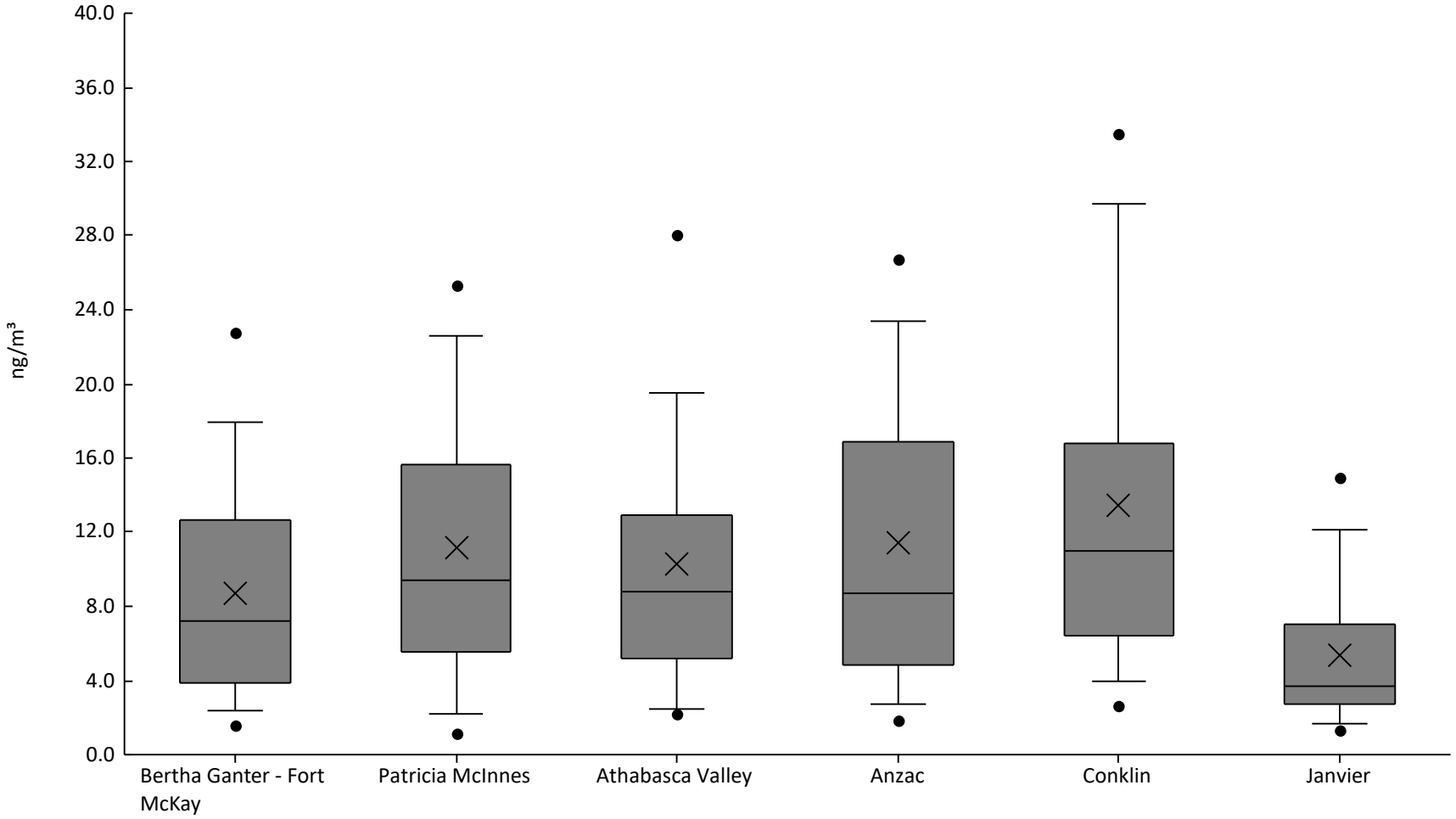
CONTENTS DESCRIPTION	Annual Summary of PAH - Speciated PAH Gas + Particle Phase Measurements
SAMPLE PERIOD	24 hour
SAMPLING INTERVAL	Once every 6 days
UNITS	ng/m^3 (nanogram per cubic meter)
OBSERVATION TYPE	Particles + gas
FIELD SAMPLING OR MEASUREMENT PRINCIPLE	filtration and adsorbent
PARTICLE DIAMETER	TSP (total suspended particle)
MEDIUM	a glass fiber filter + PUF/XAD-2/PUF
ANALYTICALMETHOD	Gas Chromatograph/Mass Spectrometer (GC/MS)
SAMPLE PREPARATION	Solvent Extraction
ANALYTICAL LABORATORY	AIRZONE One Inc.
USER NOTE 1	Data are recovery corrected and samples are corrected with a lab blank and an internal standard.
USER NOTE 2	Volume is given at actual conditions of temperature and pressure during sampling as measured by the sampler
USER NOTE 3	Summary statistics include data with flags beginning with V.
VOLUME STANDARDIZATION	Actual Volume at Ambient Conditions
SAMPLING INSTRUMENT TYPE	Tisch TE-1000 High-Volume Sampler
FLAGS USED	
V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination
V6	Valid value but qualified due to non-standard sampling conditions
M1	Missing value because no value is available
M2	Missing value because invalidated by Data Originator

Legend description



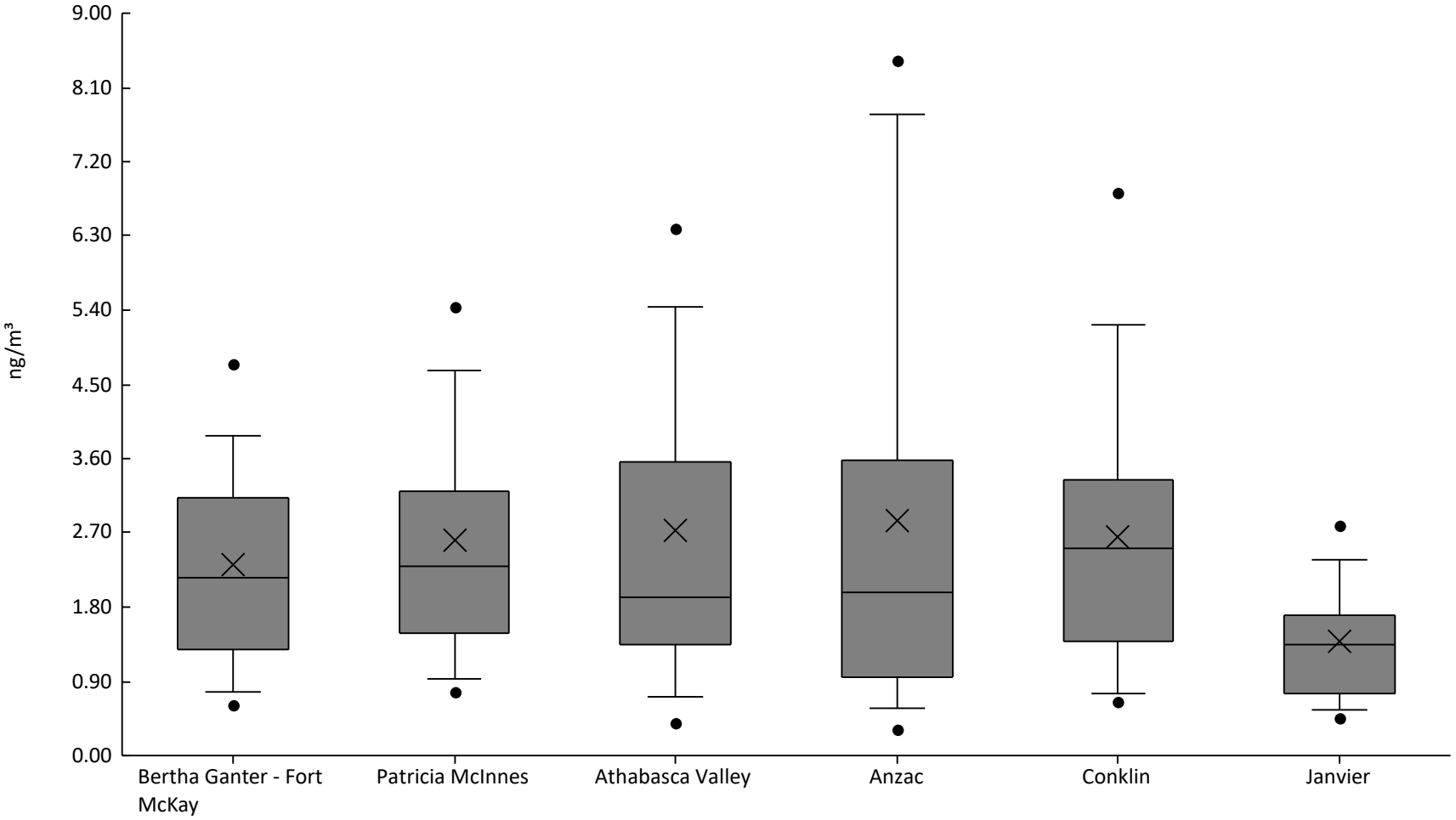
Polycyclic Aromatic Hydrocarbons - Naphthalene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.79	1.6	2.4	3.9	7.2	13	18	23	24	8.7	6.1
AMS06	Patricia McInnes	60	100%	0.97	1.1	2.2	5.6	9.4	16	23	25	34	11	8
AMS07	Athabasca Valley	60	100%	1.9	2.2	2.5	5.2	8.8	13	20	28	35	10	7.4
AMS14	Anzac	61	100%	1.1	1.8	2.7	4.9	8.7	17	23	27	40	11	8.5
AMS21	Conklin	31	100%	2.2	2.6	3.9	6.4	11	17	30	34	38	13	9.4
AMS22	Janvier	29	100%	0.37	1.3	1.6	2.8	3.7	7.1	12	15	19	5.4	4.4



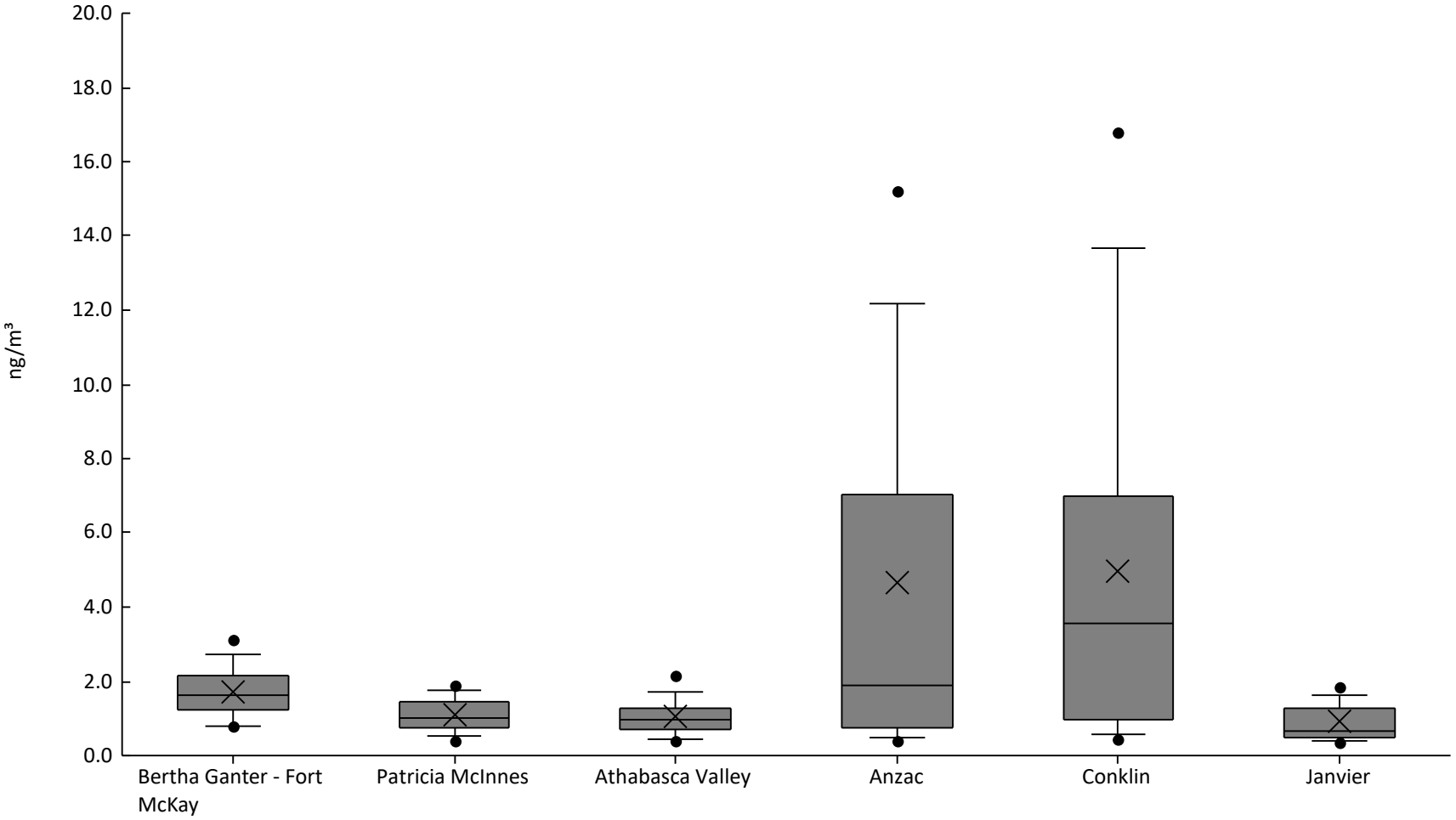
Polycyclic Aromatic Hydrocarbons - Acenaphthylene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.38	0.62	0.77	1.3	2.2	3.1	3.9	4.7	7.5	2.3	1.3
AMS06	Patricia McInnes	60	100%	0.39	0.77	0.93	1.5	2.3	3.2	4.7	5.4	8.9	2.6	1.6
AMS07	Athabasca Valley	60	100%	0.29	0.39	0.71	1.4	1.9	3.6	5.4	6.4	18	2.7	2.6
AMS14	Anzac	61	100%	0.11	0.32	0.57	0.96	2	3.6	7.8	8.4	9.9	2.8	2.6
AMS21	Conklin	31	100%	0.58	0.66	0.75	1.4	2.5	3.3	5.2	6.8	8.2	2.6	1.8
AMS22	Janvier	29	100%	0.38	0.45	0.55	0.76	1.4	1.7	2.4	2.8	3.9	1.4	0.77



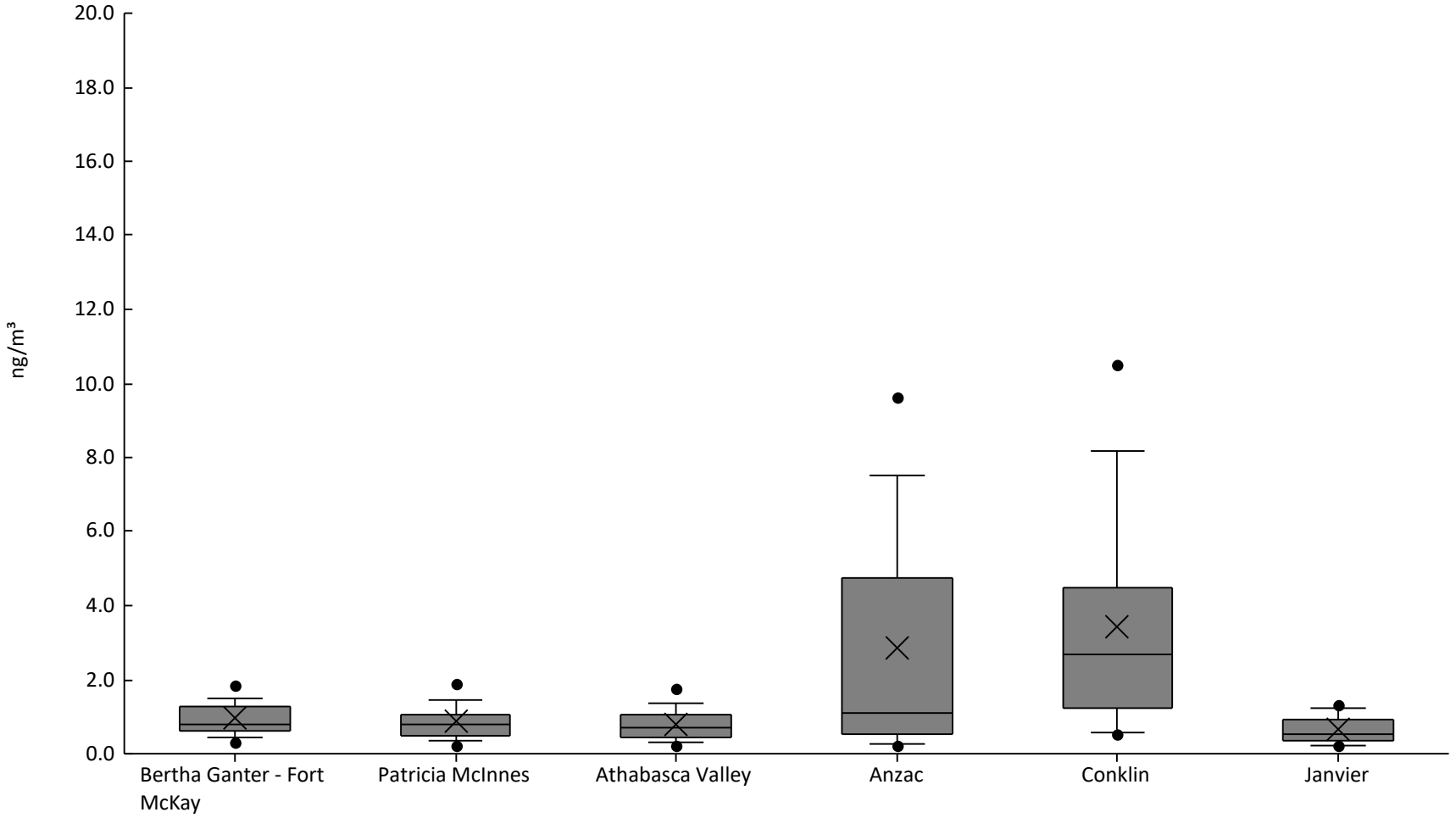
Polycyclic Aromatic Hydrocarbons - Acenaphthene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.61	0.79	0.81	1.2	1.6	2.1	2.7	3.1	4.5	1.7	0.75
AMS06	Patricia McInnes	60	100%	0.23	0.39	0.53	0.73	0.99	1.4	1.8	1.9	2.3	1.1	0.48
AMS07	Athabasca Valley	60	100%	0.19	0.4	0.45	0.73	0.99	1.3	1.7	2.1	2.4	1.1	0.49
AMS14	Anzac	61	100%	0.38	0.41	0.49	0.77	1.9	7.1	12	15	27	4.7	5.6
AMS21	Conklin	31	100%	0.31	0.45	0.58	0.96	3.6	7	14	17	19	5	5.1
AMS22	Janvier	29	100%	0.33	0.37	0.4	0.49	0.65	1.3	1.6	1.9	2.6	0.91	0.57



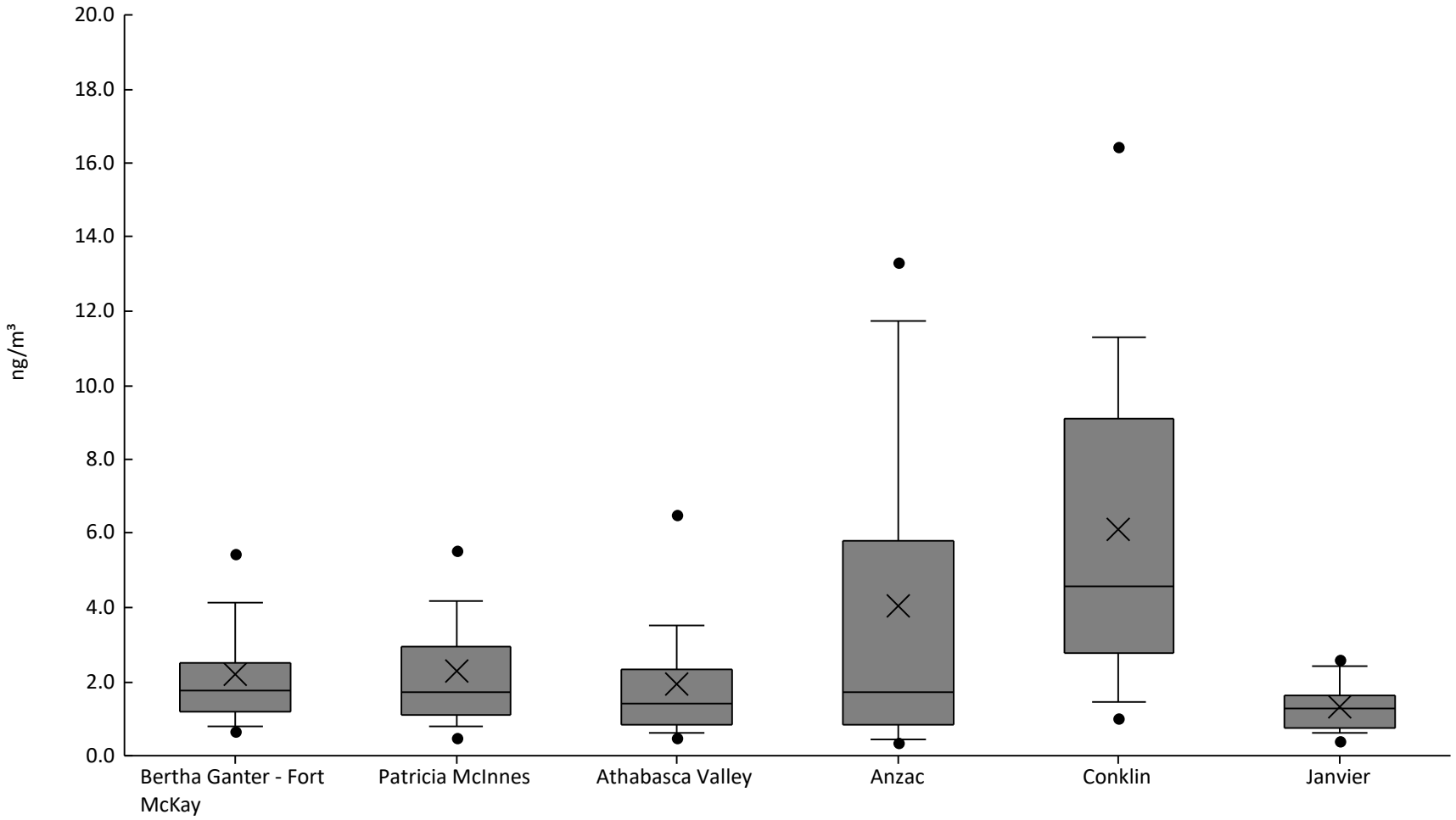
Polycyclic Aromatic Hydrocarbons - Fluorene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.13	0.32	0.43	0.6	0.81	1.3	1.5	1.9	4.7	0.98	0.66
AMS06	Patricia McInnes	60	100%	0.072	0.23	0.33	0.46	0.81	1	1.4	1.9	4.1	0.87	0.6
AMS07	Athabasca Valley	60	100%	0.068	0.22	0.3	0.45	0.69	1.1	1.4	1.8	3.2	0.81	0.52
AMS14	Anzac	61	100%	0.18	0.23	0.27	0.54	1.1	4.7	7.5	9.6	13	2.9	3.2
AMS21	Conklin	31	100%	0.31	0.52	0.58	1.2	2.7	4.5	8.2	11	13	3.4	3
AMS22	Janvier	29	100%	0.035	0.2	0.24	0.35	0.53	0.94	1.2	1.3	1.4	0.65	0.39



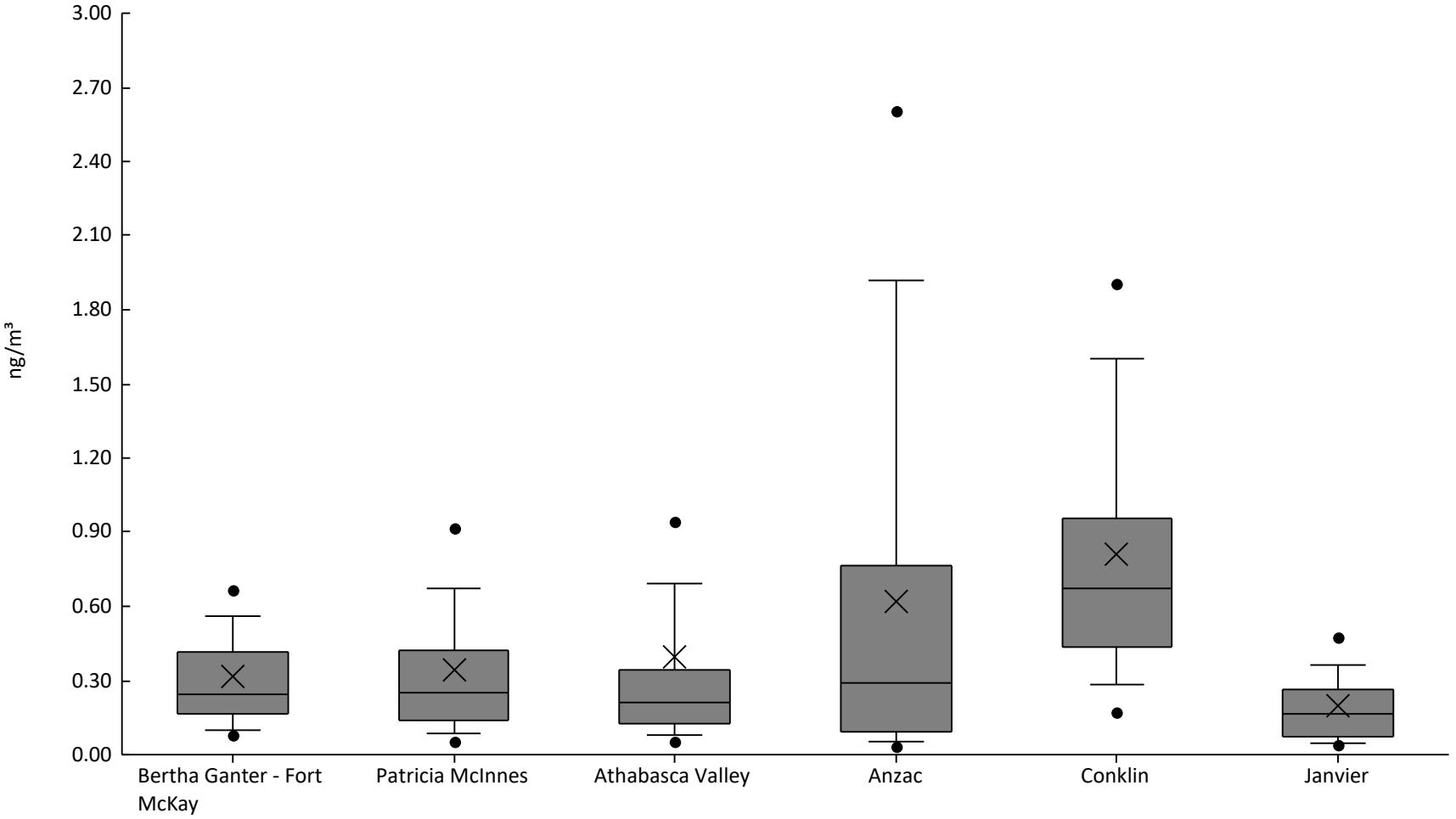
Polycyclic Aromatic Hydrocarbons - Phenanthrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.39	0.64	0.79	1.2	1.7	2.5	4.1	5.4	8.5	2.2	1.5
AMS06	Patricia McInnes	60	100%	0.21	0.49	0.79	1.1	1.7	3	4.2	5.5	13	2.3	1.9
AMS07	Athabasca Valley	60	100%	0.4	0.48	0.6	0.84	1.4	2.3	3.5	6.5	8.7	1.9	1.8
AMS14	Anzac	61	100%	0.15	0.33	0.45	0.86	1.7	5.8	12	13	22	4	4.6
AMS21	Conklin	31	100%	0.8	1	1.4	2.8	4.6	9.1	11	16	17	6.1	4.3
AMS22	Janvier	29	100%	0.38	0.39	0.6	0.73	1.3	1.6	2.4	2.6	2.8	1.3	0.67



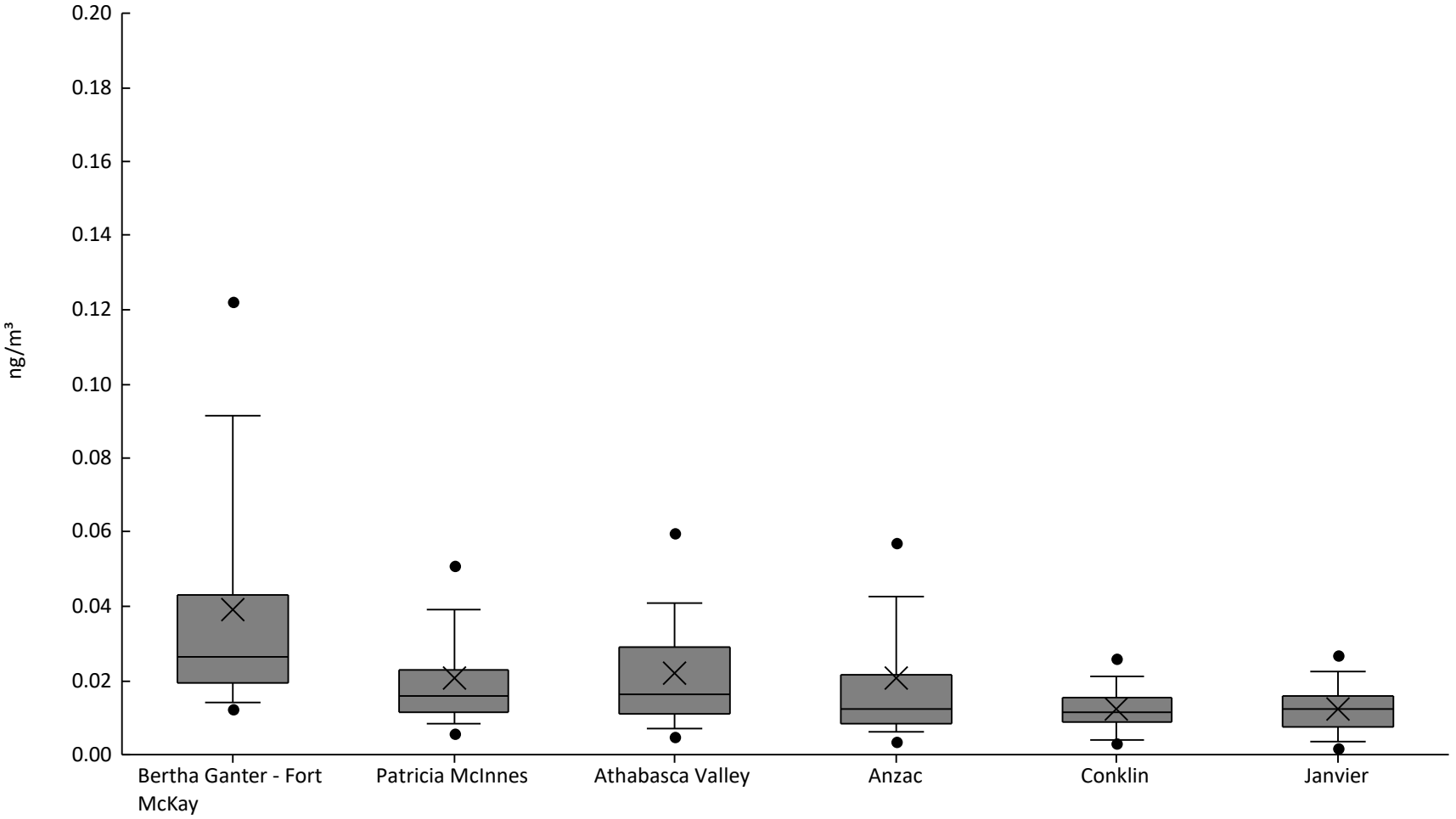
Polycyclic Aromatic Hydrocarbons - Anthracene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.054	0.081	0.1	0.16	0.25	0.41	0.56	0.66	1.4	0.31	0.24
AMS06	Patricia McInnes	60	98%	0.014	0.053	0.087	0.14	0.25	0.42	0.67	0.91	2.4	0.34	0.35
AMS07	Athabasca Valley	60	100%	0.031	0.055	0.078	0.12	0.21	0.34	0.69	0.95	5.2	0.39	0.76
AMS14	Anzac	61	98%	0.014	0.032	0.053	0.091	0.29	0.77	1.9	2.6	3.8	0.62	0.87
AMS21	Conklin	31	100%	0.089	0.17	0.29	0.43	0.67	0.96	1.6	1.9	3.3	0.81	0.63
AMS22	Janvier	29	100%	0.037	0.041	0.048	0.074	0.17	0.27	0.36	0.48	0.76	0.2	0.15



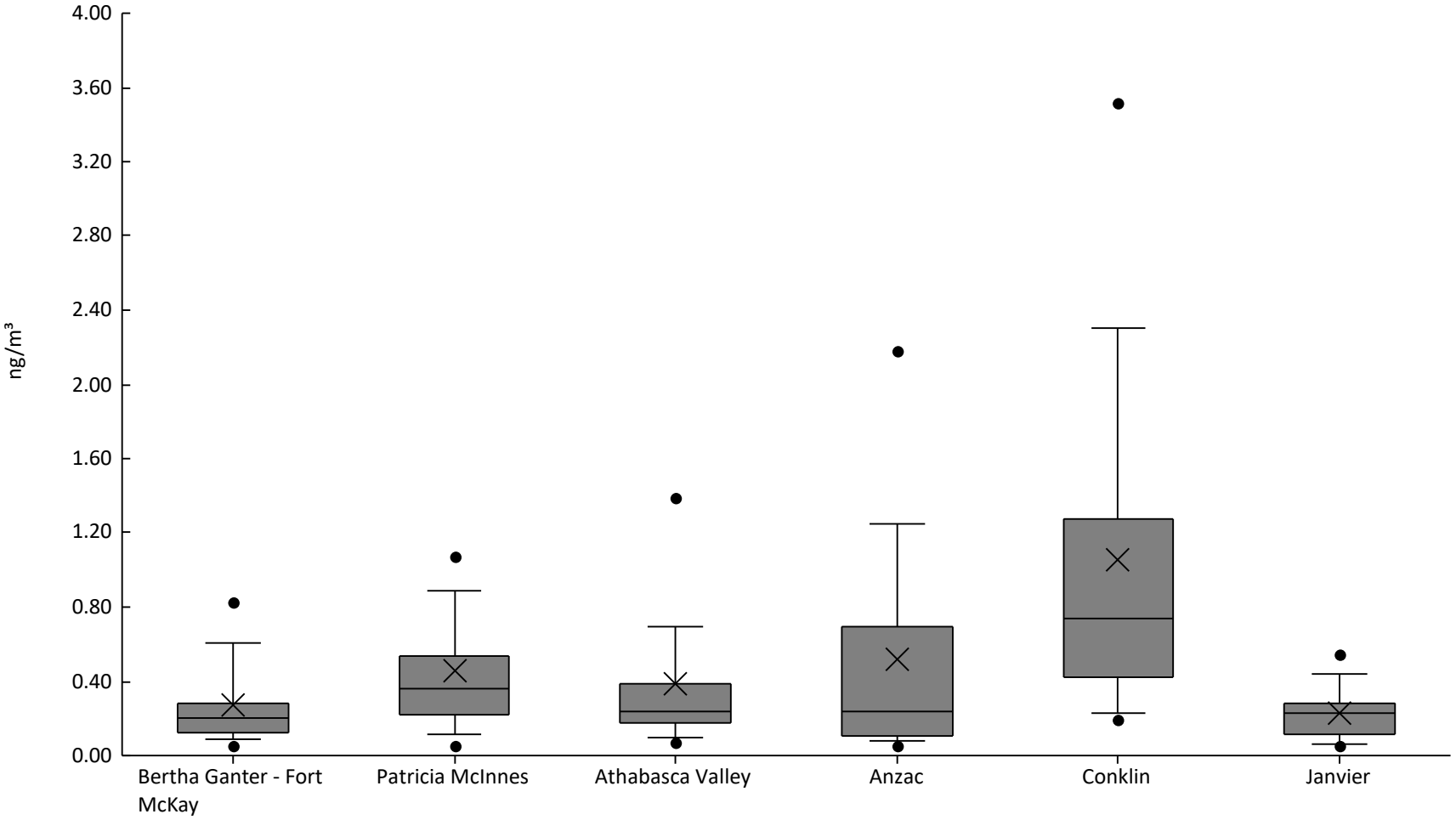
Polycyclic Aromatic Hydrocarbons - Acridine (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	82%	6.3E-3	0.012	0.014	0.019	0.026	0.043	0.092	0.12	0.17	0.039	0.035
AMS06	Patricia McInnes	60	55%	4.4E-3	5.7E-3	8.2E-3	0.012	0.016	0.023	0.039	0.051	0.094	0.021	0.017
AMS07	Athabasca Valley	60	53%	2.4E-3	4.8E-3	6.9E-3	0.011	0.016	0.029	0.041	0.06	0.089	0.022	0.017
AMS14	Anzac	61	44%	2.4E-3	3.6E-3	6.2E-3	8.5E-3	0.012	0.021	0.043	0.057	0.16	0.02	0.026
AMS21	Conklin	31	42%	1.3E-3	3.2E-3	3.9E-3	9E-3	0.011	0.015	0.021	0.026	0.033	0.012	6.9E-3
AMS22	Janvier	29	41%	1.7E-3	1.9E-3	3.3E-3	7.5E-3	0.012	0.016	0.022	0.027	0.031	0.012	7.5E-3



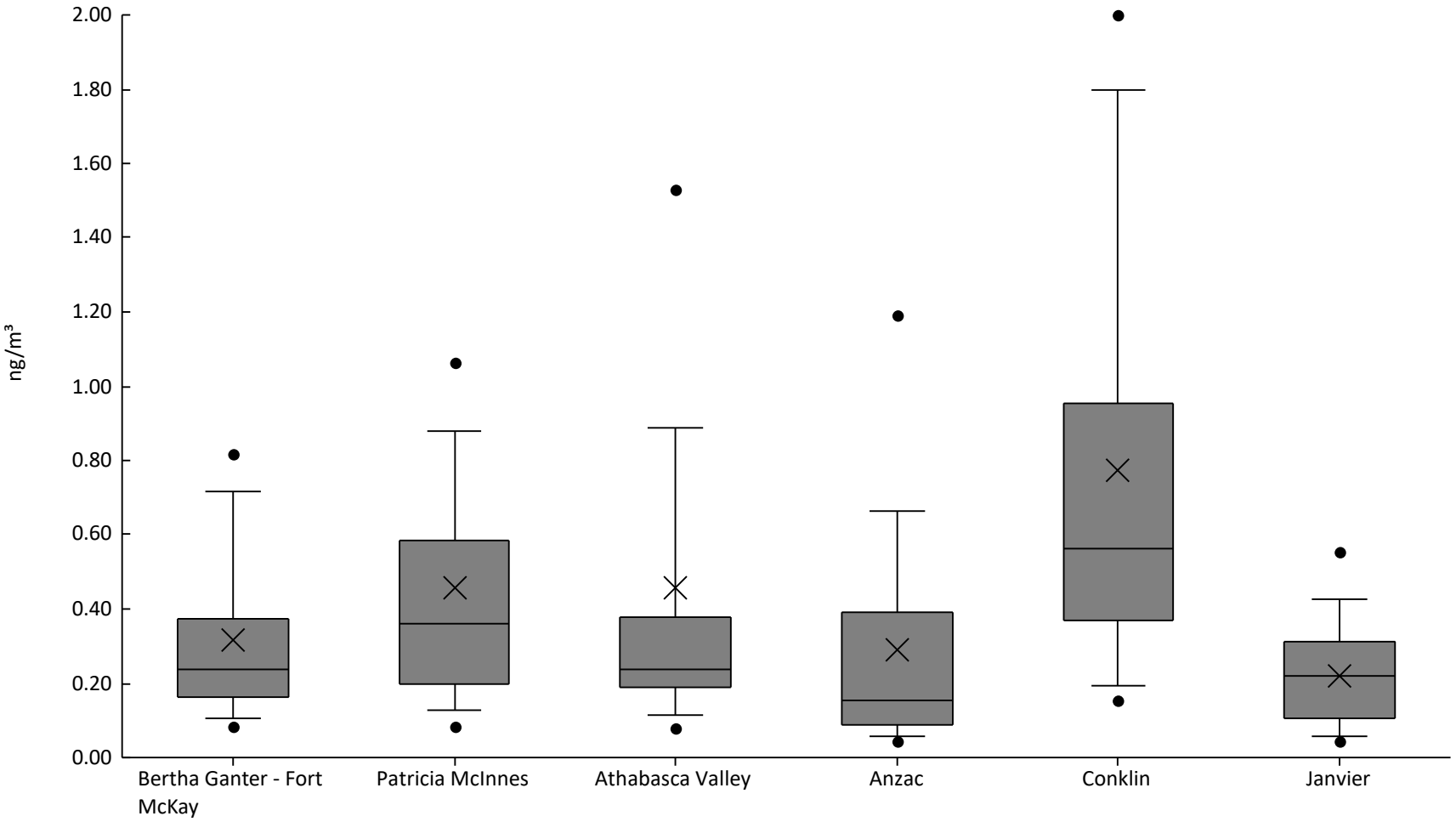
Polycyclic Aromatic Hydrocarbons - Fluoranthene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.029	0.049	0.086	0.13	0.2	0.28	0.61	0.83	1.2	0.27	0.23
AMS06	Patricia McInnes	60	100%	0.025	0.051	0.11	0.22	0.36	0.54	0.89	1.1	2.9	0.46	0.42
AMS07	Athabasca Valley	60	100%	0.057	0.068	0.098	0.17	0.24	0.38	0.69	1.4	3.9	0.39	0.57
AMS14	Anzac	61	100%	0.043	0.055	0.075	0.11	0.24	0.69	1.2	2.2	3.4	0.52	0.7
AMS21	Conklin	31	100%	0.13	0.2	0.23	0.43	0.74	1.3	2.3	3.5	4.5	1.1	1
AMS22	Janvier	29	100%	0.033	0.057	0.061	0.11	0.23	0.29	0.44	0.54	0.74	0.23	0.16



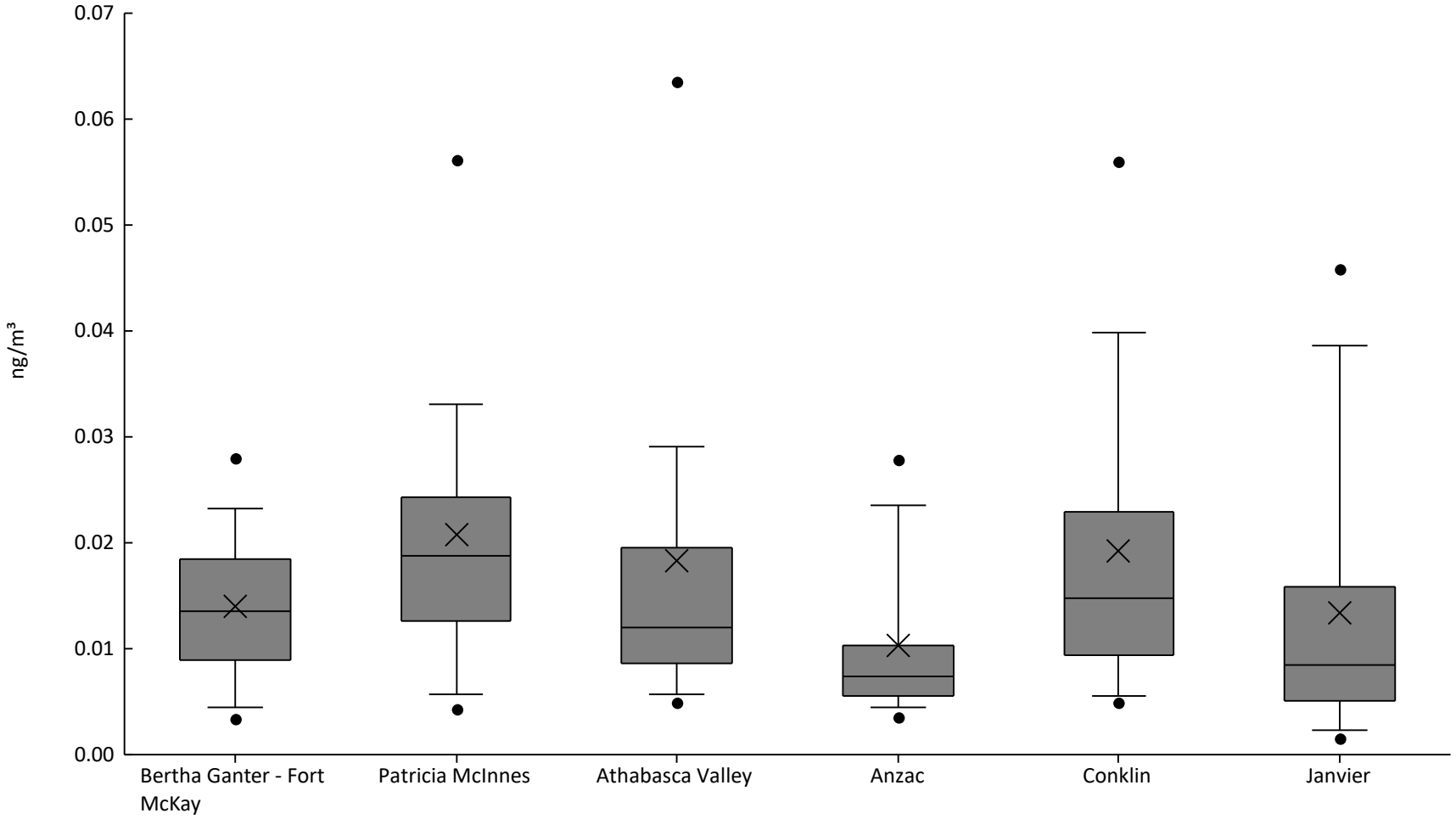
Polycyclic Aromatic Hydrocarbons - Pyrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.029	0.085	0.1	0.16	0.24	0.37	0.71	0.82	1.1	0.32	0.24
AMS06	Patricia McInnes	60	100%	0.022	0.082	0.13	0.2	0.36	0.59	0.88	1.1	2.7	0.46	0.41
AMS07	Athabasca Valley	60	100%	0.062	0.081	0.12	0.19	0.24	0.38	0.89	1.5	6.4	0.46	0.86
AMS14	Anzac	61	100%	0.035	0.046	0.059	0.088	0.15	0.39	0.67	1.2	1.5	0.29	0.33
AMS21	Conklin	31	100%	0.081	0.16	0.19	0.37	0.56	0.95	1.8	2	3	0.77	0.66
AMS22	Janvier	29	100%	0.041	0.042	0.057	0.1	0.22	0.31	0.42	0.56	0.7	0.22	0.16



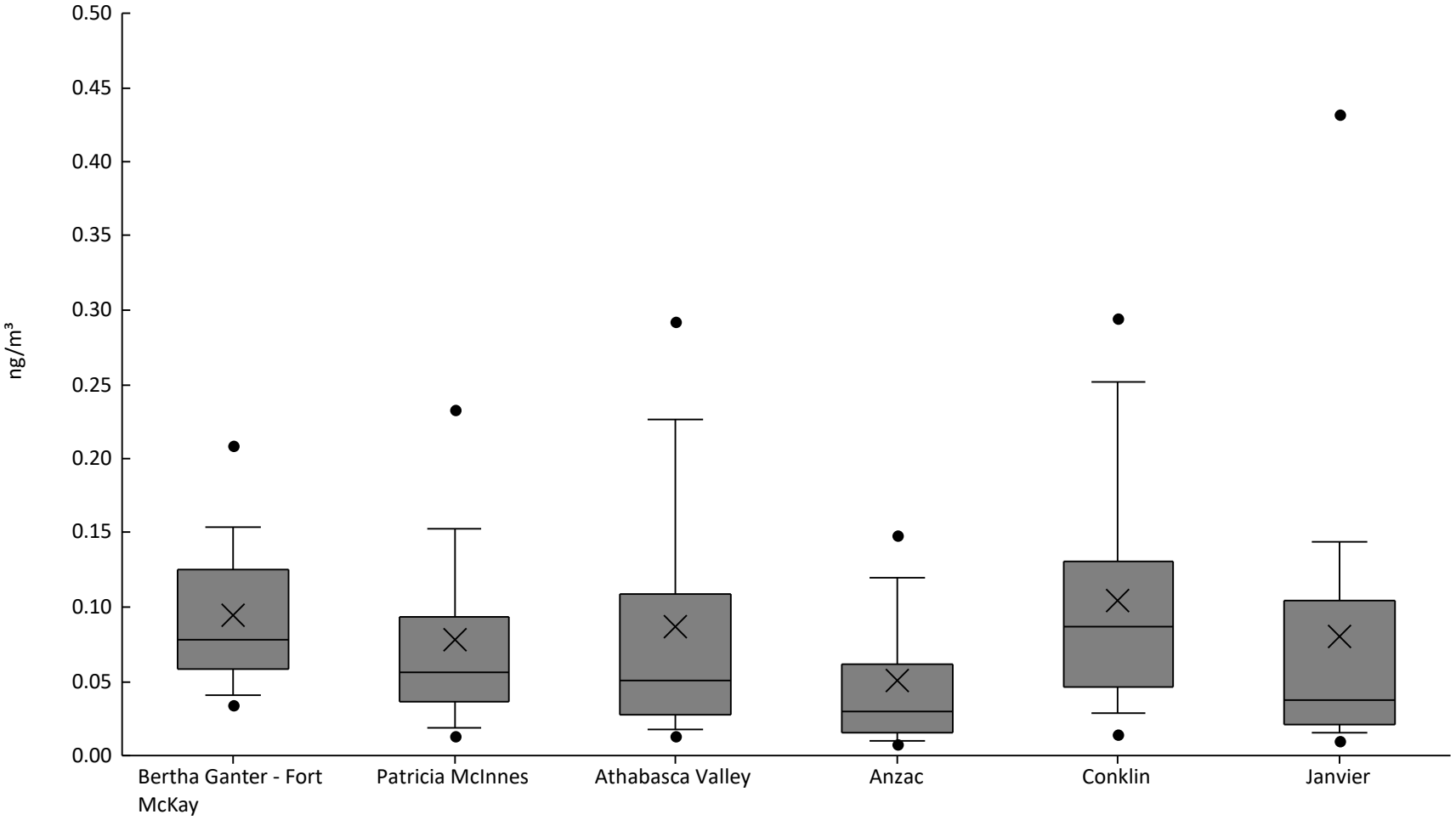
Polycyclic Aromatic Hydrocarbons - Benzo(c)phenanthrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	55%	2.3E-3	3.4E-3	4.5E-3	9E-3	0.014	0.019	0.023	0.028	0.036	0.014	7.2E-3
AMS06	Patricia McInnes	60	63%	2.6E-3	4.3E-3	5.7E-3	0.013	0.019	0.024	0.033	0.056	0.091	0.021	0.016
AMS07	Athabasca Valley	60	47%	2.2E-3	4.9E-3	5.7E-3	8.6E-3	0.012	0.02	0.029	0.064	0.13	0.018	0.021
AMS14	Anzac	61	26%	1E-3	3.6E-3	4.4E-3	5.5E-3	7.3E-3	0.01	0.023	0.028	0.054	0.01	9.1E-3
AMS21	Conklin	31	58%	2.8E-3	5E-3	5.5E-3	9.4E-3	0.015	0.023	0.04	0.056	0.078	0.019	0.017
AMS22	Janvier	29	38%	1.2E-3	1.6E-3	2.4E-3	5E-3	8.5E-3	0.016	0.039	0.046	0.05	0.013	0.013



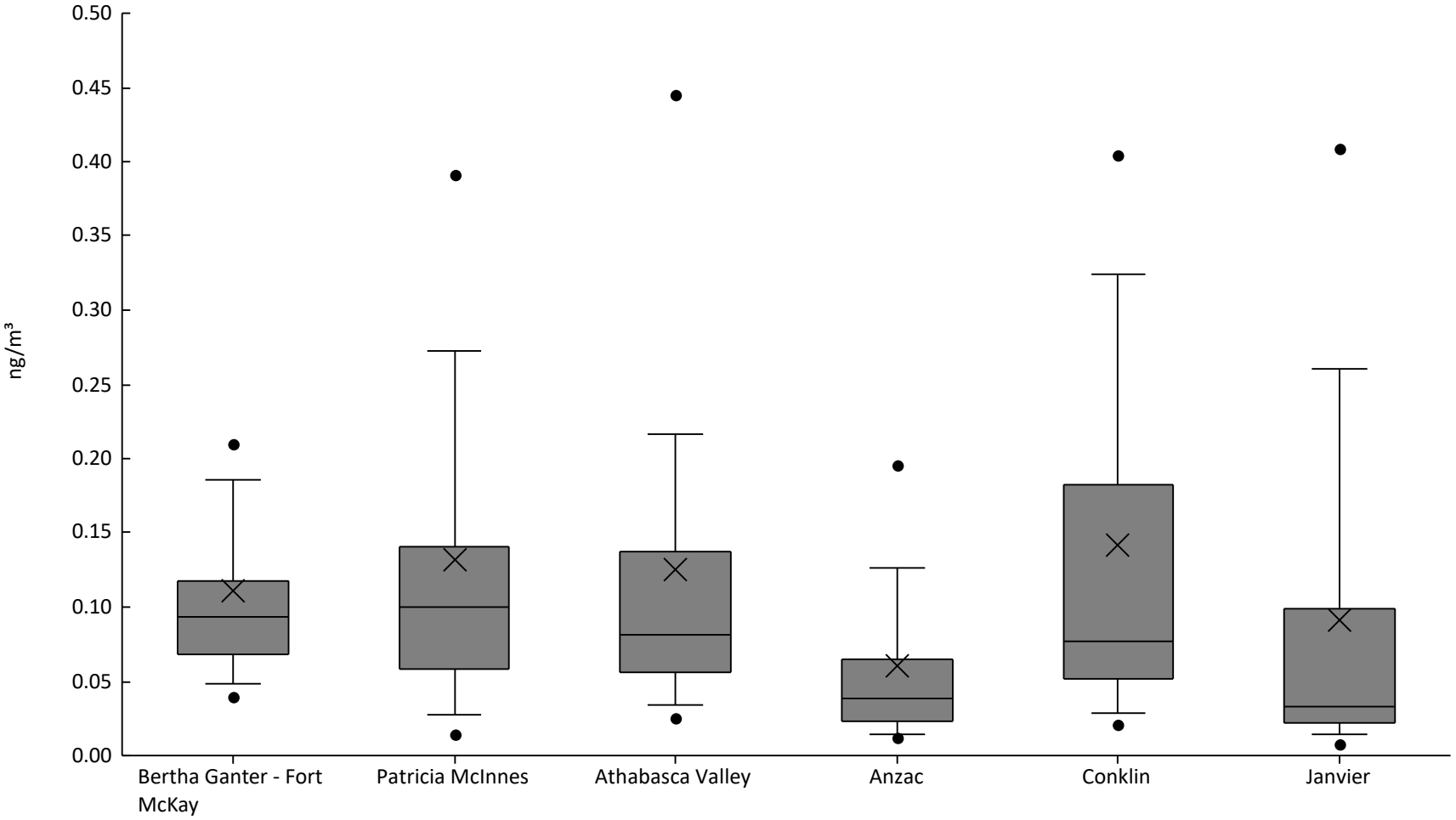
Polycyclic Aromatic Hydrocarbons - Benz(a)anthracene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.033	0.034	0.041	0.059	0.078	0.13	0.15	0.21	0.28	0.094	0.052
AMS06	Patricia McInnes	60	95%	6.5E-3	0.013	0.018	0.036	0.056	0.094	0.15	0.23	0.34	0.078	0.068
AMS07	Athabasca Valley	60	95%	0.012	0.014	0.018	0.028	0.051	0.11	0.23	0.29	0.47	0.086	0.093
AMS14	Anzac	61	79%	5.2E-3	7.5E-3	9.7E-3	0.015	0.03	0.062	0.12	0.15	0.3	0.05	0.053
AMS21	Conklin	31	97%	4.4E-3	0.015	0.028	0.046	0.087	0.13	0.25	0.29	0.39	0.1	0.087
AMS22	Janvier	29	93%	5.5E-3	0.01	0.015	0.021	0.037	0.1	0.14	0.43	0.53	0.081	0.12



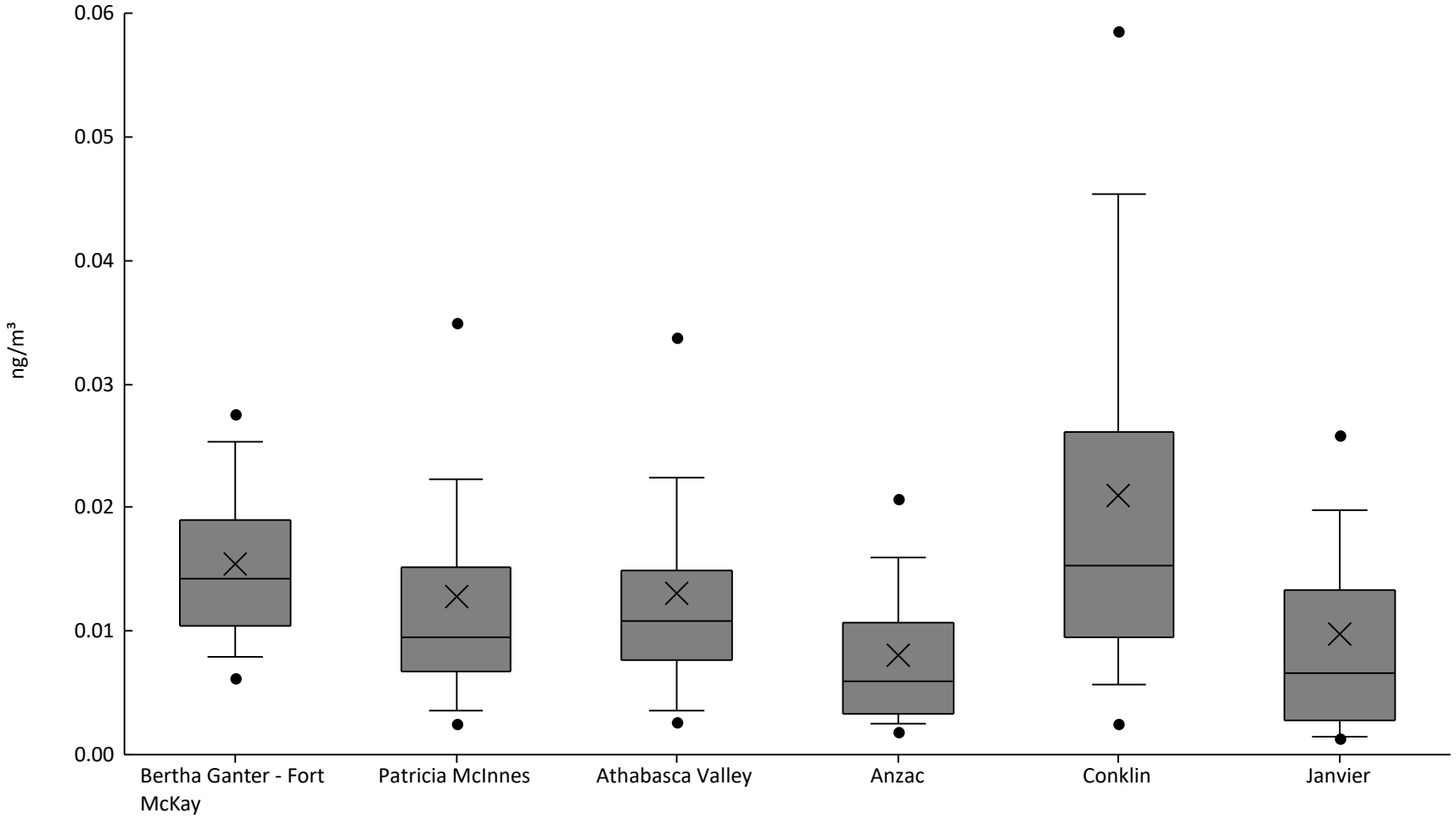
Polycyclic Aromatic Hydrocarbons - Chrysene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.029	0.04	0.048	0.068	0.093	0.12	0.19	0.21	0.76	0.11	0.098
AMS06	Patricia McInnes	60	97%	6.8E-3	0.014	0.027	0.058	0.1	0.14	0.27	0.39	0.75	0.13	0.13
AMS07	Athabasca Valley	60	100%	0.016	0.026	0.034	0.056	0.081	0.14	0.22	0.45	0.89	0.13	0.15
AMS14	Anzac	61	95%	7.1E-3	0.012	0.014	0.023	0.039	0.065	0.13	0.2	0.39	0.06	0.067
AMS21	Conklin	31	97%	9.9E-3	0.021	0.029	0.052	0.077	0.18	0.32	0.4	0.74	0.14	0.15
AMS22	Janvier	29	93%	4.3E-3	8.1E-3	0.014	0.022	0.033	0.099	0.26	0.41	0.5	0.091	0.12



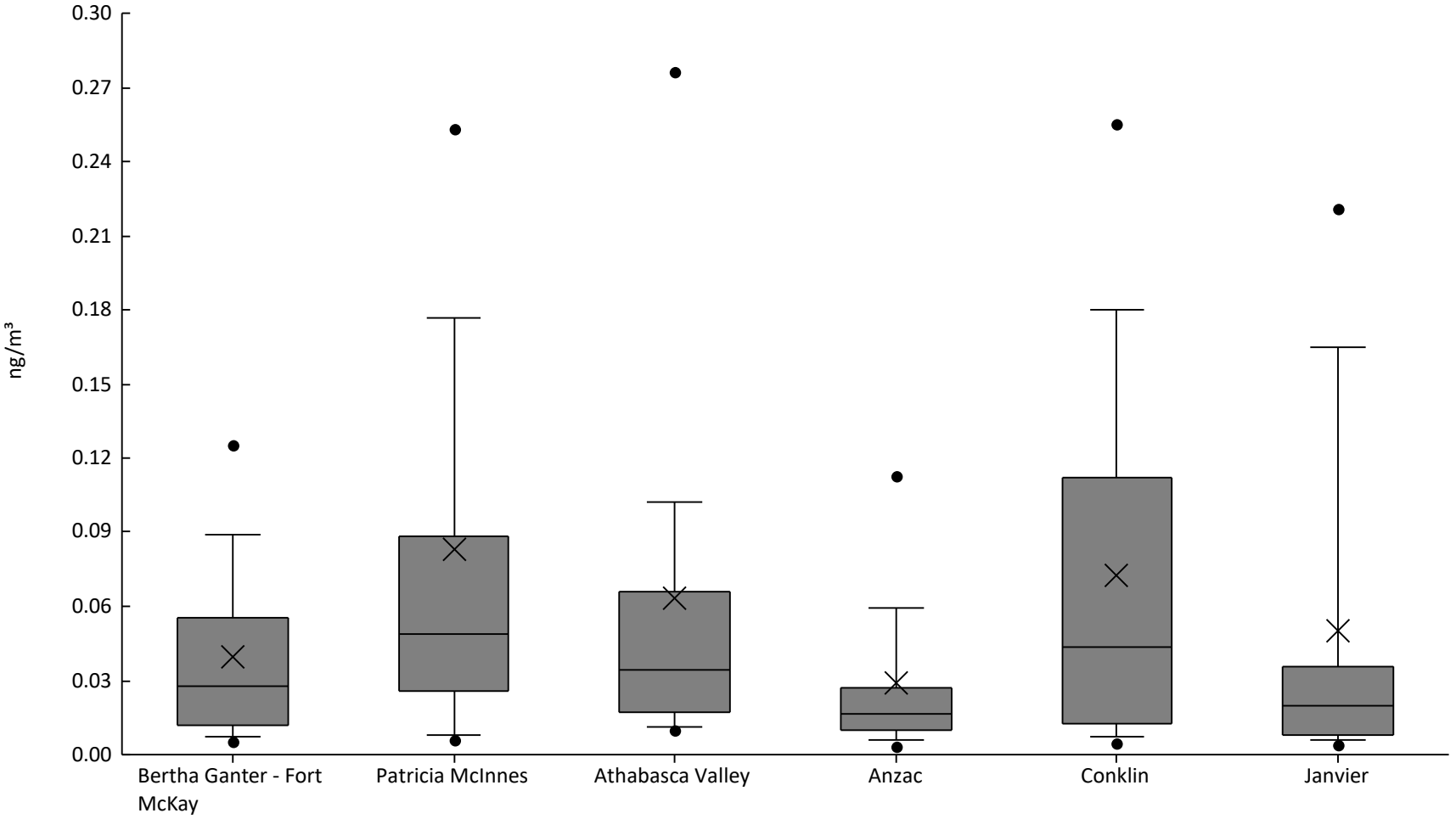
Polycyclic Aromatic Hydrocarbons - 7,12-Dimethylbenz(a)anthracene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	63%	4.9E-3	6.2E-3	8E-3	0.01	0.014	0.019	0.025	0.028	0.039	0.015	7.1E-3
AMS06	Patricia McInnes	60	40%	1.6E-3	2.6E-3	3.5E-3	6.8E-3	9.6E-3	0.015	0.022	0.035	0.075	0.013	0.011
AMS07	Athabasca Valley	60	42%	1.3E-3	2.6E-3	3.6E-3	7.7E-3	0.011	0.015	0.022	0.034	0.055	0.013	9.9E-3
AMS14	Anzac	61	31%	0	1.8E-3	2.4E-3	3.3E-3	6E-3	0.011	0.016	0.021	0.033	8E-3	6.5E-3
AMS21	Conklin	31	65%	1.9E-3	2.5E-3	5.7E-3	9.5E-3	0.015	0.026	0.045	0.059	0.098	0.021	0.02
AMS22	Janvier	29	41%	1E-3	1.3E-3	1.4E-3	2.7E-3	6.6E-3	0.013	0.02	0.026	0.056	9.8E-3	0.011



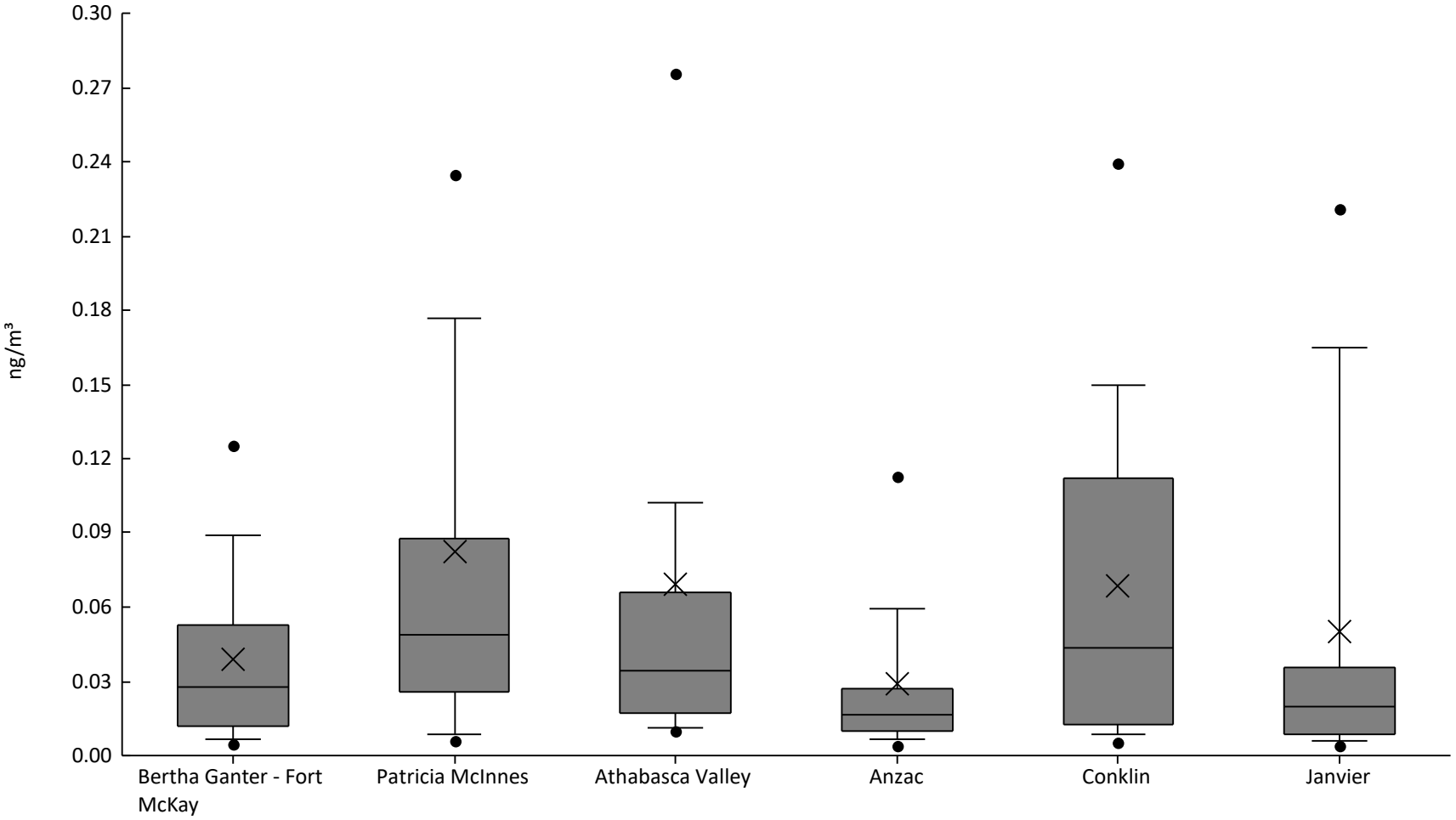
Polycyclic Aromatic Hydrocarbons - Benzo(b)fluoranthene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	58%	4.1E-3	5.5E-3	7.3E-3	0.012	0.028	0.056	0.089	0.13	0.15	0.04	0.037
AMS06	Patricia McInnes	60	77%	2.3E-3	6E-3	8.1E-3	0.026	0.049	0.088	0.18	0.25	1.1	0.083	0.15
AMS07	Athabasca Valley	60	70%	7E-3	9.9E-3	0.011	0.017	0.035	0.066	0.1	0.28	0.57	0.063	0.1
AMS14	Anzac	61	44%	1.7E-3	3.2E-3	5.8E-3	9.6E-3	0.017	0.027	0.06	0.11	0.25	0.029	0.04
AMS21	Conklin	31	68%	4.3E-3	4.6E-3	7E-3	0.012	0.044	0.11	0.18	0.26	0.29	0.073	0.078
AMS22	Janvier	29	52%	1.8E-3	4.2E-3	5.7E-3	7.9E-3	0.02	0.036	0.16	0.22	0.4	0.05	0.085



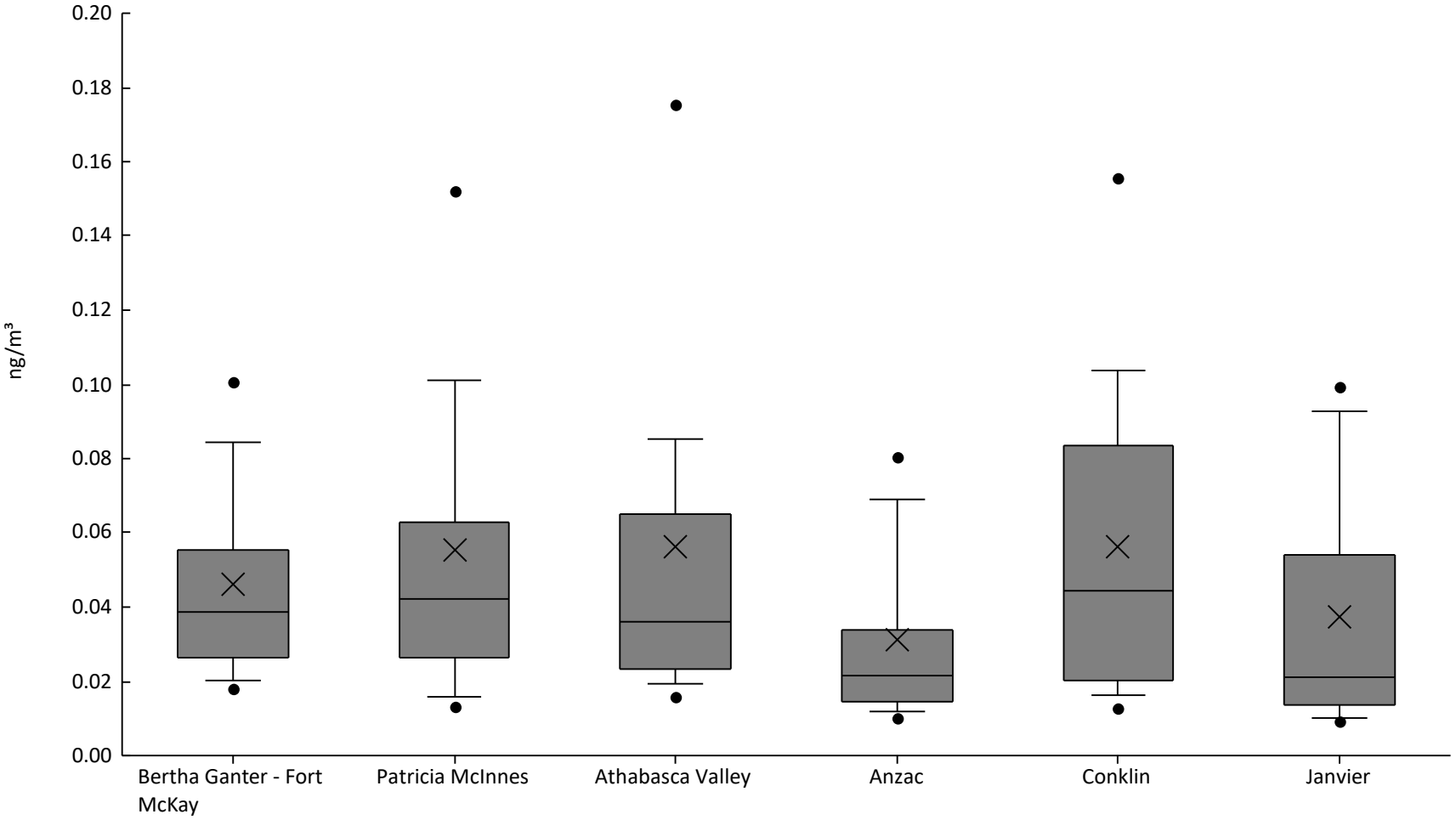
Polycyclic Aromatic Hydrocarbons - Benzo(k)fluoranthene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	72%	4.1E-3	4.9E-3	6.3E-3	0.012	0.028	0.053	0.089	0.13	0.15	0.039	0.037
AMS06	Patricia McInnes	60	85%	1.7E-3	6E-3	8.6E-3	0.026	0.049	0.088	0.18	0.23	1.1	0.082	0.14
AMS07	Athabasca Valley	60	85%	7E-3	9.9E-3	0.011	0.017	0.034	0.066	0.1	0.28	0.9	0.069	0.13
AMS14	Anzac	61	61%	1.7E-3	4.3E-3	6.4E-3	9.6E-3	0.016	0.027	0.06	0.11	0.25	0.029	0.04
AMS21	Conklin	31	74%	4.6E-3	5.4E-3	8.3E-3	0.012	0.044	0.11	0.15	0.24	0.25	0.069	0.068
AMS22	Janvier	29	62%	1.8E-3	4.2E-3	5.7E-3	8.6E-3	0.02	0.036	0.17	0.22	0.4	0.05	0.085



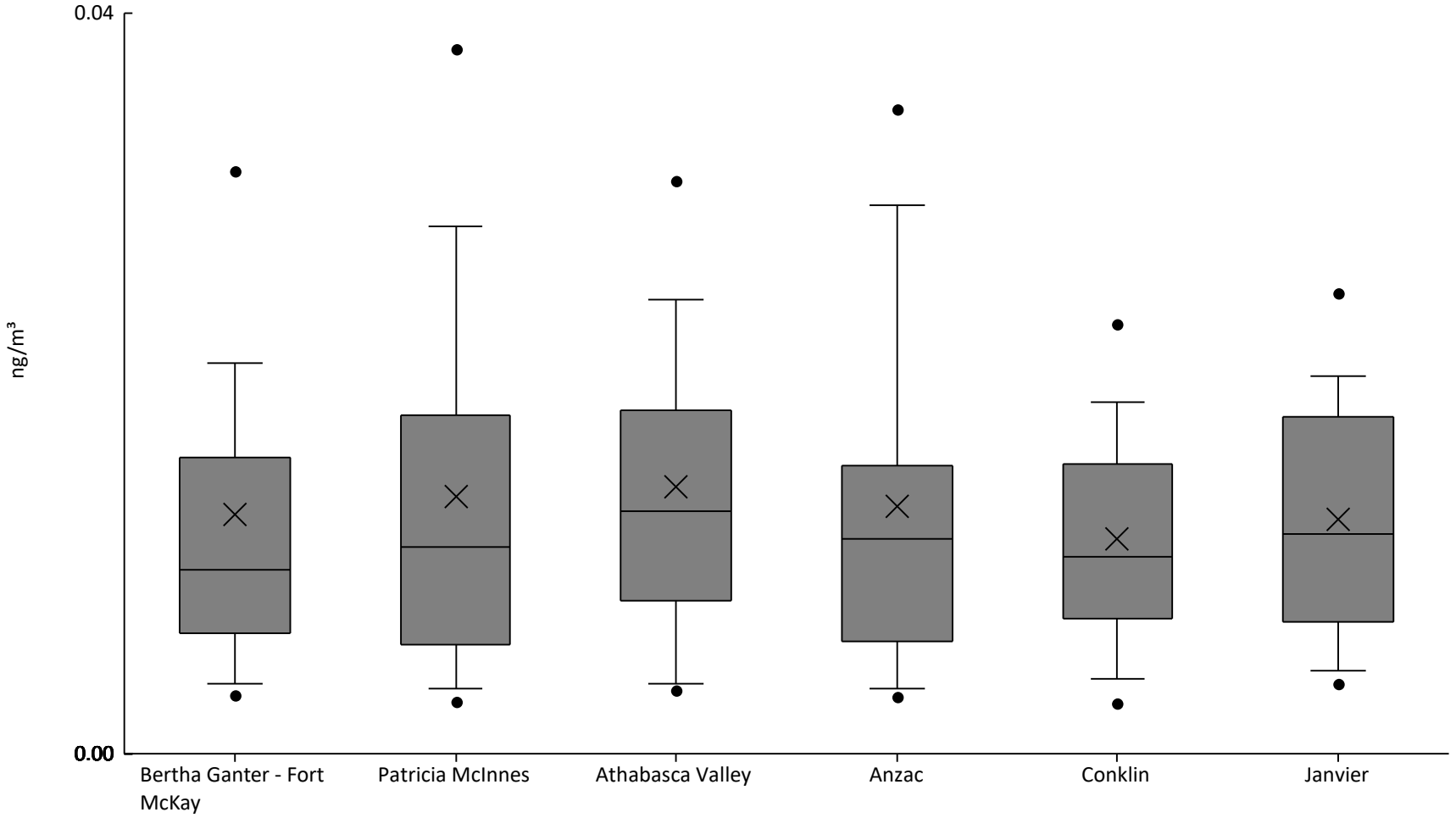
Polycyclic Aromatic Hydrocarbons - Benzo(a)pyrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	100%	0.017	0.018	0.02	0.026	0.039	0.056	0.084	0.1	0.12	0.046	0.026
AMS06	Patricia McInnes	60	90%	6E-3	0.013	0.016	0.026	0.042	0.063	0.1	0.15	0.3	0.056	0.051
AMS07	Athabasca Valley	60	95%	9.6E-3	0.016	0.019	0.023	0.036	0.065	0.085	0.18	0.4	0.056	0.068
AMS14	Anzac	61	74%	9.1E-3	0.01	0.012	0.015	0.021	0.034	0.069	0.08	0.17	0.031	0.03
AMS21	Conklin	31	90%	9.9E-3	0.013	0.016	0.02	0.044	0.083	0.1	0.16	0.18	0.056	0.042
AMS22	Janvier	29	69%	9.1E-3	9.2E-3	1E-2	0.014	0.021	0.054	0.093	0.099	0.17	0.037	0.037



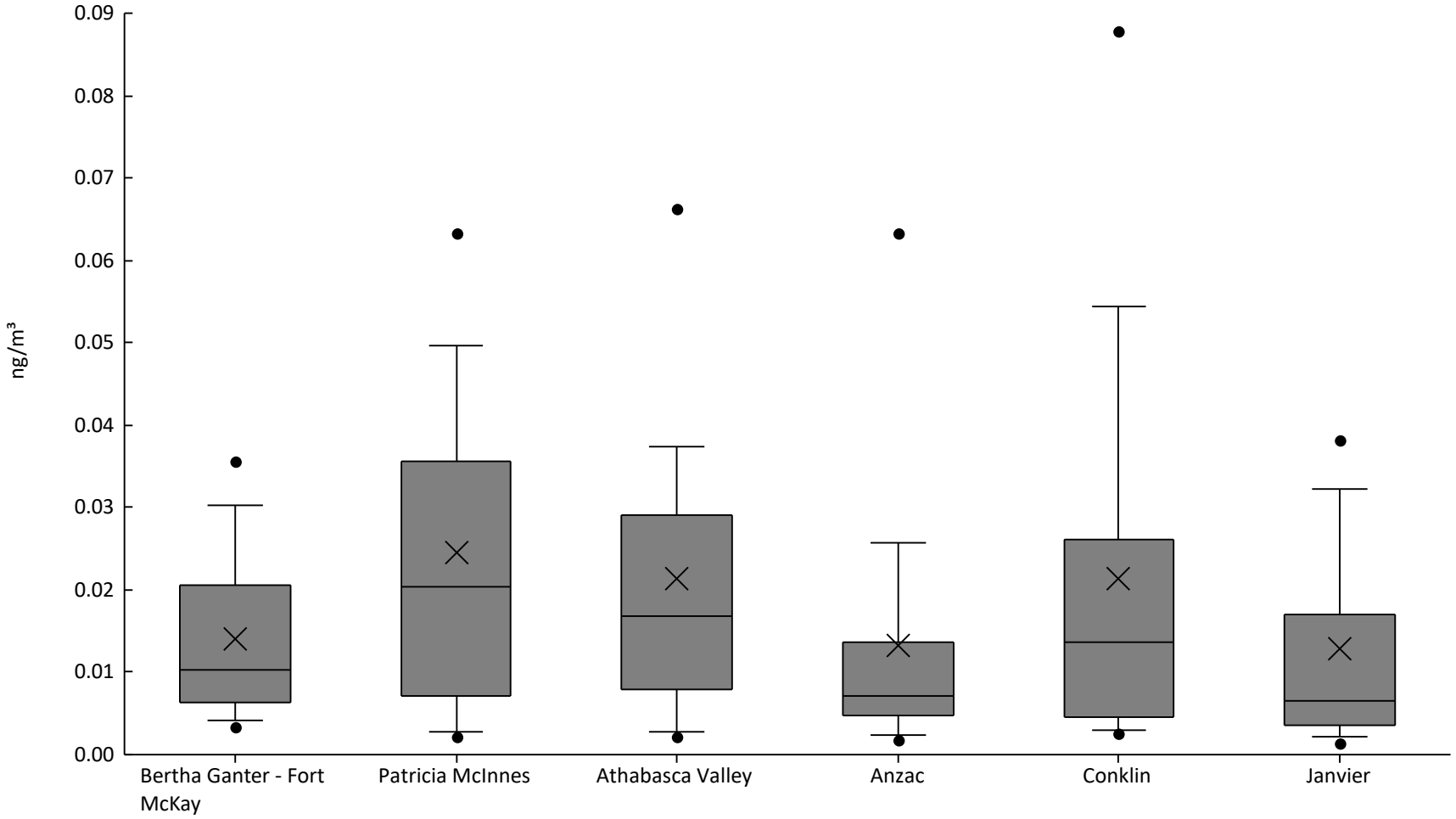
Polycyclic Aromatic Hydrocarbons - 3-Methylcholanthrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	23%	2.6E-3	3.2E-3	3.8E-3	6.5E-3	9.9E-3	0.016	0.021	0.031	0.071	0.013	0.011
AMS06	Patricia McInnes	60	32%	0	2.8E-3	3.5E-3	5.9E-3	0.011	0.018	0.028	0.038	0.054	0.014	0.011
AMS07	Athabasca Valley	60	27%	2.7E-3	3.5E-3	3.8E-3	8.2E-3	0.013	0.019	0.025	0.031	0.062	0.014	9.9E-3
AMS14	Anzac	61	30%	0	3.1E-3	3.5E-3	6.1E-3	0.012	0.016	0.03	0.035	0.056	0.013	0.011
AMS21	Conklin	31	35%	1.4E-3	2.7E-3	4E-3	7.3E-3	0.011	0.016	0.019	0.023	0.027	0.012	6.3E-3
AMS22	Janvier	29	31%	0	3.8E-3	4.5E-3	7.2E-3	0.012	0.018	0.02	0.025	0.027	0.013	6.8E-3



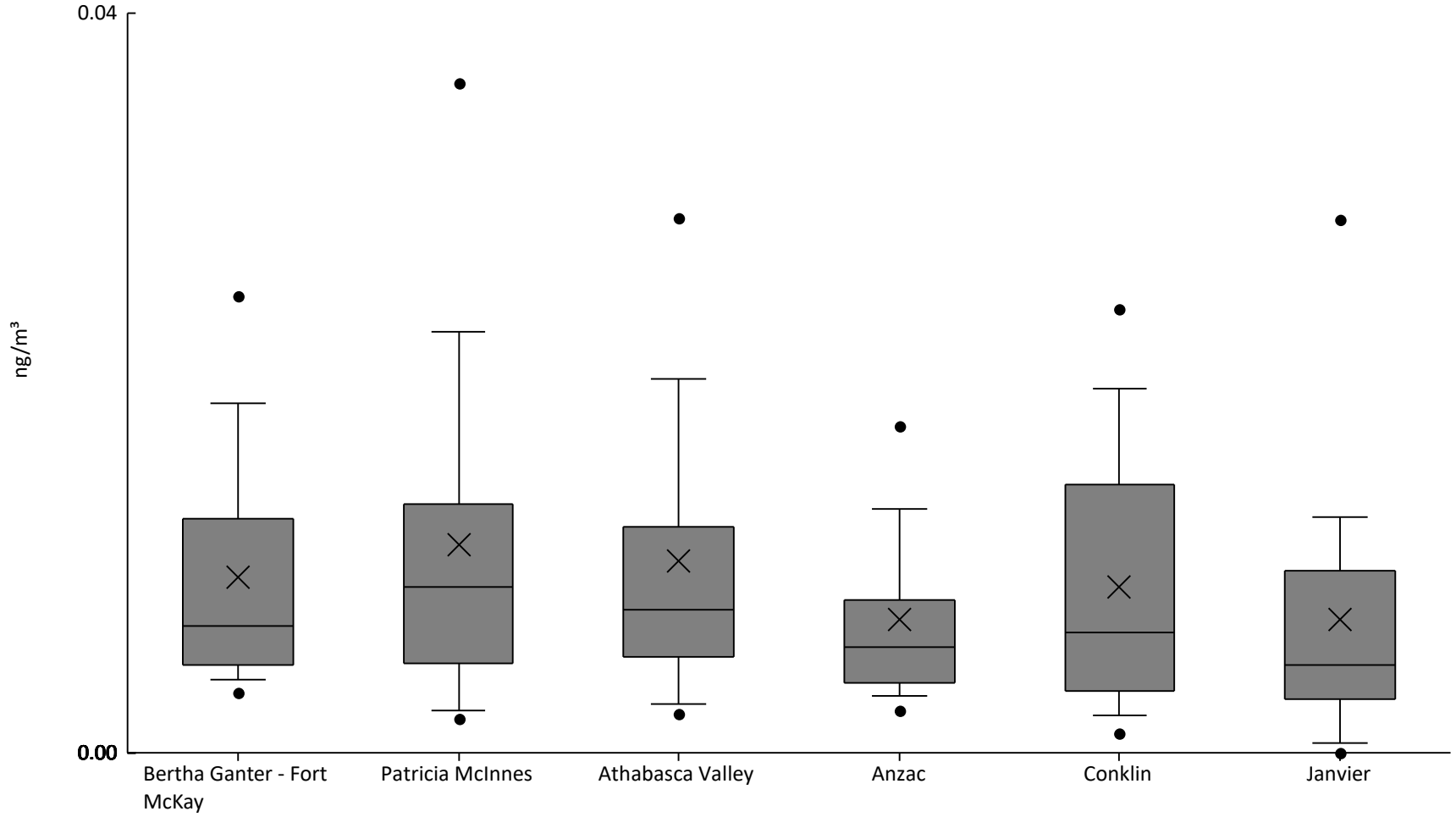
Polycyclic Aromatic Hydrocarbons - Indeno(123-cd)pyrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	35%	2.7E-3	3.3E-3	4.2E-3	6.4E-3	0.01	0.021	0.03	0.036	0.04	0.014	0.01
AMS06	Patricia McInnes	60	55%	1.7E-3	2.2E-3	2.9E-3	7.1E-3	0.02	0.036	0.05	0.063	0.11	0.025	0.022
AMS07	Athabasca Valley	60	52%	0	2.1E-3	2.8E-3	7.9E-3	0.017	0.029	0.037	0.066	0.14	0.021	0.023
AMS14	Anzac	61	23%	0	1.8E-3	2.5E-3	4.7E-3	7.1E-3	0.014	0.026	0.063	0.081	0.013	0.018
AMS21	Conklin	31	48%	2.2E-3	2.5E-3	3E-3	4.5E-3	0.014	0.026	0.054	0.088	0.094	0.021	0.024
AMS22	Janvier	29	31%	0	1.4E-3	2.2E-3	3.5E-3	6.6E-3	0.017	0.032	0.038	0.061	0.013	0.014



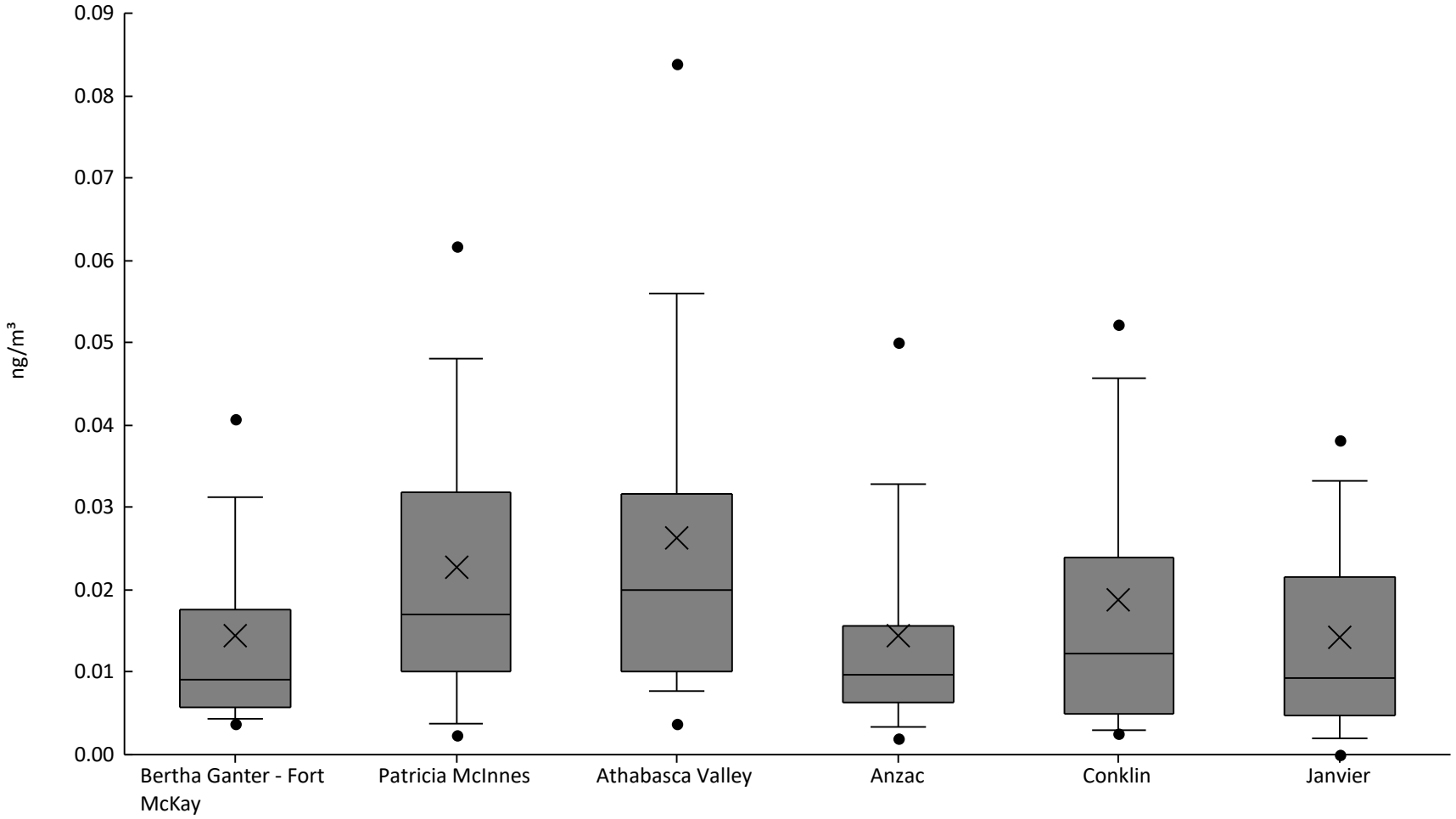
Polycyclic Aromatic Hydrocarbons - Dibenz(a,h)anthracene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	22%	2.9E-3	3.3E-3	4E-3	4.8E-3	6.9E-3	0.013	0.019	0.025	0.035	9.5E-3	7E-3
AMS06	Patricia McInnes	60	23%	1.2E-3	1.8E-3	2.3E-3	4.9E-3	8.9E-3	0.013	0.023	0.036	0.048	0.011	0.01
AMS07	Athabasca Valley	60	20%	1.9E-3	2.1E-3	2.6E-3	5.2E-3	7.8E-3	0.012	0.02	0.029	0.058	0.01	9.3E-3
AMS14	Anzac	61	16%	0	2.3E-3	3E-3	3.8E-3	5.8E-3	8.3E-3	0.013	0.018	0.031	7.2E-3	5.5E-3
AMS21	Conklin	31	32%	0	1.1E-3	2E-3	3.4E-3	6.5E-3	0.015	0.02	0.024	0.026	8.9E-3	7.2E-3
AMS22	Janvier	29	31%	0	0	5.7E-4	2.9E-3	4.7E-3	9.9E-3	0.013	0.029	0.029	7.2E-3	7.2E-3



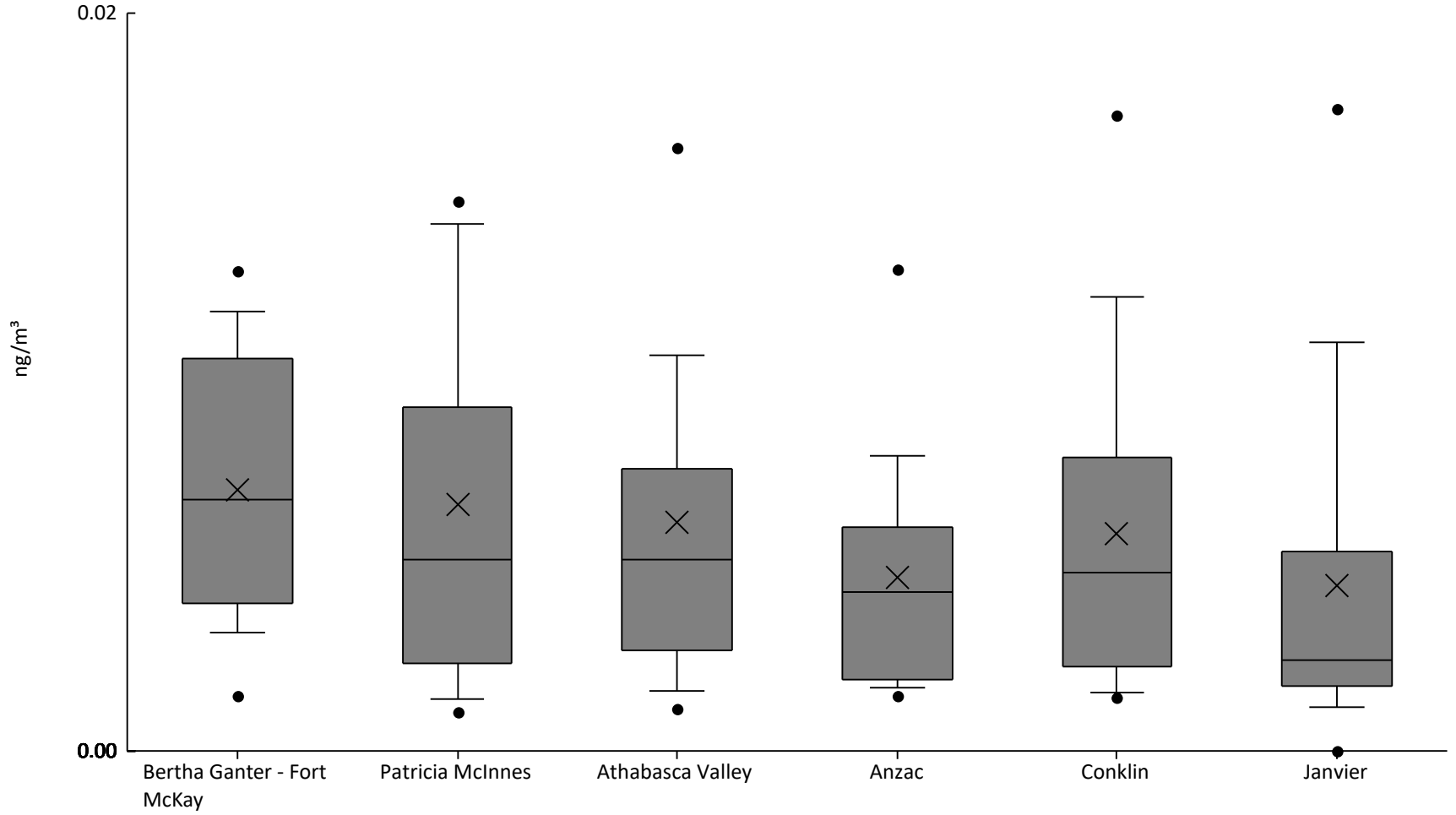
Polycyclic Aromatic Hydrocarbons - Benzo(ghi)perylene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	33%	2.8E-3	3.7E-3	4.3E-3	5.7E-3	9.2E-3	0.018	0.031	0.041	0.055	0.014	0.012
AMS06	Patricia McInnes	60	47%	1.8E-3	2.3E-3	3.8E-3	0.01	0.017	0.032	0.048	0.062	0.08	0.023	0.018
AMS07	Athabasca Valley	60	50%	1.6E-3	3.7E-3	7.7E-3	0.01	0.02	0.032	0.056	0.084	0.13	0.026	0.024
AMS14	Anzac	61	25%	0	2.1E-3	3.5E-3	6.3E-3	9.8E-3	0.016	0.033	0.05	0.08	0.015	0.016
AMS21	Conklin	31	39%	2.5E-3	2.6E-3	2.9E-3	4.9E-3	0.012	0.024	0.046	0.052	0.099	0.019	0.02
AMS22	Janvier	29	31%	0	0	2E-3	4.7E-3	9.4E-3	0.021	0.033	0.038	0.075	0.014	0.015



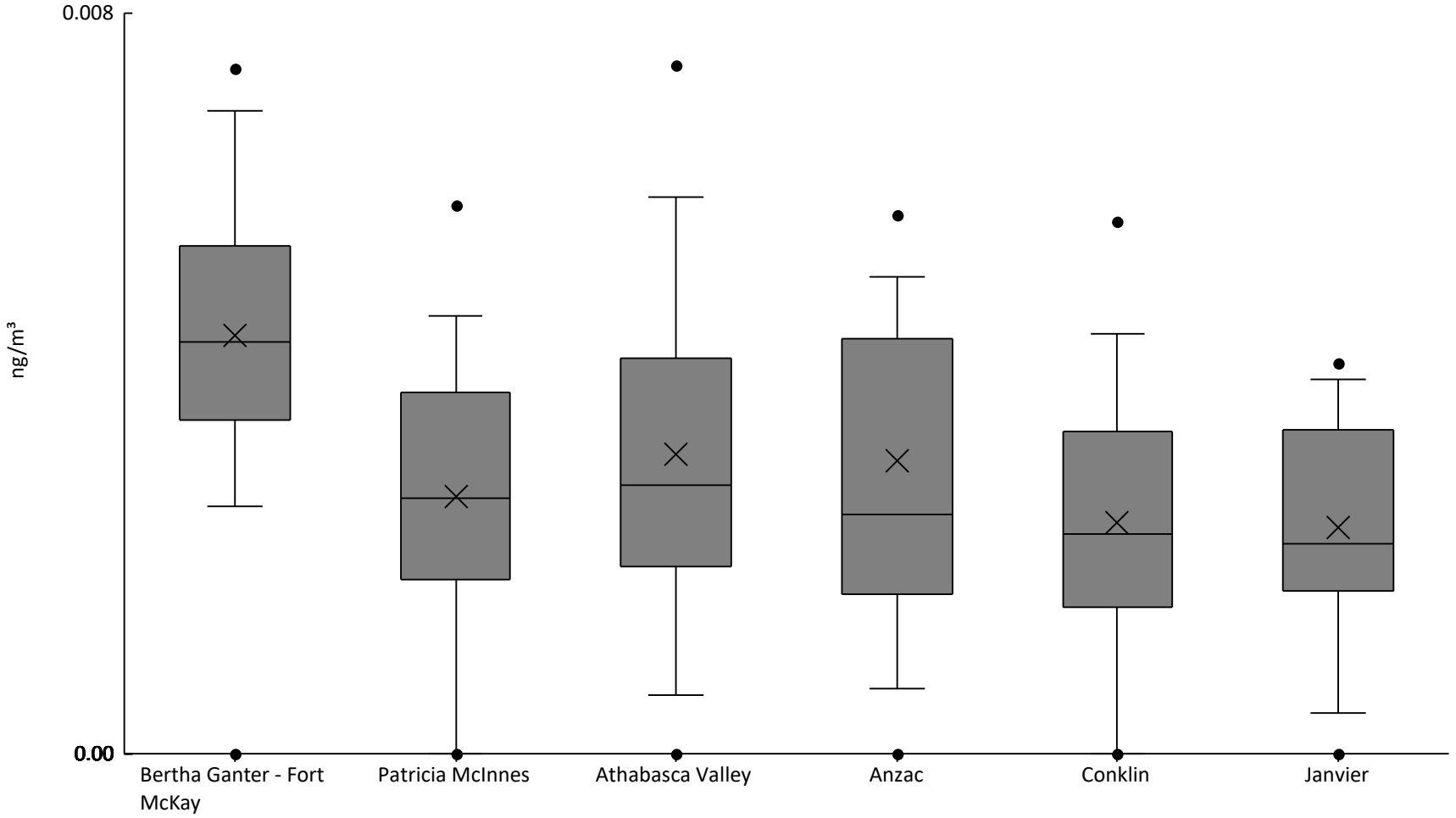
Polycyclic Aromatic Hydrocarbons - Dibenzo(a,l)pyrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	15%	0	1.5E-3	3.2E-3	4E-3	6.8E-3	0.011	0.012	0.013	0.014	7.1E-3	3.7E-3
AMS06	Patricia McInnes	60	15%	0	1.1E-3	1.4E-3	2.4E-3	5.2E-3	9.3E-3	0.014	0.015	0.024	6.7E-3	5.2E-3
AMS07	Athabasca Valley	60	15%	0	1.1E-3	1.6E-3	2.7E-3	5.2E-3	7.7E-3	0.011	0.016	0.032	6.2E-3	5.5E-3
AMS14	Anzac	61	15%	0	1.5E-3	1.7E-3	1.9E-3	4.3E-3	6.1E-3	8E-3	0.013	0.015	4.7E-3	3.2E-3
AMS21	Conklin	31	29%	1.3E-3	1.5E-3	1.6E-3	2.3E-3	4.8E-3	8E-3	0.012	0.017	0.023	5.9E-3	5E-3
AMS22	Janvier	29	31%	0	0	1.2E-3	1.8E-3	2.4E-3	5.4E-3	0.011	0.017	0.018	4.5E-3	4.6E-3



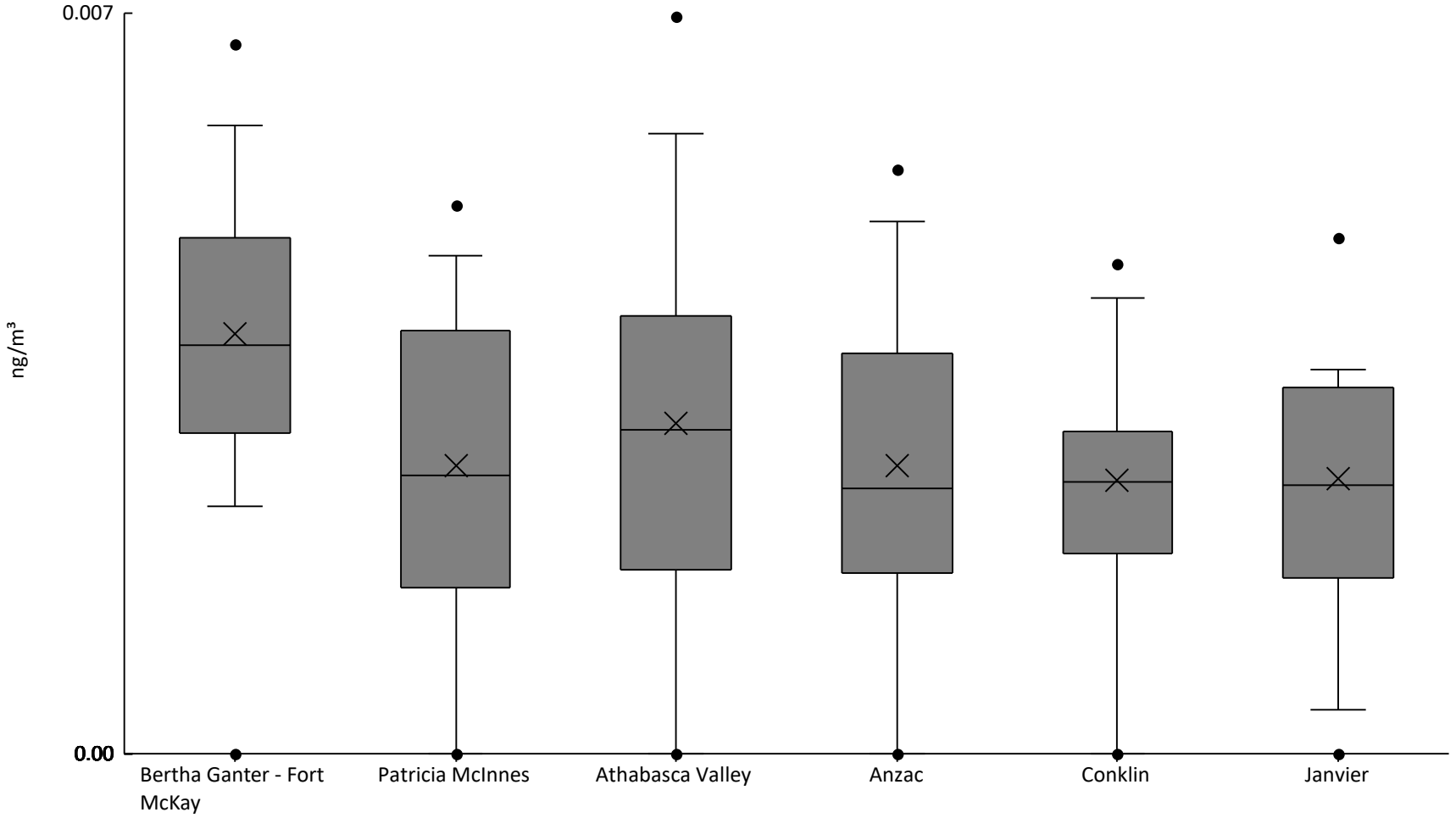
Polycyclic Aromatic Hydrocarbons - Dibenzo(a,i)pyrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	15%	0	0	2.7E-3	3.6E-3	4.4E-3	5.5E-3	6.9E-3	7.4E-3	0.01	4.5E-3	1.9E-3
AMS06	Patricia McInnes	60	15%	0	0	0	1.9E-3	2.8E-3	3.9E-3	4.7E-3	5.9E-3	6.5E-3	2.8E-3	1.7E-3
AMS07	Athabasca Valley	60	15%	0	0	6.3E-4	2E-3	2.9E-3	4.3E-3	6E-3	7.4E-3	0.011	3.2E-3	2.2E-3
AMS14	Anzac	61	15%	0	0	7E-4	1.7E-3	2.6E-3	4.5E-3	5.1E-3	5.8E-3	0.017	3.2E-3	2.5E-3
AMS21	Conklin	31	29%	0	0	0	1.6E-3	2.4E-3	3.5E-3	4.5E-3	5.7E-3	6E-3	2.5E-3	1.5E-3
AMS22	Janvier	29	28%	0	0	4.5E-4	1.8E-3	2.3E-3	3.5E-3	4E-3	4.2E-3	4.4E-3	2.4E-3	1.2E-3



Polycyclic Aromatic Hydrocarbons - Dibenzo(a,h)pyrene (ng/m³) - 2020

Station #	Station	#	% ≥ MDL	Min	5%	10%	25%	Med	75%	90%	95%	Max	Ave	Std Dev
AMS01	Bertha Ganter - Fort McKay	60	15%	0	0	2.3E-3	3E-3	3.9E-3	4.9E-3	5.9E-3	6.7E-3	9.7E-3	4E-3	1.9E-3
AMS06	Patricia McInnes	60	15%	0	0	0	1.6E-3	2.6E-3	4E-3	4.7E-3	5.2E-3	0.01	2.7E-3	1.9E-3
AMS07	Athabasca Valley	60	15%	0	0	0	1.7E-3	3.1E-3	4.1E-3	5.9E-3	7E-3	8.2E-3	3.1E-3	2E-3
AMS14	Anzac	61	15%	0	0	0	1.7E-3	2.5E-3	3.8E-3	5E-3	5.5E-3	7E-3	2.7E-3	1.8E-3
AMS21	Conklin	31	29%	0	0	0	1.9E-3	2.6E-3	3.1E-3	4.3E-3	4.6E-3	8.5E-3	2.6E-3	1.7E-3
AMS22	Janvier	29	28%	0	0	4.2E-4	1.7E-3	2.5E-3	3.5E-3	3.6E-3	4.9E-3	9.5E-3	2.6E-3	1.8E-3



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

INTEGRATED MONITORING PROGRAM
ANNUAL REPORT

PRECIPITATION
DATA SUMMARY
2020

Prepared
March 2021

SAMPLE COLLECTION AND DATA COMPILATION BY:

Wood Buffalo Environmental Association
Fort McMurray, Alberta

LABORATORY ANALYSIS BY:

Precipitation: Wisconsin State Laboratory of Hygiene
Madison, WI

SAMPLE DESCRIPTION	Summary of Precipitation Measurement of ions, pH and conductivity
SAMPLING PERIOD	One week
SAMPLING INTERVAL	One week
UNITS	mg/L (milligram per liter)
OBSERVATION TYPE	Wet Precipitation
FIELD SAMPLING OR MEASUREMENT PRINCIPLE	moveable cover with precipitation sensors
MEDIUM	Polyethylene Collection bucket
ANALYTICALMETHODS	pH by pH meter Conductivity by Conductivity meter Ions by Ion Chromatography (IC) Anions by Ion Chromatography (IC) Cations by Inductively Coupled Plasma (ICP) Ammonium and phosphate by Flow Injection Analysis (FIA)
ANALYTICAL LABORATORY	NADP, Wisconsin State Laboratory of Hygiene
USER NOTE 1	Data are not blank corrected
SAMPLING INSTRUMENT TYPE	N-CON Precipitation Collector
QA REFERENCE	https://open.alberta.ca/publications/precipitation-chemistry-data-handling-and-preparation

FLAGS USED

V0	Valid value
V1	Valid value but comprised wholly or partially of below detection limit data
V4	Valid value despite failing to meet some QC or statistical criteria
V5	Valid value but qualified because of possible contamination
V6	Valid value but qualified due to non-standard sampling conditions
V8	Dry Week
V9	Insufficient sample collected for analyzes
V10	Insufficient data to conduct all quality control checks
M1	Missing value because no value is available
M2	Missing value because invalidated by Data Originator

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION **2020**

Precipitation Volume Weighted Averages

Bertha Ganter - Fort McKay

												N-CON
Month	Start Date	End Date	Total Precip (mm)	Volume Collected (mL)	Sulfate (mg/L)	Nitrate (mg/L)	Chloride (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Ammonium (mg/L)
January	Jan-02	Feb-04	23.4	1228.9	0.35	0.77	0.08	0.03	0.07	0.75	0.12	0.06
February	Feb-04	Mar-03	9.0	509.2	0.74	1.38	0.17	0.05	0.14	2.10	0.30	0.18
March	Mar-03	Apr-01	11.1	421.5	1.02	1.03	0.20	0.10	0.27	4.79	0.49	0.07
April	Apr-01	Apr-29	7.1	545.8	1.39	0.86	0.14	0.04	0.14	2.04	0.20	0.16
May	Apr-29	Jun-03	69.1	5051.8	0.58	0.60	0.05	0.06	0.05	0.47	0.07	0.42
June	Jun-03	Jun-30	93.3	6511.8	0.43	0.38	0.04	0.03	0.03	0.27	0.04	0.13
July	Jun-30	Jul-29	140.2	10138.9	0.42	0.21	0.02	0.01	0.01	0.12	0.02	0.03
August	Jul-29	Sep-01	121.2	8977.3	0.44	0.26	0.03	0.01	0.01	0.18	0.02	0.07
September	Sep-01	Sep-29	46.3	3219.6	0.75	0.32	0.03	0.03	0.02	0.32	0.04	0.15
October	Sep-29	Oct-28	60.1	4087.6	0.40	0.24	0.02	0.01	0.02	0.19	0.03	0.11
November	Oct-28	Nov-30	28.7	1716.3	0.29	0.63	0.06	0.01	0.04	0.79	0.06	0.10
December	Nov-30	Jan-03	32.1	1864.9	0.22	1.01	0.06	0.02	0.04	0.67	0.10	0.02
Annual VWA	**Jan-02-2020**	**Jan-03-2021**	**641.4**	**44273.6**	**0.47**	**0.39**	**0.04**	**0.02**	**0.03**	**0.37**	**0.05**	**0.12**

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION **2020**

Precipitation Sample Collection Efficiencies

Bertha Ganter - Fort McKay

N-CON

Start Date	End Date	Total Precip (mm)	Volume Collected (mL)	Volume Flag	Collection Efficiency (%)
Jan-02-2020	Jan-08-2020	1.8	97.3		86%
Jan-08-2020	Jan-15-2020	8.2	357.0		68%
Jan-15-2020	Jan-21-2020	1.9	72.3		61%
Jan-27-2020	Feb-04-2020	11.6	702.3		95%
Feb-04-2020	Feb-11-2020	3.8	215.5		88%
Feb-11-2020	Feb-19-2020	4.9	272.0		86%
Feb-19-2020	Feb-25-2020	0.3	21.3		>100%
Feb-25-2020	Mar-03-2020	0.0	0.4	V8	-
Mar-03-2020	Mar-11-2020	2.0	118.9		91%
Mar-11-2020	Mar-17-2020	0.0	0.0	V8	-
Mar-17-2020	Mar-25-2020	0.1	10.9		>100%
Mar-25-2020	Apr-01-2020	8.9	291.7		51%
Apr-01-2020	Apr-07-2020	2.3	201.3		>100%
Apr-07-2020	Apr-14-2020	0.0	0.0	V8	-
Apr-14-2020	Apr-23-2020	1.3	107.7		>100%
Apr-23-2020	Apr-29-2020	3.4	236.8		>100%
Apr-29-2020	May-07-2020	0.3	26.4		>100%
May-07-2020	May-13-2020	2.6	210.4		>100%
May-13-2020	May-20-2020	15.5	1308.3		>100%
May-20-2020	May-26-2020	22.3	1526.8		>100%
May-26-2020	Jun-03-2020	28.4	1979.9		>100%
Jun-03-2020	Jun-10-2020	65.3	4482.4		>100%
Jun-10-2020	Jun-16-2020	8.8	613.2		>100%
Jun-16-2020	Jun-24-2020	0.0	0.0	V8	-
Jun-24-2020	Jun-30-2020	19.2	1416.2		>100%
Jun-30-2020	Jul-07-2020	41.0	2873.4		>100%
Jul-07-2020	Jul-13-2020	44.9	3226.3		>100%
Jul-13-2020	Jul-22-2020	45.3	3323.9		>100%
Jul-22-2020	Jul-29-2020	8.9	715.3		>100%
Jul-29-2020	Aug-05-2020	3.8	283.2		>100%
Aug-05-2020	Aug-12-2020	34.5	2438.0		>100%
Aug-12-2020	Aug-17-2020	8.6	605.9		>100%
Aug-17-2020	Aug-25-2020	49.6	3898.5		>100%
Aug-25-2020	Sep-01-2020	24.7	1751.7		>100%
Sep-01-2020	Sep-09-2020	14.1	984.4		>100%
Sep-09-2020	Sep-16-2020	12.1	824.3		>100%
Sep-16-2020	Sep-23-2020	0.3	38.3		>100%
Sep-23-2020	Sep-29-2020	19.8	1372.6		>100%
Sep-29-2020	Oct-07-2020	0.8	51.1		>100%
Oct-07-2020	Oct-14-2020	54.2	3705.7		>100%
Oct-14-2020	Oct-21-2020	0.7	47.3		>100%
Oct-21-2020	Oct-28-2020	4.6	283.5		97%
Oct-28-2020	Nov-04-2020	6.6	404.4		95%
Nov-04-2020	Nov-10-2020	13.2	705.0		83%
Nov-10-2020	Nov-16-2020	0.5	44.5		>100%
Nov-16-2020	Nov-24-2020	8.0	539.3		>100%
Nov-24-2020	Nov-30-2020	0.4	23.1		97%
Nov-30-2020	Dec-08-2020	1.2	77.5		>100%
Dec-08-2020	Dec-16-2020	6.8	456.4		>100%
Dec-16-2020	Dec-24-2020	13.0	673.9		81%
Dec-24-2020	Jan-03-2021	11.1	657.1		92%

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION **2020**

Precipitation Volume Weighted Averages

Wapasu

												N-CON
Month	Start Date	End Date	Total Precip (mm)	Volume Collected (mL)	Sulfate (mg/L)	Nitrate (mg/L)	Chloride (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Ammonium (mg/L)
January	Jan-02	Feb-04	20.5	810.5	0.35	0.63	0.05	0.01	0.03	0.35	0.07	0.04
February	Feb-04	Mar-03	11.1	422.8	0.58	1.05	0.13	0.02	0.09	1.47	0.12	0.05
March	Mar-03	Apr-01	23.5	375.6	1.36	1.01	0.24	0.05	0.21	5.12	0.27	0.10
April	Apr-01	Apr-30	21.9	1065.8	1.44	0.88	0.09	0.03	0.08	1.23	0.14	0.12
May	Apr-30	Jun-03	67.8	4010.5	0.59	0.63	0.04	0.03	0.03	0.44	0.06	0.35
June	Jun-03	Jun-30	55.7	4182.6	0.53	0.35	0.03	0.04	0.02	0.28	0.03	0.12
July	Jun-30	Jul-29	200.4	12852.0	0.44	0.21	0.02	0.01	0.01	0.19	0.02	0.03
August	Jul-29	Sep-01	133.5	9473.9	0.46	0.24	0.02	0.01	0.01	0.18	0.02	0.07
September	Sep-01	Sep-29	50.0	3252.7	0.78	0.32	0.02	0.01	0.01	0.30	0.03	0.15
October	Sep-29	Nov-04	69.1	4727.2	0.25	0.23	0.03	0.01	0.01	0.63	0.04	0.08
November	Nov-04	Nov-30	22.8	831.8	0.53	0.90	0.15	0.02	0.04	0.65	0.09	0.14
December	Nov-30	Jan-03	33.7	1454.6	0.22	0.89	0.05	0.00	0.02	0.25	0.03	0.03
Annual VWA	**Jan-02-2020**	**Jan-03-2021**	**710.0**	**43460.0**	**0.50**	**0.35**	**0.03**	**0.02**	**0.02**	**0.37**	**0.04**	**0.10**

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION **2020**

Precipitation Sample Collection Efficiencies

Wapasu

					N-CON
Start Date	End Date	Total Precip (mm)	Volume Collected (mL)	Volume Flag	Collection Efficiency (%)
Jan-02-2020	Jan-08-2020	3.3	111.4		52%
Jan-08-2020	Jan-15-2020	8.0	242.2		47%
Jan-15-2020	Jan-21-2020	0.3	28.9		>100%
Jan-21-2020	Jan-27-2020	0.0	4.7	V8	-
Jan-27-2020	Feb-04-2020	8.9	423.3		74%
Feb-04-2020	Feb-11-2020	4.3	201.0		73%
Feb-11-2020	Feb-18-2020	5.0	147.4		46%
Feb-18-2020	Feb-25-2020	0.9	41.5		74%
Feb-25-2020	Mar-03-2020	1.0	32.9		53%
Mar-03-2020	Mar-11-2020	2.5	83.3		53%
Mar-11-2020	Mar-17-2020	1.6	4.8	V8	-
Mar-17-2020	Mar-25-2020	2.0	64.7		50%
Mar-25-2020	Apr-01-2020	17.4	222.8		20%
Apr-01-2020	Apr-07-2020	3.8	197.1		82%
Apr-07-2020	Apr-14-2020	0.7	0.0	V8	-
Apr-14-2020	Apr-22-2020	4.4	164.8		59%
Apr-22-2020	Apr-30-2020	13.0	703.9		84%
Apr-30-2020	May-05-2020	12.3	774.0		98%
May-05-2020	May-13-2020	3.8	164.9		68%
May-13-2020	May-19-2020	15.7	709.1		70%
May-19-2020	May-26-2020	15.9	1053.3		>100%
May-26-2020	Jun-03-2020	20.1	1309.2		>100%
Jun-03-2020	Jun-10-2020	38.3	2804.4		>100%
Jun-10-2020	Jun-17-2020	9.0	720.4		>100%
Jun-17-2020	Jun-23-2020	0.0	0.0	V8	-
Jun-23-2020	Jun-30-2020	8.3	657.8		>100%
Jun-30-2020	Jul-07-2020	20.2	1401.8		>100%
Jul-07-2020	Jul-14-2020	87.0	4298.8		77%
Jul-13-2020	Jul-21-2020	54.3	4408.2		>100%
Jul-21-2020	Jul-29-2020	38.9	2743.2		>100%
Jul-29-2020	Aug-04-2020	4.8	234.7		77%
Aug-04-2020	Aug-11-2020	14.1	1030.8		>100%
Aug-11-2020	Aug-17-2020	14.5	1044.3		>100%
Aug-17-2020	Aug-26-2020	44.4	3164.6		>100%
Aug-26-2020	Sep-01-2020	55.7	3999.5		>100%
Sep-01-2020	Sep-09-2020	16.6	1036.4		97%
Sep-09-2020	Sep-16-2020	10.4	685.9		>100%
Sep-16-2020	Sep-22-2020	0.1	10.3		>100%
Sep-22-2020	Sep-29-2020	22.9	1520.1		>100%
Sep-29-2020	Oct-07-2020	3.9	250.3		>100%
Oct-07-2020	Oct-14-2020	44.6	3036.4		>100%
Oct-14-2020	Oct-21-2020	8.1	602.6		>100%
Oct-21-2020	Oct-28-2020	6.5	464.2		>100%
Oct-28-2020	Nov-04-2020	6.1	373.7		96%
Nov-04-2020	Nov-10-2020	11.3	292.8		41%
Nov-10-2020	Nov-16-2020	3.7	163.6		69%
Nov-16-2020	Nov-24-2020	5.8	264.8		71%
Nov-24-2020	Nov-30-2020	2.0	110.6		87%
Nov-30-2020	Dec-08-2020	1.5	99.6		>100%
Dec-08-2020	Dec-16-2020	7.3	339.3		73%
Dec-16-2020	Dec-24-2020	15.6	526.0		53%
Dec-24-2020	Jan-03-2021	9.3	489.7		82%

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION **2020**

Precipitation Volume Weighted Averages

Stony Mountain

												N-CON
Month	**Start Date**	**End Date**	**Total Precip (mm)**	**Volume Collected (mL)**	**Sulfate (mg/L)**	**Nitrate (mg/L)**	**Chloride (mg/L)**	**Potassium (mg/L)**	**Sodium (mg/L)**	**Calcium (mg/L)**	**Magnesium (mg/L)**	**Ammonium (mg/L)**
January	Jan-02	Jan-30	14.3	1016.1	0.15	0.79	0.05	0.01	0.02	0.05	0.01	0.02
February	Jan-30	Mar-03	15.0	803.6	0.19	0.89	0.07	0.02	0.03	0.10	0.01	0.05
March	Mar-03	Mar-31	20.4	833.7	0.35	0.62	0.12	0.02	0.06	0.21	0.03	0.10
April	Mar-31	Apr-28	8.6	588.6	0.70	0.61	0.11	0.03	0.06	0.22	0.04	0.18
May	Apr-28	Jun-01	68.6	5201.4	0.55	0.54	0.04	0.03	0.02	0.19	0.04	0.39
June	Jun-01	Jun-30	135.6	9900.7	0.24	0.20	0.03	0.02	0.01	0.06	0.01	0.10
July	Jun-30	Jul-29	91.0	6814.6	0.26	0.28	0.02	0.01	0.01	0.06	0.01	0.08
August	Jul-29	Sep-01	80.8	5951.0	0.37	0.41	0.04	0.02	0.01	0.19	0.04	0.20
September	Sep-01	Sep-29	33.4	2372.4	0.27	0.26	0.02	0.01	0.01	0.11	0.02	0.06
October	Sep-29	Nov-03	34.2	2235.7	0.36	0.48	0.03	0.03	0.01	0.21	0.04	0.24
November	Nov-03	Dec-02	20.2	1357.6	0.19	0.40	0.02	0.01	0.01	0.04	0.01	0.09
December	Dec-02	Jan-03	9.8	710.7	0.20	1.13	0.06	0.01	0.02	0.12	0.02	0.06
Annual VWA	**Jan-02-2020**	**Jan-03-2021**	**531.7**	**37786.1**	**0.32**	**0.38**	**0.03**	**0.02**	**0.01**	**0.12**	**0.02**	**0.15**

WOOD BUFFALO ENVIRONMENTAL ASSOCIATION **2020**

Precipitation Sample Collection Efficiencies

Stony Mountain

					N-CON
Start Date	End Date	Total Precip (mm)	Volume Collected (mL)	Volume Flag	Collection Efficiency (%)
Jan-02-2020	Jan-08-2020	2.3	144.7		98%
Jan-08-2020	Jan-15-2020	8.3	610.6		>100%
Jan-15-2020	Jan-21-2020	2.0	186.6		>100%
Jan-21-2020	Jan-30-2020	1.7	74.2		68%
Jan-30-2020	Feb-05-2020	1.6	114.6		>100%
Feb-05-2020	Feb-11-2020	2.3	160.3		>100%
Feb-11-2020	Feb-19-2020	6.6	264.3		62%
Feb-19-2020	Feb-25-2020	0.0	0.0	V8	-
Feb-25-2020	Mar-03-2020	4.5	264.4		92%
Mar-03-2020	Mar-11-2020	4.7	327.8		>100%
Mar-11-2020	Mar-17-2020	0.4	36.9		>100%
Mar-17-2020	Mar-23-2020	0.0	0.0	V8	-
Mar-23-2020	Mar-31-2020	15.3	469.0		48%
Mar-31-2020	Apr-07-2020	4.4	247.3		87%
Apr-07-2020	Apr-14-2020	0.7	40.0		92%
Apr-14-2020	Apr-20-2020	0.2	28.9		>100%
Apr-20-2020	Apr-28-2020	3.4	272.4		>100%
Apr-28-2020	May-05-2020	2.5	189.1		>100%
May-05-2020	May-12-2020	9.3	669.7		>100%
May-12-2020	May-19-2020	9.4	739.9		>100%
May-19-2020	May-26-2020	22.0	1589.9		>100%
May-26-2020	Jun-01-2020	25.3	2012.8		>100%
Jun-01-2020	Jun-09-2020	128.7	9352.6		>100%
Jun-09-2020	Jun-16-2020	4.5	349.4		>100%
Jun-16-2020	Jun-23-2020	0.1	10.9		>100%
Jun-23-2020	Jun-30-2020	2.2	187.8		>100%
Jun-30-2020	Jul-06-2020	33.7	2388.8		>100%
Jul-06-2020	Jul-13-2020	20.7	1519.0		>100%
Jul-13-2020	Jul-21-2020	28.9	2202.4		>100%
Jul-21-2020	Jul-29-2020	7.7	704.4		>100%
Jul-29-2020	Aug-05-2020	6.9	465.5		>100%
Aug-05-2020	Aug-12-2020	16.4	1211.9		>100%
Aug-12-2020	Aug-17-2020	2.6	249.7		>100%
Aug-17-2020	Aug-24-2020	38.1	2786.5		>100%
Aug-24-2020	Sep-01-2020	16.8	1237.4		>100%
Sep-01-2020	Sep-09-2020	27.5	1936.4		>100%
Sep-09-2020	Sep-16-2020	0.8	69.2		>100%
Sep-16-2020	Sep-23-2020	0.0	0.0	V8	-
Sep-23-2020	Sep-29-2020	5.0	366.8		>100%
Sep-29-2020	Oct-05-2020	1.1	71.7		100%
Oct-05-2020	Oct-13-2020	20.1	1353.4		>100%
Oct-13-2020	Oct-20-2020	0.3	33.5		>100%
Oct-20-2020	Oct-28-2020	4.7	312.4		>100%
Oct-28-2020	Nov-03-2020	8.0	464.7		91%
Nov-03-2020	Nov-10-2020	16.6	1102.3		>100%
Nov-10-2020	Nov-18-2020	1.0	74.1		>100%
Nov-18-2020	Nov-25-2020	2.0	143.3		>100%
Nov-25-2020	Dec-02-2020	0.6	37.9		97%
Dec-02-2020	Dec-09-2020	0.5	37.8		>100%
Dec-09-2020	Dec-16-2020	3.4	275.2		>100%
Dec-16-2020	Dec-24-2020	5.0	337.0		>100%
Dec-24-2020	Jan-03-2021	0.9	60.7		>100%

End of Report - Volume 2