

Your C.O.C. #: G097929

Attention: Dan McGill

UNION BAY IMPROVEMENT DISTRICT
PO BOX 70
UNION BAY, BC
CANADA VOR 3B0

Report Date: 2015/11/05

Report #: R2072222

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B596582

Received: 2015/10/29, 11:00

Sample Matrix: DRINKING WATER
Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Alkalinity - Water (1)	1	2015/10/31	2015/10/31	BBY6SOP-00026	SM 22 2320 B m
Colour (True) by Kone Lab (1)	1	N/A	2015/10/30	BBY6SOP-00057	SM 22 2120 C m
Color Apparent (1)	1	N/A	2015/10/30	BBY6SOP-00021	SM 22 2120 B m
Carbon (DOC) - unfiltered/unpreserved (1, 2)	1	N/A	2015/11/02	BBY6SOP-00003	SM 22 5310 C m
Hardness Total (calculated as CaCO3) (1)	1	N/A	2015/11/03	BBY7SOP-00002	EPA 6020a R1 m
Bromide as Bromine (Br) by ICPMS (1)	1	N/A	2015/11/02	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.) (1)	1	N/A	2015/11/04	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (dissolved) (1)	1	N/A	2015/11/03	BBY7SOP-00002	EPA 6020A R1 m
Na, K, Ca, Mg, S by CRC ICPMS (total) (1)	1	2015/10/29	2015/11/03	BBY7SOP-00002	EPA 6020A R1 m
Elements by CRC ICPMS (total) (1)	1	2015/11/02	2015/11/03	BBY7SOP-00002	EPA 6020A R1 m
Filter and HNO3 Preserve for Metals (1)	1	N/A	2015/10/30	BBY7 WI-00004	BCMOE Reqs 08/14
pH Water (1, 3)	1	N/A	2015/10/31	BBY6SOP-00026	SM 22 4500-H+ B m
Carbon (Total Organic) (1, 4)	1	N/A	2015/11/02	BBY6SOP-00003	SM 22 5310 C m
Turbidity (1)	1	N/A	2015/10/30	BBY6SOP-00027	SM 22 2130 B m
UV absorbance @254nm-Unfiltered (1)	1	N/A	2015/11/02	BBY6SOP-00055	SM 22 5910 B
UV transmittance @254nm-Unfiltered (1)	1	N/A	2015/11/03	BRN SOP-00246	SM-5910 B
VOCs, VH, F1, LH in Water by HS GC/MS (1)	1	2015/10/30	2015/10/30	BBY8SOP-00009	EPA 8260c R3 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Vancouver

(2) DOC present in the sample should be considered as non-purgeable DOC.

(3) The BC-MOE and APHA Standard Method require pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the BC-MOE/APHA Standard Method holding time.

(4) TOC present in the sample should be considered as non-purgeable TOC.

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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B596582

Received: 2015/10/29, 11:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Shanaz Akbar, Project Manager
Email: SAKbar@maxxam.ca
Phone# (604)639-2618

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

RESULTS OF CHEMICAL ANALYSES OF DRINKING WATER

Maxxam ID					NN2306		
Sampling Date					2015/10/29		
COC Number					G097929		
	UNITS	MAC	AO	OG	MONTROSE DRIVE MCLEOD RAW WATER	RDL	QC Batch
CONVENTIONALS							
Transmittance at 254nm	%T/cm	-	-	-	84.4	N/A	8094175
Misc. Inorganics							
UV absorbance (254nm)	AU/cm	-	-	-	0.073	0.010	8096566
Calculated Parameters							
Filter and HNO3 Preservation	N/A	-	-	-	LAB	N/A	8095514
Misc. Inorganics							
Dissolved Organic Carbon (C)	mg/L	-	-	-	2.62 (1)	0.50	8103053
Alkalinity (Total as CaCO3)	mg/L	-	-	-	10.4	0.50	8096957
Total Organic Carbon (C)	mg/L	-	-	-	2.63	0.50	8098834
Alkalinity (PP as CaCO3)	mg/L	-	-	-	<0.50	0.50	8096957
Bicarbonate (HCO3)	mg/L	-	-	-	12.7	0.50	8096957
Carbonate (CO3)	mg/L	-	-	-	<0.50	0.50	8096957
Hydroxide (OH)	mg/L	-	-	-	<0.50	0.50	8096957
MISCELLANEOUS							
Apparent Colour	Col. Unit	-	-	-	15.0	5.0	8095911
True Colour	Col. Unit	-	15	-	15.0	5.0	8096477
Physical Properties							
pH	pH	-	6.5:8.5	-	7.12	N/A	8096952
Physical Properties							
Turbidity	NTU	see remark	see remark	see remark	0.57	0.10	8096176
RDL = Reportable Detection Limit N/A = Not Applicable (1) Sample analysed past recommended hold time.							

ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)

Maxxam ID					NN2306		
Sampling Date					2015/10/29		
COC Number					G097929		
	UNITS	MAC	AO	OG	MONTROSE DRIVE MCLEOD RAW WATER	RDL	QC Batch
ANIONS							
Bromide (Br)	mg/L	-	-	-	0.010	0.010	8098098
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	ug/L	-	-	100	7.5	3.0	8098571
Dissolved Antimony (Sb)	ug/L	6	-	-	<0.50	0.50	8098571
Dissolved Arsenic (As)	ug/L	10	-	-	0.17	0.10	8098571
Dissolved Barium (Ba)	ug/L	1000	-	-	4.7	1.0	8098571
Dissolved Beryllium (Be)	ug/L	-	-	-	<0.10	0.10	8098571
Dissolved Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0	8098571
Dissolved Boron (B)	ug/L	5000	-	-	<50	50	8098571
Dissolved Cadmium (Cd)	ug/L	5	-	-	<0.010	0.010	8098571
Dissolved Chromium (Cr)	ug/L	50	-	-	<1.0	1.0	8098571
Dissolved Cobalt (Co)	ug/L	-	-	-	<0.50	0.50	8098571
Dissolved Copper (Cu)	ug/L	-	1000	-	0.46	0.20	8098571
Dissolved Iron (Fe)	ug/L	-	300	-	48.5	5.0	8098571
Dissolved Lead (Pb)	ug/L	10	-	-	<0.20	0.20	8098571
Dissolved Lithium (Li)	ug/L	-	-	-	<5.0	5.0	8098571
Dissolved Manganese (Mn)	ug/L	-	50	-	<1.0	1.0	8098571
Dissolved Mercury (Hg)	ug/L	1	-	-	<0.050	0.050	8098571
Dissolved Molybdenum (Mo)	ug/L	-	-	-	<1.0	1.0	8098571
Dissolved Nickel (Ni)	ug/L	-	-	-	<1.0	1.0	8098571
Dissolved Selenium (Se)	ug/L	50	-	-	<0.10	0.10	8098571
Dissolved Silicon (Si)	ug/L	-	-	-	581	100	8098571
Dissolved Silver (Ag)	ug/L	-	-	-	<0.020	0.020	8098571
Dissolved Strontium (Sr)	ug/L	-	-	-	17.0	1.0	8098571
Dissolved Thallium (Tl)	ug/L	-	-	-	<0.050	0.050	8098571
Dissolved Tin (Sn)	ug/L	-	-	-	<5.0	5.0	8098571
Dissolved Titanium (Ti)	ug/L	-	-	-	<5.0	5.0	8098571
Dissolved Uranium (U)	ug/L	20	-	-	<0.10	0.10	8098571
Dissolved Vanadium (V)	ug/L	-	-	-	<5.0	5.0	8098571
Dissolved Zinc (Zn)	ug/L	-	5000	-	<5.0	5.0	8098571
Dissolved Zirconium (Zr)	ug/L	-	-	-	<0.50	0.50	8098571
Dissolved Calcium (Ca)	mg/L	-	-	-	2.62	0.050	8093708
Dissolved Magnesium (Mg)	mg/L	-	-	-	0.798	0.050	8093708
Dissolved Potassium (K)	mg/L	-	-	-	0.137	0.050	8093708
Dissolved Sodium (Na)	mg/L	-	200	-	2.76	0.050	8093708
RDL = Reportable Detection Limit							

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ELEMENTS BY ATOMIC SPECTROSCOPY (DRINKING WATER)

Maxxam ID					NN2306		
Sampling Date					2015/10/29		
COC Number					G097929		
	UNITS	MAC	AO	OG	MONTROSE DRIVE MCLEOD RAW WATER	RDL	QC Batch
Dissolved Sulphur (S)	mg/L	-	-	-	<3.0	3.0	8093708
RDL = Reportable Detection Limit							

CSR TOTAL METALS IN WATER WITH CV HG (DRINKING WATER)

Maxxam ID					NN2306		
Sampling Date					2015/10/29		
COC Number					G097929		
	UNITS	MAC	AO	OG	MONTROSE DRIVE MCLEOD RAW WATER	RDL	QC Batch
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	-	-	10.0	0.50	8093907
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	-	-	100	10.0	3.0	8098841
Total Antimony (Sb)	ug/L	6	-	-	<0.50	0.50	8098841
Total Arsenic (As)	ug/L	10	-	-	<0.10	0.10	8098841
Total Barium (Ba)	ug/L	1000	-	-	4.6	1.0	8098841
Total Beryllium (Be)	ug/L	-	-	-	<0.10	0.10	8098841
Total Bismuth (Bi)	ug/L	-	-	-	<1.0	1.0	8098841
Total Boron (B)	ug/L	5000	-	-	<50	50	8098841
Total Cadmium (Cd)	ug/L	5	-	-	<0.010	0.010	8098841
Total Chromium (Cr)	ug/L	50	-	-	<1.0	1.0	8098841
Total Cobalt (Co)	ug/L	-	-	-	<0.50	0.50	8098841
Total Copper (Cu)	ug/L	-	1000	-	<0.50	0.50	8098841
Total Iron (Fe)	ug/L	-	300	-	121	10	8098841
Total Lead (Pb)	ug/L	10	-	-	0.27	0.20	8098841
Total Lithium (Li)	ug/L	-	-	-	<5.0	5.0	8098841
Total Manganese (Mn)	ug/L	-	50	-	17.7	1.0	8098841
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	1.0	8098841
Total Nickel (Ni)	ug/L	-	-	-	1.1	1.0	8098841
Total Phosphorus (P)	ug/L	-	-	-	<10	10	8098841
Total Selenium (Se)	ug/L	50	-	-	<0.10	0.10	8098841
Total Silicon (Si)	ug/L	-	-	-	635	100	8098841
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020	8098841
Total Strontium (Sr)	ug/L	-	-	-	18.0	1.0	8098841
Total Thallium (Tl)	ug/L	-	-	-	<0.050	0.050	8098841
Total Tin (Sn)	ug/L	-	-	-	<5.0	5.0	8098841
Total Titanium (Ti)	ug/L	-	-	-	<5.0	5.0	8098841
Total Uranium (U)	ug/L	20	-	-	<0.10	0.10	8098841
Total Vanadium (V)	ug/L	-	-	-	<5.0	5.0	8098841
Total Zinc (Zn)	ug/L	-	5000	-	<5.0	5.0	8098841
Total Calcium (Ca)	mg/L	-	-	-	2.77	0.050	8093908
Total Magnesium (Mg)	mg/L	-	-	-	0.758	0.050	8093908
Total Potassium (K)	mg/L	-	-	-	0.152	0.050	8093908
Total Sodium (Na)	mg/L	-	200	-	2.97	0.050	8093908
RDL = Reportable Detection Limit							

TRIHALOMETHANES (THM) IN WATER

Maxxam ID			NN2306		
Sampling Date			2015/10/29		
COC Number			G097929		
	UNITS	MAC	MONTROSE DRIVE MCLEOD RAW WATER	RDL	QC Batch
Volatiles					
Chloroform	ug/L	-	89	1.0	8096089
Chlorodibromomethane	ug/L	-	<1.0	1.0	8096089
Bromodichloromethane	ug/L	16	4.5	1.0	8096089
Bromoform	ug/L	-	<1.0	1.0	8096089
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	-	100		8096089
4-Bromofluorobenzene (sur.)	%	-	96		8096089
D4-1,2-Dichloroethane (sur.)	%	-	95		8096089
RDL = Reportable Detection Limit					

GENERAL COMMENTS

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, October 2014.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)
It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.

Results relate only to the items tested.

Maxxam Job #: B596582
Report Date: 2015/11/05

UNION BAY IMPROVEMENT DISTRICT

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8095911	CFA	Method Blank	Apparent Colour	2015/10/30	<5.0		Col. Unit	
8095911	CFA	RPD [NN2306-02]	Apparent Colour	2015/10/30	NC		%	20
8096089	MM5	Matrix Spike	1,4-Difluorobenzene (sur.)	2015/10/30		99	%	70 - 130
			4-Bromofluorobenzene (sur.)	2015/10/30		101	%	70 - 130
			D4-1,2-Dichloroethane (sur.)	2015/10/30		99	%	70 - 130
			Chloroform	2015/10/30		99	%	70 - 130
			Chlorodibromomethane	2015/10/30		97	%	70 - 130
			Bromodichloromethane	2015/10/30		97	%	70 - 130
			Bromoform	2015/10/30		97	%	70 - 130
8096089	MM5	Spiked Blank	1,4-Difluorobenzene (sur.)	2015/10/30		104	%	70 - 130
			4-Bromofluorobenzene (sur.)	2015/10/30		105	%	70 - 130
			D4-1,2-Dichloroethane (sur.)	2015/10/30		103	%	70 - 130
			Chloroform	2015/10/30		98	%	70 - 130
			Chlorodibromomethane	2015/10/30		96	%	70 - 130
			Bromodichloromethane	2015/10/30		95	%	70 - 130
			Bromoform	2015/10/30		91	%	70 - 130
8096089	MM5	Method Blank	1,4-Difluorobenzene (sur.)	2015/10/30		102	%	70 - 130
			4-Bromofluorobenzene (sur.)	2015/10/30		93	%	70 - 130
			D4-1,2-Dichloroethane (sur.)	2015/10/30		89	%	70 - 130
			Chloroform	2015/10/30	<1.0		ug/L	
			Chlorodibromomethane	2015/10/30	<1.0		ug/L	
			Bromodichloromethane	2015/10/30	<1.0		ug/L	
			Bromoform	2015/10/30	<1.0		ug/L	
8096176	ALJ	Spiked Blank	Turbidity	2015/10/30		100	%	80 - 120
8096176	ALJ	Method Blank	Turbidity	2015/10/30	<0.10		NTU	
8096176	ALJ	RPD	Turbidity	2015/10/30	6.1		%	20
8096477	IC4	Spiked Blank	True Colour	2015/10/30		102	%	80 - 120
8096477	IC4	Method Blank	True Colour	2015/10/30	<5.0		Col. Unit	
8096477	IC4	RPD	True Colour	2015/10/30	NC		%	20
8096566	JSG	Method Blank	UV absorbance (254nm)	2015/11/02	<0.010		AU/cm	
8096566	JSG	RPD	UV absorbance (254nm)	2015/11/02	0.87		%	20
8096952	MM3	Spiked Blank	pH	2015/10/31		101	%	97 - 103
8096952	MM3	RPD	pH	2015/10/31	1.4		%	N/A
8096957	MM3	Spiked Blank	Alkalinity (Total as CaCO3)	2015/10/31		94	%	80 - 120
8096957	MM3	Method Blank	Alkalinity (Total as CaCO3)	2015/10/31	<0.50		mg/L	
			Alkalinity (PP as CaCO3)	2015/10/31	<0.50		mg/L	
			Bicarbonate (HCO3)	2015/10/31	<0.50		mg/L	
			Carbonate (CO3)	2015/10/31	<0.50		mg/L	
			Hydroxide (OH)	2015/10/31	<0.50		mg/L	
8098098	JT3	Matrix Spike [NN2306-01]	Bromide (Br)	2015/11/02		101	%	78 - 120
8098098	JT3	Spiked Blank	Bromide (Br)	2015/11/02		98	%	80 - 120
8098098	JT3	Method Blank	Bromide (Br)	2015/11/02	<0.010		mg/L	
8098098	JT3	RPD [NN2306-01]	Bromide (Br)	2015/11/02	NC		%	20
8098571	AD5	Matrix Spike	Dissolved Aluminum (Al)	2015/11/03		115	%	80 - 120
			Dissolved Antimony (Sb)	2015/11/03		111	%	80 - 120
			Dissolved Arsenic (As)	2015/11/03		105	%	80 - 120
			Dissolved Barium (Ba)	2015/11/03		NC	%	80 - 120
			Dissolved Beryllium (Be)	2015/11/03		108	%	80 - 120
			Dissolved Bismuth (Bi)	2015/11/03		100	%	80 - 120
			Dissolved Cadmium (Cd)	2015/11/03		100	%	80 - 120
			Dissolved Chromium (Cr)	2015/11/03		101	%	80 - 120
			Dissolved Cobalt (Co)	2015/11/03		NC	%	80 - 120
			Dissolved Copper (Cu)	2015/11/03		97	%	80 - 120
			Dissolved Iron (Fe)	2015/11/03		NC	%	80 - 120

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UNION BAY IMPROVEMENT DISTRICT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Lead (Pb)	2015/11/03		98	%	80 - 120
			Dissolved Lithium (Li)	2015/11/03		NC	%	80 - 120
			Dissolved Manganese (Mn)	2015/11/03		NC	%	80 - 120
			Dissolved Mercury (Hg)	2015/11/03		109	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/11/03		NC	%	80 - 120
			Dissolved Nickel (Ni)	2015/11/03		NC	%	80 - 120
			Dissolved Selenium (Se)	2015/11/03		104	%	80 - 120
			Dissolved Silver (Ag)	2015/11/03		109	%	80 - 120
			Dissolved Strontium (Sr)	2015/11/03		NC	%	80 - 120
			Dissolved Thallium (Tl)	2015/11/03		97	%	80 - 120
			Dissolved Tin (Sn)	2015/11/03		NC	%	80 - 120
			Dissolved Titanium (Ti)	2015/11/03		97	%	80 - 120
			Dissolved Uranium (U)	2015/11/03		NC	%	80 - 120
			Dissolved Vanadium (V)	2015/11/03		99	%	80 - 120
			Dissolved Zinc (Zn)	2015/11/03		NC	%	80 - 120
8098571	AD5	Spiked Blank	Dissolved Aluminum (Al)	2015/11/03		98	%	80 - 120
			Dissolved Antimony (Sb)	2015/11/03		98	%	80 - 120
			Dissolved Arsenic (As)	2015/11/03		101	%	80 - 120
			Dissolved Barium (Ba)	2015/11/03		97	%	80 - 120
			Dissolved Beryllium (Be)	2015/11/03		99	%	80 - 120
			Dissolved Bismuth (Bi)	2015/11/03		98	%	80 - 120
			Dissolved Cadmium (Cd)	2015/11/03		93	%	80 - 120
			Dissolved Chromium (Cr)	2015/11/03		101	%	80 - 120
			Dissolved Cobalt (Co)	2015/11/03		100	%	80 - 120
			Dissolved Copper (Cu)	2015/11/03		98	%	80 - 120
			Dissolved Iron (Fe)	2015/11/03		104	%	80 - 120
			Dissolved Lead (Pb)	2015/11/03		94	%	80 - 120
			Dissolved Lithium (Li)	2015/11/03		95	%	80 - 120
			Dissolved Manganese (Mn)	2015/11/03		101	%	80 - 120
			Dissolved Mercury (Hg)	2015/11/03		97	%	80 - 120
			Dissolved Molybdenum (Mo)	2015/11/03		98	%	80 - 120
			Dissolved Nickel (Ni)	2015/11/03		99	%	80 - 120
			Dissolved Selenium (Se)	2015/11/03		95	%	80 - 120
			Dissolved Silver (Ag)	2015/11/03		93	%	80 - 120
			Dissolved Strontium (Sr)	2015/11/03		94	%	80 - 120
			Dissolved Thallium (Tl)	2015/11/03		98	%	80 - 120
			Dissolved Tin (Sn)	2015/11/03		101	%	80 - 120
			Dissolved Titanium (Ti)	2015/11/03		104	%	80 - 120
			Dissolved Uranium (U)	2015/11/03		93	%	80 - 120
			Dissolved Vanadium (V)	2015/11/03		97	%	80 - 120
			Dissolved Zinc (Zn)	2015/11/03		98	%	80 - 120
8098571	AD5	Method Blank	Dissolved Aluminum (Al)	2015/11/03	<3.0		ug/L	
			Dissolved Antimony (Sb)	2015/11/03	<0.50		ug/L	
			Dissolved Arsenic (As)	2015/11/03	<0.10		ug/L	
			Dissolved Barium (Ba)	2015/11/03	<1.0		ug/L	
			Dissolved Beryllium (Be)	2015/11/03	<0.10		ug/L	
			Dissolved Bismuth (Bi)	2015/11/03	<1.0		ug/L	
			Dissolved Boron (B)	2015/11/03	<50		ug/L	
			Dissolved Cadmium (Cd)	2015/11/03	<0.010		ug/L	
			Dissolved Chromium (Cr)	2015/11/03	<1.0		ug/L	
			Dissolved Cobalt (Co)	2015/11/03	<0.50		ug/L	
			Dissolved Copper (Cu)	2015/11/03	<0.20		ug/L	
			Dissolved Iron (Fe)	2015/11/03	<5.0		ug/L	
			Dissolved Lead (Pb)	2015/11/03	<0.20		ug/L	
			Dissolved Lithium (Li)	2015/11/03	<5.0		ug/L	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Manganese (Mn)	2015/11/03	<1.0		ug/L	
			Dissolved Mercury (Hg)	2015/11/03	<0.050		ug/L	
			Dissolved Molybdenum (Mo)	2015/11/03	<1.0		ug/L	
			Dissolved Nickel (Ni)	2015/11/03	<1.0		ug/L	
			Dissolved Selenium (Se)	2015/11/03	<0.10		ug/L	
			Dissolved Silicon (Si)	2015/11/03	<100		ug/L	
			Dissolved Silver (Ag)	2015/11/03	<0.020		ug/L	
			Dissolved Strontium (Sr)	2015/11/03	<1.0		ug/L	
			Dissolved Thallium (Tl)	2015/11/03	<0.050		ug/L	
			Dissolved Tin (Sn)	2015/11/03	<5.0		ug/L	
			Dissolved Titanium (Ti)	2015/11/03	<5.0		ug/L	
			Dissolved Uranium (U)	2015/11/03	<0.10		ug/L	
			Dissolved Vanadium (V)	2015/11/03	<5.0		ug/L	
			Dissolved Zinc (Zn)	2015/11/03	<5.0		ug/L	
			Dissolved Zirconium (Zr)	2015/11/03	<0.50		ug/L	
8098571	AD5	RPD	Dissolved Aluminum (Al)	2015/11/03	NC		%	20
			Dissolved Antimony (Sb)	2015/11/03	NC		%	20
			Dissolved Arsenic (As)	2015/11/03	NC		%	20
			Dissolved Barium (Ba)	2015/11/03	0.0064		%	20
			Dissolved Beryllium (Be)	2015/11/03	NC		%	20
			Dissolved Bismuth (Bi)	2015/11/03	NC		%	20
			Dissolved Boron (B)	2015/11/03	NC		%	20
			Dissolved Cadmium (Cd)	2015/11/03	2.4		%	20
			Dissolved Chromium (Cr)	2015/11/03	NC		%	20
			Dissolved Cobalt (Co)	2015/11/03	0.87		%	20
			Dissolved Copper (Cu)	2015/11/03	13		%	20
			Dissolved Iron (Fe)	2015/11/03	9.0		%	20
			Dissolved Lead (Pb)	2015/11/03	NC		%	20
			Dissolved Lithium (Li)	2015/11/03	3.6		%	20
			Dissolved Manganese (Mn)	2015/11/03	0.20		%	20
			Dissolved Molybdenum (Mo)	2015/11/03	NC		%	20
			Dissolved Nickel (Ni)	2015/11/03	4.4		%	20
			Dissolved Selenium (Se)	2015/11/03	NC		%	20
			Dissolved Silicon (Si)	2015/11/03	8.0		%	20
			Dissolved Silver (Ag)	2015/11/03	NC		%	20
			Dissolved Strontium (Sr)	2015/11/03	3.5		%	20
			Dissolved Thallium (Tl)	2015/11/03	NC		%	20
			Dissolved Tin (Sn)	2015/11/03	NC		%	20
			Dissolved Titanium (Ti)	2015/11/03	NC		%	20
			Dissolved Uranium (U)	2015/11/03	0.45		%	20
			Dissolved Vanadium (V)	2015/11/03	NC		%	20
			Dissolved Zinc (Zn)	2015/11/03	NC		%	20
			Dissolved Zirconium (Zr)	2015/11/03	NC		%	20
8098834	IC4	Matrix Spike	Total Organic Carbon (C)	2015/11/02		82	%	80 - 120
8098834	IC4	Spiked Blank	Total Organic Carbon (C)	2015/11/02		107	%	80 - 120
8098834	IC4	Method Blank	Total Organic Carbon (C)	2015/11/02	<0.50		mg/L	
8098834	IC4	RPD	Total Organic Carbon (C)	2015/11/02	NC		%	20
8098841	AD5	Matrix Spike	Total Aluminum (Al)	2015/11/03		105	%	80 - 120
			Total Antimony (Sb)	2015/11/03		NC	%	80 - 120
			Total Arsenic (As)	2015/11/03		NC	%	80 - 120
			Total Barium (Ba)	2015/11/03		NC	%	80 - 120
			Total Beryllium (Be)	2015/11/03		105	%	80 - 120
			Total Bismuth (Bi)	2015/11/03		106	%	80 - 120
			Total Cadmium (Cd)	2015/11/03		101	%	80 - 120
			Total Chromium (Cr)	2015/11/03		109	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Cobalt (Co)	2015/11/03		107	%	80 - 120
			Total Copper (Cu)	2015/11/03		103	%	80 - 120
			Total Iron (Fe)	2015/11/03		NC	%	80 - 120
			Total Lead (Pb)	2015/11/03		99	%	80 - 120
			Total Lithium (Li)	2015/11/03		101	%	80 - 120
			Total Manganese (Mn)	2015/11/03		NC	%	80 - 120
			Total Molybdenum (Mo)	2015/11/03		NC	%	80 - 120
			Total Nickel (Ni)	2015/11/03		107	%	80 - 120
			Total Selenium (Se)	2015/11/03		104	%	80 - 120
			Total Silver (Ag)	2015/11/03		102	%	80 - 120
			Total Strontium (Sr)	2015/11/03		NC	%	80 - 120
			Total Thallium (Tl)	2015/11/03		102	%	80 - 120
			Total Tin (Sn)	2015/11/03		105	%	80 - 120
			Total Titanium (Ti)	2015/11/03		105	%	80 - 120
			Total Uranium (U)	2015/11/03		101	%	80 - 120
			Total Vanadium (V)	2015/11/03		110	%	80 - 120
			Total Zinc (Zn)	2015/11/03		NC	%	80 - 120
8098841	AD5	Spiked Blank	Total Aluminum (Al)	2015/11/03		106	%	80 - 120
			Total Antimony (Sb)	2015/11/03		100	%	80 - 120
			Total Arsenic (As)	2015/11/03		107	%	80 - 120
			Total Barium (Ba)	2015/11/03		99	%	80 - 120
			Total Beryllium (Be)	2015/11/03		102	%	80 - 120
			Total Bismuth (Bi)	2015/11/03		101	%	80 - 120
			Total Cadmium (Cd)	2015/11/03		97	%	80 - 120
			Total Chromium (Cr)	2015/11/03		106	%	80 - 120
			Total Cobalt (Co)	2015/11/03		107	%	80 - 120
			Total Copper (Cu)	2015/11/03		107	%	80 - 120
			Total Iron (Fe)	2015/11/03		109	%	80 - 120
			Total Lead (Pb)	2015/11/03		98	%	80 - 120
			Total Lithium (Li)	2015/11/03		95	%	80 - 120
			Total Manganese (Mn)	2015/11/03		106	%	80 - 120
			Total Molybdenum (Mo)	2015/11/03		98	%	80 - 120
			Total Nickel (Ni)	2015/11/03		107	%	80 - 120
			Total Selenium (Se)	2015/11/03		102	%	80 - 120
			Total Silver (Ag)	2015/11/03		98	%	80 - 120
			Total Strontium (Sr)	2015/11/03		97	%	80 - 120
			Total Thallium (Tl)	2015/11/03		102	%	80 - 120
			Total Tin (Sn)	2015/11/03		100	%	80 - 120
			Total Titanium (Ti)	2015/11/03		104	%	80 - 120
			Total Uranium (U)	2015/11/03		99	%	80 - 120
			Total Vanadium (V)	2015/11/03		105	%	80 - 120
			Total Zinc (Zn)	2015/11/03		108	%	80 - 120
8098841	AD5	Method Blank	Total Aluminum (Al)	2015/11/03	<3.0		ug/L	
			Total Antimony (Sb)	2015/11/03	<0.50		ug/L	
			Total Arsenic (As)	2015/11/03	<0.10		ug/L	
			Total Barium (Ba)	2015/11/03	<1.0		ug/L	
			Total Beryllium (Be)	2015/11/03	<0.10		ug/L	
			Total Bismuth (Bi)	2015/11/03	<1.0		ug/L	
			Total Boron (B)	2015/11/03	<50		ug/L	
			Total Cadmium (Cd)	2015/11/03	<0.010		ug/L	
			Total Chromium (Cr)	2015/11/03	<1.0		ug/L	
			Total Cobalt (Co)	2015/11/03	<0.50		ug/L	
			Total Copper (Cu)	2015/11/03	<0.50		ug/L	
			Total Iron (Fe)	2015/11/03	<10		ug/L	
			Total Lead (Pb)	2015/11/03	<0.20		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Lithium (Li)	2015/11/03	<5.0		ug/L	
			Total Manganese (Mn)	2015/11/03	<1.0		ug/L	
			Total Molybdenum (Mo)	2015/11/03	<1.0		ug/L	
			Total Nickel (Ni)	2015/11/03	<1.0		ug/L	
			Total Phosphorus (P)	2015/11/03	<10		ug/L	
			Total Selenium (Se)	2015/11/03	<0.10		ug/L	
			Total Silicon (Si)	2015/11/03	<100		ug/L	
			Total Silver (Ag)	2015/11/03	<0.020		ug/L	
			Total Strontium (Sr)	2015/11/03	<1.0		ug/L	
			Total Thallium (Tl)	2015/11/03	<0.050		ug/L	
			Total Tin (Sn)	2015/11/03	<5.0		ug/L	
			Total Titanium (Ti)	2015/11/03	<5.0		ug/L	
			Total Uranium (U)	2015/11/03	<0.10		ug/L	
			Total Vanadium (V)	2015/11/03	<5.0		ug/L	
			Total Zinc (Zn)	2015/11/03	<5.0		ug/L	
8098841	AD5	RPD	Total Aluminum (Al)	2015/11/03	NC		%	20
			Total Antimony (Sb)	2015/11/03	NC		%	20
			Total Arsenic (As)	2015/11/03	1.0		%	20
			Total Barium (Ba)	2015/11/03	2.8		%	20
			Total Beryllium (Be)	2015/11/03	NC		%	20
			Total Bismuth (Bi)	2015/11/03	NC		%	20
			Total Boron (B)	2015/11/03	NC		%	20
			Total Cadmium (Cd)	2015/11/03	NC		%	20
			Total Chromium (Cr)	2015/11/03	NC		%	20
			Total Cobalt (Co)	2015/11/03	NC		%	20
			Total Copper (Cu)	2015/11/03	NC		%	20
			Total Iron (Fe)	2015/11/03	3.5		%	20
			Total Lead (Pb)	2015/11/03	NC		%	20
			Total Lithium (Li)	2015/11/03	NC		%	20
			Total Manganese (Mn)	2015/11/03	0.85		%	20
			Total Molybdenum (Mo)	2015/11/03	NC		%	20
			Total Nickel (Ni)	2015/11/03	NC		%	20
			Total Selenium (Se)	2015/11/03	NC		%	20
			Total Silicon (Si)	2015/11/03	6.3		%	20
			Total Silver (Ag)	2015/11/03	NC		%	20
			Total Strontium (Sr)	2015/11/03	3.5		%	20
			Total Thallium (Tl)	2015/11/03	NC		%	20
			Total Tin (Sn)	2015/11/03	NC		%	20
			Total Titanium (Ti)	2015/11/03	NC		%	20
			Total Uranium (U)	2015/11/03	NC		%	20
			Total Vanadium (V)	2015/11/03	NC		%	20
			Total Zinc (Zn)	2015/11/03	NC		%	20
8103053	IC4	Matrix Spike [NN2306-01]	Dissolved Organic Carbon (C)	2015/11/02		98	%	80 - 120
8103053	IC4	Spiked Blank	Dissolved Organic Carbon (C)	2015/11/02		106	%	80 - 120
8103053	IC4	Method Blank	Dissolved Organic Carbon (C)	2015/11/02	<0.50		mg/L	

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QUALITY ASSURANCE REPORT(CONT'D)


QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8103053	IC4	RPD [NN2306-01]	Dissolved Organic Carbon (C)	2015/11/02	9.5		%	20
<p>N/A = Not Applicable</p> <p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p> <p>NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).</p> <p>NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).</p>								

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UNION BAY IMPROVEMENT DISTRICT

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job#:

Company Name: Waterbury Corp Yes No
 Contact Name: D. McCall
 Address: Box 51
 Phone / Fax: Union Bay BC V8R 3R0
 E-mail: Ph: 250-355-2511 Fax: 250-355-1176
h2oguy@waterbury.com

Report To:

Company Name:
 Contact Name:
 Address:
 Phone / Fax:
 E-mail:
 PC:
 Fax:

PO #:
 Division #:
 Project #:
 Phys. Name:
 Location:
 Sampled By:

REGULATORY REQUIREMENTS SERVICE REQUESTED:

CSR Regular Turn Around Time (TAT) (5 days for most tests)
 CCME RUSH (Please contact the lab)
 BC Water Quality 1 Day 2 Day 3 Day
 Other Date Required:
 DRINKING WATER

Special Instructions:

Return Cooler Ship Sample Bottles (please specify)

ANALYSIS REQUESTED

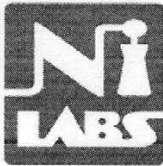
Sample ID	Sample Identification	Lab Identification	Sample Type	Date/Time Sampled	Analysis Requested	Temperature on Receipt (C)	Time Sensitive	Does source supply multiple households?
1	Montrose drive			Oct 29			<input type="checkbox"/>	NO
2	M'Leod Row H2O						<input type="checkbox"/>	NO
3							<input type="checkbox"/>	YES
4							<input type="checkbox"/>	YES
5							<input type="checkbox"/>	NO
6							<input type="checkbox"/>	NO
7							<input type="checkbox"/>	NO
8							<input type="checkbox"/>	NO
9							<input type="checkbox"/>	NO
10							<input type="checkbox"/>	NO
11							<input type="checkbox"/>	NO
12							<input type="checkbox"/>	NO

see attached plus THM.

29-Oct-15 11:00
 Shanaz Akbar
 B596582
 MIBU

*Relinquished by: _____ Date (YY/MM/DD): _____ Time: _____
 Received by: M. Akbar Date (YY/MM/DD): 15/10/15 Time: 11:00
 Temperature on Receipt (C): 15/15/14
 Custody Seal Intact on Cooler? Yes No

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN AN UNRELIABLE TEST RESULT.
 000-108 (08/10) Maxxam International Corporation is a Mission Analytics



North Island Laboratories

• 2755 B Moray Avenue, Courtenay, B.C. V9N 8M9 Tel: (250) 338-7786 Fax: (250) 338-7553

Lab Number: 115137

Client: Union Bay Improvement District

Project:

Entered By: Hal Evans

Date Received: 10/16/14 9:16

Due Date:

115137-01

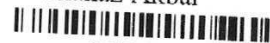
McLeod Rd reserv

10/16/14

- Alkalinity- Total
- Bromide (ICBR)
- Colour-Apparent(inhouse)
- Colour-True (inhouse)
- Dissolved Trace Metals (TW23EW)
- DOC - Dissolved Organic Carbon
- pH
- Total Organic Carbon
- Total Trace Metals (TW24**)
- Turbidity
- UV Transmittance (UVT) - unfiltered

29-Oct-15 11:00

Shanaz Akbar



B596582

MBU