



Environmental

CERTIFICATE OF ANALYSIS

Work Order : **CG2103369**
Client : **Lotic Environmental Ltd.**
Contact : Mike Robinson
Address : 2193 Mazur Road
Cranbrook BC Canada V1C 6V9
Telephone : 250 426 0528
Project : 21NORT02
PO : 15708
C-O-C number : ----
Sampler : ----
Site : 18CANA02
Quote number : CG20-NOCL100-0001
No. of samples received : 5
No. of samples analysed : 5

Page : 1 of 11
Laboratory : Calgary - Environmental
Account Manager : Patryk Wojciak
Address : 2559 29th Street NE
Calgary AB Canada T1Y 7B5
Telephone : +1 403 407 1800
Date Samples Received : 18-Aug-2021 09:00
Date Analysis Commenced : 18-Aug-2021
Issue Date : 07-Sep-2021 09:45

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Anthony Calero	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Elke Tabora		Inorganics, Calgary, Alberta
Erin Sanchez		Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Metals, Calgary, Alberta
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
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Sorina Motea	Laboratory Analyst	Organics, Calgary, Alberta
Vladka Stamenova	Analyst	Inorganics, Calgary, Alberta



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

<i>Unit</i>	<i>Description</i>
-	No Unit
µg/L	micrograms per litre
µS/cm	Microsiemens per centimetre
CU	colour units (1 CU = 1 mg/L Pt)
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

<i>Qualifier</i>	<i>Description</i>
RRV	Reported result verified by repeat analysis.



Analytical Results

Sub-Matrix: Water					Client sample ID	MICH-13.0	MICH-33.8	AND1	DUPLICATE	FIELD BLANK
(Matrix: Water)										
Client sampling date / time					17-Aug-2021 08:00	17-Aug-2021 11:00	17-Aug-2021 14:30	17-Aug-2021 17:00	17-Aug-2021 15:30	
Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Physical Tests										
colour, true	----	E329	5.0	CU	<5.0	8.1	5.9	11.5	<5.0	
conductivity	----	E100	2.0	µS/cm	392	561	201	557	<2.0	
hardness (as CaCO3), dissolved	----	EC100	0.60	mg/L	200	289	103	281	<0.60	
hardness (as CaCO3), from total Ca/Mg	----	EC100A	0.60	mg/L	217	284	109	297	<0.60	
pH	----	E108	0.10	pH units	8.31	8.30	8.24	8.36	5.92	
solids, total dissolved [TDS]	----	E162	10	mg/L	256	369	128	383	<10	
solids, total suspended [TSS]	----	E160-H	3.0	mg/L	100	22.2	6.4	8.8	<3.0	
turbidity	----	E121	0.10	NTU	30.9	7.80	4.37	5.74	<0.10	
alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	147	165	102	164	<2.0	
alkalinity, phenolphthalein (as CaCO3)	----	E290	2.0	mg/L	3.3	3.0	<2.0	4.8	<2.0	
alkalinity, hydroxide (as CaCO3)	----	E290	2.0	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
alkalinity, carbonate (as CaCO3)	----	E290	2.0	mg/L	6.6	6.0	<2.0	9.6	<2.0	
alkalinity, bicarbonate (as CaCO3)	----	E290	2.0	mg/L	140	159	102	155	<2.0	
alkalinity, bicarbonate (as HCO3)	71-52-3	E290	2.0	mg/L	171	194	124	189	<2.0	
alkalinity, carbonate (as CO3)	3812-32-6	E290	2.0	mg/L	4.0	3.6	<2.0	5.8	<2.0	
alkalinity, hydroxide (as OH)	14280-30-9	E290	2.0	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
Anions and Nutrients										
ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0754	0.0276	0.0118	0.0198	0.0059 ^{RRV}	
bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
chloride	16887-00-6	E235.Cl	0.50	mg/L	1.02	1.47	<0.50	1.35	<0.50	
fluoride	16984-48-8	E235.F	0.020	mg/L	0.124	0.185	0.289	0.182	<0.020	
Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	0.239	0.142	0.086	0.114	<0.050	
nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.219	0.668	0.257	0.653	<0.0050	
nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	0.0049	0.0023	<0.0010	0.0026	<0.0010	
phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0048	0.0019	0.0024	0.0022	0.0042 ^{RRV}	
phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0407	0.0118	0.0108	0.0103	0.0047	
sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	72.4	153	13.5	152	<0.30	
Organic / Inorganic Carbon										
carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.90	1.30	0.96	1.24	<0.50	
carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.60	1.60	1.11	1.32	<0.50	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	MICH-13.0	MICH-33.8	AND1	DUPLICATE	FIELD BLANK
Client sampling date / time					17-Aug-2021 08:00	17-Aug-2021 11:00	17-Aug-2021 14:30	17-Aug-2021 17:00	17-Aug-2021 15:30	
Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Total Metals										
aluminum, total	7429-90-5	E420	0.0030	mg/L	0.155	0.0631	0.0549	0.0608	0.0033	
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00015	0.00014	0.00011	0.00016	<0.00010	
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00033	0.00029	0.00069	0.00028	<0.00010	
barium, total	7440-39-3	E420	0.00010	mg/L	0.133	0.0651	0.0111	0.0635	0.00056	
beryllium, total	7440-41-7	E420	0.000020	mg/L	0.000025	<0.000020	<0.000020	<0.000020	<0.000020	
bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
boron, total	7440-42-8	E420	0.010	mg/L	0.014	0.020	<0.010	0.022	<0.010	
cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000924	0.0000300	0.0000255	0.0000224	<0.0000050	
calcium, total	7440-70-2	E420	0.050	mg/L	59.1	67.7	33.3	74.0	<0.050	
chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00019	0.00038	<0.00010	0.00028	<0.00010	
copper, total	7440-50-8	E420	0.00050	mg/L	0.00087	<0.00050	<0.00050	<0.00050	<0.00050	
iron, total	7439-89-6	E420	0.010	mg/L	0.150	0.083	0.044	0.070	<0.010	
lead, total	7439-92-1	E420	0.000050	mg/L	0.000288	0.000080	0.000077	0.000060	<0.000050	
lithium, total	7439-93-2	E420	0.0010	mg/L	0.0078	0.0103	0.0010	0.0111	<0.0010	
magnesium, total	7439-95-4	E420	0.100	mg/L	16.9	27.9	6.27	27.3	<0.100	
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00868	0.00752	0.00203	0.00539	0.00010	
mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000674	0.000700	0.000587	0.000787	<0.000050	
nickel, total	7440-02-0	E420	0.00050	mg/L	0.00147	0.00507	0.00085	0.00475	0.00216	
phosphorus, total	7723-14-0	E420	0.050	mg/L	0.056	<0.050	<0.050	<0.050	<0.050	
potassium, total	7440-09-7	E420	0.100	mg/L	0.898	1.07	0.196	1.03	<0.100	
selenium, total	7782-49-2	E420	0.000050	mg/L	0.00157	0.00346	0.00184	0.00343	<0.000050	
silicon, total	7440-21-3	E420	0.10	mg/L	2.38	2.07	1.26	1.97	<0.10	
silver, total	7440-22-4	E420	0.000010	mg/L	0.000014	<0.000010	<0.000010	<0.000010	<0.000010	
sodium, total	17341-25-2	E420	0.050	mg/L	4.64	8.40	0.318	8.13	<0.050	
strontium, total	7440-24-6	E420	0.00020	mg/L	0.188	0.245	0.0844	0.271	<0.00020	
sulfur, total	7704-34-9	E420	0.50	mg/L	27.4	55.6	4.49	53.8	<0.50	
thallium, total	7440-28-0	E420	0.000010	mg/L	0.000024	0.000024	0.000084	0.000027	<0.000010	
tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
titanium, total	7440-32-6	E420	0.00030	mg/L	0.00270	0.00089	0.00053	0.00108	<0.00030	



Analytical Results

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Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Total Metals										
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000770	0.00140	0.000835	0.00153	<0.000010	
vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00099	<0.00050	0.00058	<0.00050	<0.00050	
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0038	<0.0030	0.0038	<0.0030	<0.0030	
zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
Dissolved Metals										
aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0066	0.0028	0.0030	0.0021	0.0015	
antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00011	0.00014	<0.00010	0.00013	<0.00010	
arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00018	0.00024	0.00062	0.00028	<0.00010	
barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.134	0.0669	0.0109	0.0656	0.00060	
beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	
bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
boron, dissolved	7440-42-8	E421	0.010	mg/L	0.013	0.020	<0.010	0.020	<0.010	
cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000553	0.0000182	0.0000135	0.0000152	<0.0000050	
calcium, dissolved	7440-70-2	E421	0.050	mg/L	53.1	70.4	31.2	68.2	<0.050	
chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	0.00016	<0.00010	0.00015	<0.00010	
copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00326	<0.00020	<0.00020	<0.00020	0.00039	
iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.000156	<0.000050	<0.000050	<0.000050	<0.000050	
lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0074	0.0120	0.0011	0.0117	<0.0010	
magnesium, dissolved	7439-95-4	E421	0.100	mg/L	16.5	27.5	6.01	26.8	<0.100	
manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00258	0.00283	0.00018	0.00268	<0.00010	
mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000707	0.000790	0.000588	0.000799	<0.000050	
nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00100	0.00440	0.00065	0.00421	0.00216 ^{RRV}	
phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
potassium, dissolved	7440-09-7	E421	0.100	mg/L	0.882	1.05	0.182	1.04	<0.100	
selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.00168	0.00379	0.00182	0.00374	<0.000050	
silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.09	1.84	1.10	1.80	<0.050	
silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
sodium, dissolved	17341-25-2	E421	0.050	mg/L	4.61	8.38	0.308	8.16	<0.050	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	MICH-13.0	MICH-33.8	AND1	DUPLICATE	FIELD BLANK
Client sampling date / time					17-Aug-2021 08:00	17-Aug-2021 11:00	17-Aug-2021 14:30	17-Aug-2021 17:00	17-Aug-2021 15:30	
Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.171	0.257	0.0812	0.251	<0.00020	
sulfur, dissolved	7704-34-9	E421	0.50	mg/L	27.2	57.2	4.60	57.0	<0.50	
thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	0.000021	0.000066	0.000019	<0.000010	
tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	
uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000675	0.00147	0.000794	0.00143	<0.000010	
vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0085	0.0010	0.0031	0.0014	0.0016 ^{RRV}	
zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
dissolved mercury filtration location	----	EP509	-	-	Field	Field	Field	Field	Field	
dissolved metals filtration location	----	EP421	-	-	Field	Field	Field	Field	Field	
Aggregate Organics										
chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	<10	<10	<10	<10	
Volatile Organic Compounds										
acetone	67-64-1	E611F	20	µg/L	<20	<20	<20	<20	<20	
bromobenzene	108-86-1	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
bromochloromethane	74-97-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
bromomethane	74-83-9	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
butylbenzene, n-	104-51-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
butylbenzene, sec-	135-98-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
butylbenzene, tert-	98-06-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
carbon disulfide	75-15-0	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chlorobenzene	108-90-7	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chloromethane	74-87-3	E611F	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	
chlorotoluene, 2-	95-49-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chlorotoluene, 4-	106-43-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
cymene, p-	99-87-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dibromo-3-chloropropane, 1,2-	96-12-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dibromomethane	74-95-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	



Analytical Results

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Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichlorobenzene, 1,2-	95-50-1	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichlorobenzene, 1,3-	541-73-1	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichlorobenzene, 1,4-	106-46-7	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichlorodifluoromethane	75-71-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropane, 1,2-	78-87-5	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropane, 1,2-	78-87-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropane, 1,3-	142-28-9	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropane, 2,2-	594-20-7	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropylene, 1,1-	563-58-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropylene, cis+trans-1,3-	542-75-6	E611C	0.75	µg/L	<0.75	<0.75	<0.75	<0.75	<0.75	
dichloropropylene, cis+trans-1,3-	542-75-6	E611F	0.75	µg/L	<0.75	<0.75	<0.75	<0.75	<0.75	
dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropylene, cis-1,3-	10061-01-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
hexachlorobutadiene	87-68-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
hexanone, 2-	591-78-6	E611F	20	µg/L	<20	<20	<20	<20	<20	
methyl ethyl ketone [MEK]	78-93-3	E611F	20	µg/L	<20	<20	<20	<20	<20	
methyl isobutyl ketone [MIBK]	108-10-1	E611F	20	µg/L	<20	<20	<20	<20	<20	
propylbenzene, n-	103-65-1	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
tetrachloroethane, 1,1,1,2-	630-20-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	
tetrachloroethane, 1,1,2,2-	79-34-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichlorobenzene, 1,2,3-	87-61-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichlorobenzene, 1,2,4-	120-82-1	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichloroethane, 1,1,2-	79-00-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichlorofluoromethane	75-69-4	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichlorofluoromethane	75-69-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	MICH-13.0	MICH-33.8	AND1	DUPLICATE	FIELD BLANK
Client sampling date / time					17-Aug-2021 08:00	17-Aug-2021 11:00	17-Aug-2021 14:30	17-Aug-2021 17:00	17-Aug-2021 15:30	
Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
trichloropropane, 1,2,3-	96-18-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Volatile Organic Compounds [Drycleaning]										
carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
carbon tetrachloride	56-23-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chloroethane	75-00-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethane, 1,1-	75-34-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethane, 1,2-	107-06-2	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethylene, 1,1-	75-35-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethylene, cis-1,2-	156-59-2	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloroethylene, trans-1,2-	156-60-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
dichloromethane	75-09-2	E611F	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dichloropropylene, trans-1,3-	10061-02-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
tetrachloroethylene	127-18-4	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
tetrachloroethylene	127-18-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichloroethane, 1,1,1-	71-55-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichloroethylene	79-01-6	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trichloroethylene	79-01-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	
vinyl chloride	75-01-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Volatile Organic Compounds [Fuels]										
benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
benzene	71-43-2	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	MICH-13.0	MICH-33.8	AND1	DUPLICATE	FIELD BLANK
Client sampling date / time					17-Aug-2021 08:00	17-Aug-2021 11:00	17-Aug-2021 14:30	17-Aug-2021 17:00	17-Aug-2021 15:30	
Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds [Fuels]										
dibromoethane, 1,2-	106-93-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
ethylbenzene	100-41-4	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
ethylbenzene	100-41-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
hexane, n-	110-54-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
isopropylbenzene	98-82-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
naphthalene	91-20-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
styrene	100-42-5	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
toluene	108-88-3	E611C	0.40	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	
toluene	108-88-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trimethylbenzene, 1,2,4-	95-63-6	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
trimethylbenzene, 1,3,5-	108-67-8	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
xylene, m+p-	179601-23-1	E611C	0.40	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	
xylene, m+p-	179601-23-1	E611F	0.40	µg/L	<0.40	<0.40	<0.40	<0.40	<0.40	
xylene, o-	95-47-6	E611C	0.30	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	
xylene, o-	95-47-6	E611F	0.30	µg/L	<0.30	<0.30	<0.30	<0.30	<0.30	
xylenes, total	1330-20-7	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
xylenes, total	1330-20-7	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Volatile Organic Compounds [THMs]										
bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
bromodichloromethane	75-27-4	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
bromoform	75-25-2	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
chloroform	67-66-3	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
dibromochloromethane	124-48-1	E611F	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Volatile Organic Compounds Surrogates										
bromofluorobenzene, 4-	460-00-4	E611C	1.0	%	92.1	93.5	92.9	93.3	94.9	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	MICH-13.0	MICH-33.8	AND1	DUPLICATE	FIELD BLANK
Client sampling date / time					17-Aug-2021 08:00	17-Aug-2021 11:00	17-Aug-2021 14:30	17-Aug-2021 17:00	17-Aug-2021 15:30	
Analyte	CAS Number	Method	LOR	Unit	CG2103369-001	CG2103369-002	CG2103369-003	CG2103369-004	CG2103369-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds Surrogates										
bromofluorobenzene, 4-	460-00-4	E611F	1.0	%	94.2	93.5	92.9	93.3	94.9	
difluorobenzene, 1,4-	540-36-3	E611C	1.0	%	101	103	102	101	100	
difluorobenzene, 1,4-	540-36-3	E611F	1.0	%	101	103	102	101	100	
Hydrocarbons										
EPH (C10-C19)	----	E601A	250	µg/L	<250	<250	<250	<250	<250	
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	<100	<100	<100	
EPH (C10-C32)	----	E601A	400	µg/L	<400	<400	<400	<400	<400	
EPH (C19-C32)	----	E601A	250	µg/L	<250	<250	<250	<250	<250	
TEH (C10-C30), BC	----	E601A	250	µg/L	<250	<250	<250	<250	<250	
VPHw	----	EC580A	100	µg/L	<100	<100	<100	<100	<100	
Hydrocarbons Surrogates										
bromobenzotrifluoride, 2- (EPH surr)	392-83-6	E601A	1.0	%	96.3	99.8	98.8	94.5	93.3	
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	101	108	110	102	107	

Please refer to the General Comments section for an explanation of any qualifiers detected.



QUALITY CONTROL REPORT

Work Order : **CG2103369**

Page : 1 of 27

Client : Lotic Environmental Ltd.
 Contact : Mike Robinson
 Address : 652 F Sparwood Drive
 Sparwood BC Canada V0B 2G0
 Telephone : 250 426 0528
 Project : 21NORT02
 PO : 15708
 C-O-C number : ----
 Sampler : ----
 Site : 18CANA02
 Quote number : CG20-NOCL100-0001
 No. of samples received : 5
 No. of samples analysed : 5

Laboratory : Calgary - Environmental
 Account Manager : Patryk Wojciak
 Address : 2559 29th Street NE
 Calgary, Alberta Canada T1Y 7B5
 Telephone : +1 403 407 1800
 Date Samples Received : 18-Aug-2021 09:00
 Date Analysis Commenced : 18-Aug-2021
 Issue Date : 07-Sep-2021 09:45

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Anthony Calero	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Elke Tabora		Inorganics, Calgary, Alberta
Erin Sanchez		Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Harpreet Chawla	Team Leader - Inorganics	Metals, Calgary, Alberta
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Katarzyna Glinka	Analyst	Inorganics, Calgary, Alberta
Kevin Baxter		Metals, Calgary, Alberta
Maria Tuguinay	Lab Assistant	Inorganics, Calgary, Alberta
Ophelia Chiu	Department Manager - Organics	Organics, Burnaby, British Columbia
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Ruifang Zheng	Analyst	Inorganics, Calgary, Alberta
Sara Niroomand		Inorganics, Calgary, Alberta
Sara Niroomand		Metals, Calgary, Alberta
Shirley Li		Metals, Calgary, Alberta

Sorina Motea
Vladka Stamenova

Laboratory Analyst
Analyst

Organics, Calgary, Alberta
Inorganics, Calgary, Alberta

Page : 3 of 27
Work Order : CG2103369
Client : Lotic Environmental Ltd.
Project : 21NORT02



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage Difference

= Indicates a QC result that did not meet the ALS DQO.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 270076)											
CG2103351-001	Anonymous	colour, true	----	E329	5.0	CU	8.2	10.2	2.0	Diff <2x LOR	----
Physical Tests (QC Lot: 270334)											
CG2103368-007	Anonymous	turbidity	----	E121	0.10	NTU	1.63	1.75	6.86%	15%	----
Physical Tests (QC Lot: 271779)											
CG2103310-001	Anonymous	solids, total suspended [TSS]	----	E160-H	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 273633)											
CG2103343-001	Anonymous	solids, total suspended [TSS]	----	E160-H	15.0	mg/L	125	132	7.0	Diff <2x LOR	----
Physical Tests (QC Lot: 273640)											
CG2103360-005	Anonymous	solids, total dissolved [TDS]	----	E162	20	mg/L	254	256	0.785%	20%	----
Physical Tests (QC Lot: 273641)											
CG2103369-003	AND1	solids, total dissolved [TDS]	----	E162	20	mg/L	128	126	2	Diff <2x LOR	----
Physical Tests (QC Lot: 274746)											
CG2103369-001	MICH-13.0	pH	----	E108	0.10	pH units	8.31	8.32	0.120%	4%	----
Physical Tests (QC Lot: 274747)											
CG2103369-001	MICH-13.0	conductivity	----	E100	2.0	µS/cm	392	390	0.512%	10%	----
Physical Tests (QC Lot: 274748)											
CG2103369-001	MICH-13.0	alkalinity, bicarbonate (as CaCO ₃)	----	E290	2.0	mg/L	140	141	0.640%	20%	----
		alkalinity, carbonate (as CaCO ₃)	----	E290	2.0	mg/L	6.6	7.2	0.6	Diff <2x LOR	----
		alkalinity, hydroxide (as CaCO ₃)	----	E290	2.0	mg/L	<2.0	<2.0	0	Diff <2x LOR	----
		alkalinity, phenolphthalein (as CaCO ₃)	----	E290	2.0	mg/L	3.3	3.6	0.3	Diff <2x LOR	----
		alkalinity, total (as CaCO ₃)	----	E290	2.0	mg/L	147	148	1.02%	20%	----
Anions and Nutrients (QC Lot: 270034)											
CG2103365-008	Anonymous	phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 270190)											
CG2103351-001	Anonymous	fluoride	16984-48-8	E235.F	0.020	mg/L	0.113	0.110	0.004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 270193)											
CG2103351-001	Anonymous	sulfate (as SO ₄)	14808-79-8	E235.SO4	0.30	mg/L	70.6	70.8	0.363%	20%	----
Anions and Nutrients (QC Lot: 270194)											
CG2103351-001	Anonymous	chloride	16887-00-6	E235.Cl	0.50	mg/L	10.7	10.6	0.648%	20%	----
Anions and Nutrients (QC Lot: 270195)											
CG2103358-001	Anonymous	bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----



Sub-Matrix: **Water**

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 270197)											
CG2103358-001	Anonymous	nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	39.2	39.4	0.355%	20%	----
Anions and Nutrients (QC Lot: 270198)											
CG2103358-001	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	0.0344	0.0317	0.0027	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 270201)											
CG2103369-004	DUPLICATE	fluoride	16984-48-8	E235.F	0.020	mg/L	0.182	0.180	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 270202)											
CG2103369-004	DUPLICATE	sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	152	152	0.351%	20%	----
Anions and Nutrients (QC Lot: 270203)											
CG2103369-005	FIELD BLANK	bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 270204)											
CG2103369-005	FIELD BLANK	nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	0.0086	0.0036	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 270205)											
CG2103369-005	FIELD BLANK	nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 272844)											
CG2103368-008	Anonymous	phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0185	0.0206	0.0021	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 272854)											
CG2103368-001	Anonymous	ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.249	0.254	2.07%	20%	----
Anions and Nutrients (QC Lot: 284859)											
CG2103375-001	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	0.200	mg/L	9.87	8.87	10.7%	20%	----
Organic / Inorganic Carbon (QC Lot: 272177)											
CG2103369-001	MICH-13.0	carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.90	1.93	0.03	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 273318)											
CG2103369-001	MICH-13.0	carbon, total organic [TOC]	----	E355-L	0.50	mg/L	2.60	2.69	0.09	Diff <2x LOR	----
Total Metals (QC Lot: 271922)											
CG2103369-001	MICH-13.0	aluminum, total	7429-90-5	E420	0.0030	mg/L	0.155	0.176	12.8%	20%	----
		antimony, total	7440-36-0	E420	0.00010	mg/L	0.00015	0.00014	0.000006	Diff <2x LOR	----
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00033	0.00033	0.0000004	Diff <2x LOR	----
		barium, total	7440-39-3	E420	0.00010	mg/L	0.133	0.129	3.30%	20%	----
		beryllium, total	7440-41-7	E420	0.000020	mg/L	0.000025	0.000025	0.0000005	Diff <2x LOR	----
		bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, total	7440-42-8	E420	0.010	mg/L	0.014	0.013	0.001	Diff <2x LOR	----
		cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000924	0.0000917	0.738%	20%	----
		calcium, total	7440-70-2	E420	0.050	mg/L	59.1	53.3	10.2%	20%	----
		chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00019	0.00021	0.00002	Diff <2x LOR	----



Sub-Matrix: **Water**

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 271922) - continued											
CG2103369-001	MICH-13.0	copper, total	7440-50-8	E420	0.00050	mg/L	0.00087	0.00091	0.00004	Diff <2x LOR	----
		iron, total	7439-89-6	E420	0.010	mg/L	0.150	0.144	4.27%	20%	----
		lead, total	7439-92-1	E420	0.000050	mg/L	0.000288	0.000294	0.000005	Diff <2x LOR	----
		lithium, total	7439-93-2	E420	0.0010	mg/L	0.0078	0.0068	0.0010	Diff <2x LOR	----
		magnesium, total	7439-95-4	E420	0.100	mg/L	16.9	16.4	3.32%	20%	----
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.00868	0.00886	2.05%	20%	----
		molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000674	0.000652	3.43%	20%	----
		nickel, total	7440-02-0	E420	0.00050	mg/L	0.00147	0.00182	0.00034	Diff <2x LOR	----
		phosphorus, total	7723-14-0	E420	0.050	mg/L	0.056	<0.050	0.006	Diff <2x LOR	----
		potassium, total	7440-09-7	E420	0.100	mg/L	0.898	0.913	0.015	Diff <2x LOR	----
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.00157	0.00146	7.18%	20%	----
		silicon, total	7440-21-3	E420	0.10	mg/L	2.38	2.35	1.12%	20%	----
		silver, total	7440-22-4	E420	0.000010	mg/L	0.000014	0.000011	0.000002	Diff <2x LOR	----
		sodium, total	17341-25-2	E420	0.050	mg/L	4.64	4.48	3.39%	20%	----
		strontium, total	7440-24-6	E420	0.00020	mg/L	0.188	0.172	9.30%	20%	----
		sulfur, total	7704-34-9	E420	0.50	mg/L	27.4	25.2	8.33%	20%	----
		thallium, total	7440-28-0	E420	0.000010	mg/L	0.000024	0.000025	0.000001	Diff <2x LOR	----
		tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, total	7440-32-6	E420	0.00030	mg/L	0.00270	0.00290	0.00020	Diff <2x LOR	----
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.000770	0.000706	8.69%	20%	----
		vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00099	0.00128	0.00029	Diff <2x LOR	----
		zinc, total	7440-66-6	E420	0.0030	mg/L	0.0038	0.0090	0.0053	Diff <2x LOR	----
		zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 273722)											
CG2103369-001	MICH-13.0	mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 273522)											
CG2103363-002	Anonymous	aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0057	0.0057	0.00002	Diff <2x LOR	----
		antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00030	0.00028	0.00002	Diff <2x LOR	----
		arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00012	0.00011	0.00002	Diff <2x LOR	----
		barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0128	0.0127	0.696%	20%	----
		beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		boron, dissolved	7440-42-8	E421	0.010	mg/L	0.052	0.053	0.0005	Diff <2x LOR	----
		cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.000141	0.000124	12.4%	20%	----
		calcium, dissolved	7440-70-2	E421	0.050	mg/L	128	130	1.14%	20%	----



Sub-Matrix: **Water**

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 273522) - continued											
CG2103363-002	Anonymous	chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00078	0.00084	0.00006	Diff <2x LOR	----
		copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.594	0.604	1.67%	20%	----
		iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.00106	0.00106	0.231%	20%	----
		lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0294	0.0281	4.24%	20%	----
		magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	109	110	0.984%	20%	----
		manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0968	0.0971	0.303%	20%	----
		molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000765	0.000784	2.49%	20%	----
		nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.0231	0.0234	1.26%	20%	----
		phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		potassium, dissolved	7440-09-7	E421	0.050	mg/L	3.00	2.98	0.503%	20%	----
		selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.0179	0.0192	7.03%	20%	----
		silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.50	2.50	0.106%	20%	----
		silver, dissolved	7440-22-4	E421	0.000010	mg/L	0.000017	0.000017	0.0000004	Diff <2x LOR	----
		sodium, dissolved	17341-25-2	E421	0.050	mg/L	32.5	33.0	1.40%	20%	----
		strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.197	0.201	2.12%	20%	----
		sulfur, dissolved	7704-34-9	E421	0.50	mg/L	193	198	2.28%	20%	----
		thallium, dissolved	7440-28-0	E421	0.000010	mg/L	0.000037	0.000035	0.000002	Diff <2x LOR	----
		tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00522	0.00520	0.422%	20%	----
		vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0894	0.0912	2.03%	20%	----
		zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	0.00142	0.00152	0.00010	Diff <2x LOR	----
Dissolved Metals (QC Lot: 273727)											
CG2103369-001	MICH-13.0	mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 274708)											
CG2103368-009	Anonymous	chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	<10	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 272852)											
CG2103369-001	MICH-13.0	benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: **Water**

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 272852) - continued											
CG2103369-001	MICH-13.0	chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
		dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		dichloropropane, 1,2-	78-87-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		ethylbenzene	100-41-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		tetrachloroethylene	127-18-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		toluene	108-88-3	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		trichloroethylene	79-01-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		trichlorofluoromethane	75-69-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		xylene, m+p-	179601-23-1	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		xylene, o-	95-47-6	E611C	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 272853)											
CG2103369-001	MICH-13.0	VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 270076)						
colour, true	---	E329	5	CU	<5.0	---
Physical Tests (QCLot: 270334)						
turbidity	---	E121	0.1	NTU	<0.10	---
Physical Tests (QCLot: 271779)						
solids, total suspended [TSS]	---	E160-H	3	mg/L	<3.0	---
Physical Tests (QCLot: 273633)						
solids, total suspended [TSS]	---	E160-H	3	mg/L	<3.0	---
Physical Tests (QCLot: 273640)						
solids, total dissolved [TDS]	---	E162	10	mg/L	<10	---
Physical Tests (QCLot: 273641)						
solids, total dissolved [TDS]	---	E162	10	mg/L	<10	---
Physical Tests (QCLot: 274747)						
conductivity	---	E100	1	µS/cm	<1.0	---
Physical Tests (QCLot: 274748)						
alkalinity, bicarbonate (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
alkalinity, carbonate (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
alkalinity, hydroxide (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
alkalinity, phenolphthalein (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
Anions and Nutrients (QCLot: 270034)						
phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	---
Anions and Nutrients (QCLot: 270190)						
fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	---
Anions and Nutrients (QCLot: 270193)						
sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	---
Anions and Nutrients (QCLot: 270194)						
chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	---
Anions and Nutrients (QCLot: 270195)						
bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	---
Anions and Nutrients (QCLot: 270197)						
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	---
Anions and Nutrients (QCLot: 270198)						
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 270201)						
fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	---
Anions and Nutrients (QCLot: 270202)						
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	---
Anions and Nutrients (QCLot: 270203)						
bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	---
Anions and Nutrients (QCLot: 270204)						
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	---
Anions and Nutrients (QCLot: 270205)						
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	---
Anions and Nutrients (QCLot: 272844)						
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	---
Anions and Nutrients (QCLot: 272854)						
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	---
Anions and Nutrients (QCLot: 284859)						
Kjeldahl nitrogen, total [TKN]	---	E318	0.05	mg/L	<0.050	---
Organic / Inorganic Carbon (QCLot: 272177)						
carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	<0.50	---
Organic / Inorganic Carbon (QCLot: 273318)						
carbon, total organic [TOC]	---	E355-L	0.5	mg/L	<0.50	---
Total Metals (QCLot: 271922)						
aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	---
antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	---
arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	---
barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	---
beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	---
bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	---
boron, total	7440-42-8	E420	0.01	mg/L	<0.010	---
cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	---
calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	---
chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	---
cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	---
copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	---
iron, total	7439-89-6	E420	0.01	mg/L	<0.010	---
lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	---
lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	---
magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 271922) - continued						
manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	---
molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	---
nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	---
phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	---
potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	---
selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	---
silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	---
silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	---
sodium, total	17341-25-2	E420	0.05	mg/L	<0.050	---
strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	---
sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	---
thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	---
tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	---
titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	---
uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	---
vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	---
zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	---
zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	---
Total Metals (QCLot: 273722)						
mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	---
Dissolved Metals (QCLot: 273522)						
aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	---
antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	---
arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	---
barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	---
beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	---
bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	---
boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	---
cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	---
calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	---
chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	---
cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	---
copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	---
iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	---
lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	---
lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 273522) - continued						
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
sodium, dissolved	17341-25-2	E421	0.05	mg/L	<0.050	----
strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Dissolved Metals (QCLot: 273727)						
mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Aggregate Organics (QCLot: 274708)						
chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	----
Volatile Organic Compounds (QCLot: 272852)						
benzene	71-43-2	E611C	0.5	µg/L	<0.50	----
bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	----
bromoform	75-25-2	E611C	0.5	µg/L	<0.50	----
carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	----
chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	----
chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	----
chloroform	67-66-3	E611C	0.5	µg/L	<0.50	----
chloromethane	74-87-3	E611C	5	µg/L	<5.0	----
dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	----
dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	----
dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	----
dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 272852) - continued						
dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	----
dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	----
dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	----
dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	----
dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	----
dichloromethane	75-09-2	E611C	1	µg/L	<1.0	----
dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	----
dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	----
dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	----
ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	<0.50	----
styrene	100-42-5	E611C	0.5	µg/L	<0.50	----
tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	<0.50	----
tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	<0.20	----
tetrachloroethylene	127-18-4	E611C	0.5	µg/L	<0.50	----
toluene	108-88-3	E611C	0.4	µg/L	<0.40	----
trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	<0.50	----
trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	<0.50	----
trichloroethylene	79-01-6	E611C	0.5	µg/L	<0.50	----
trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	<0.50	----
vinyl chloride	75-01-4	E611C	0.4	µg/L	<0.40	----
xylene, m+p-	179601-23-1	E611C	0.4	µg/L	<0.40	----
xylene, o-	95-47-6	E611C	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 281006)						
acetone	67-64-1	E611F	20	µg/L	<20	----
benzene	71-43-2	E611F	0.5	µg/L	<0.50	----
bromobenzene	108-86-1	E611F	0.5	µg/L	<0.50	----
bromochloromethane	74-97-5	E611F	0.5	µg/L	<0.50	----
bromodichloromethane	75-27-4	E611F	0.5	µg/L	<0.50	----
bromoform	75-25-2	E611F	0.5	µg/L	<0.50	----
bromomethane	74-83-9	E611F	0.5	µg/L	<0.50	----
butylbenzene, n-	104-51-8	E611F	0.5	µg/L	<0.50	----
butylbenzene, sec-	135-98-8	E611F	0.5	µg/L	<0.50	----
butylbenzene, tert-	98-06-6	E611F	0.5	µg/L	<0.50	----
carbon disulfide	75-15-0	E611F	0.5	µg/L	<0.50	----
carbon tetrachloride	56-23-5	E611F	0.5	µg/L	<0.50	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 281006) - continued						
chlorobenzene	108-90-7	E611F	0.5	µg/L	<0.50	----
chloroethane	75-00-3	E611F	0.5	µg/L	<0.50	----
chloroform	67-66-3	E611F	0.5	µg/L	<0.50	----
chloromethane	74-87-3	E611F	2	µg/L	<2.0	----
chlorotoluene, 2-	95-49-8	E611F	0.5	µg/L	<0.50	----
chlorotoluene, 4-	106-43-4	E611F	0.5	µg/L	<0.50	----
cymene, p-	99-87-6	E611F	0.5	µg/L	<0.50	----
dibromo-3-chloropropane, 1,2-	96-12-8	E611F	0.5	µg/L	<0.50	----
dibromochloromethane	124-48-1	E611F	0.5	µg/L	<0.50	----
dibromoethane, 1,2-	106-93-4	E611F	0.5	µg/L	<0.50	----
dibromomethane	74-95-3	E611F	0.5	µg/L	<0.50	----
dichlorobenzene, 1,2-	95-50-1	E611F	0.5	µg/L	<0.50	----
dichlorobenzene, 1,3-	541-73-1	E611F	0.5	µg/L	<0.50	----
dichlorobenzene, 1,4-	106-46-7	E611F	0.5	µg/L	<0.50	----
dichlorodifluoromethane	75-71-8	E611F	0.5	µg/L	<0.50	----
dichloroethane, 1,1-	75-34-3	E611F	0.5	µg/L	<0.50	----
dichloroethane, 1,2-	107-06-2	E611F	0.5	µg/L	<0.50	----
dichloroethylene, 1,1-	75-35-4	E611F	0.5	µg/L	<0.50	----
dichloroethylene, cis-1,2-	156-59-2	E611F	0.5	µg/L	<0.50	----
dichloroethylene, trans-1,2-	156-60-5	E611F	0.5	µg/L	<0.50	----
dichloromethane	75-09-2	E611F	1	µg/L	<1.0	----
dichloropropane, 1,2-	78-87-5	E611F	0.5	µg/L	<0.50	----
dichloropropane, 1,3-	142-28-9	E611F	0.5	µg/L	<0.50	----
dichloropropane, 2,2-	594-20-7	E611F	0.5	µg/L	<0.50	----
dichloropropylene, 1,1-	563-58-6	E611F	0.5	µg/L	<0.50	----
dichloropropylene, cis-1,3-	10061-01-5	E611F	0.5	µg/L	<0.50	----
dichloropropylene, trans-1,3-	10061-02-6	E611F	0.5	µg/L	<0.50	----
ethylbenzene	100-41-4	E611F	0.5	µg/L	<0.50	----
hexachlorobutadiene	87-68-3	E611F	0.5	µg/L	<0.50	----
hexane, n-	110-54-3	E611F	0.5	µg/L	<0.50	----
hexanone, 2-	591-78-6	E611F	20	µg/L	<20	----
isopropylbenzene	98-82-8	E611F	0.5	µg/L	<0.50	----
methyl ethyl ketone [MEK]	78-93-3	E611F	20	µg/L	<20	----
methyl isobutyl ketone [MIBK]	108-10-1	E611F	20	µg/L	<20	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611F	0.5	µg/L	<0.50	----
naphthalene	91-20-3	E611F	0.5	µg/L	<0.50	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 281006) - continued						
propylbenzene, n-	103-65-1	E611F	0.5	µg/L	<0.50	----
styrene	100-42-5	E611F	0.5	µg/L	<0.50	----
tetrachloroethane, 1,1,1,2-	630-20-6	E611F	0.5	µg/L	<0.50	----
tetrachloroethane, 1,1,1,2,2-	79-34-5	E611F	0.5	µg/L	<0.50	----
tetrachloroethylene	127-18-4	E611F	0.5	µg/L	<0.50	----
toluene	108-88-3	E611F	0.5	µg/L	<0.50	----
trichlorobenzene, 1,2,3-	87-61-6	E611F	0.5	µg/L	<0.50	----
trichlorobenzene, 1,2,4-	120-82-1	E611F	0.5	µg/L	<0.50	----
trichloroethane, 1,1,1-	71-55-6	E611F	0.5	µg/L	<0.50	----
trichloroethane, 1,1,2-	79-00-5	E611F	0.5	µg/L	<0.50	----
trichloroethylene	79-01-6	E611F	0.5	µg/L	<0.50	----
trichlorofluoromethane	75-69-4	E611F	0.5	µg/L	<0.50	----
trichloropropane, 1,2,3-	96-18-4	E611F	0.5	µg/L	<0.50	----
trimethylbenzene, 1,2,4-	95-63-6	E611F	0.5	µg/L	<0.50	----
trimethylbenzene, 1,3,5-	108-67-8	E611F	0.5	µg/L	<0.50	----
vinyl chloride	75-01-4	E611F	0.5	µg/L	<0.50	----
xylene, m+p-	179601-23-1	E611F	0.4	µg/L	<0.40	----
xylene, o-	95-47-6	E611F	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 271477)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
TEH (C10-C30), BC	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 272853)						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike Concentration	Recovery (%)	Recovery Limits (%)		Qualifier
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 270076)									
colour, true	---	E329	5	CU	100 CU	102	85.0	115	---
Physical Tests (QCLot: 270334)									
turbidity	---	E121	0.1	NTU	200 NTU	97.6	85.0	115	---
Physical Tests (QCLot: 271779)									
solids, total suspended [TSS]	---	E160-H	3	mg/L	150 mg/L	91.5	85.0	115	---
Physical Tests (QCLot: 273633)									
solids, total suspended [TSS]	---	E160-H	3	mg/L	150 mg/L	95.6	85.0	115	---
Physical Tests (QCLot: 273640)									
solids, total dissolved [TDS]	---	E162	10	mg/L	1000 mg/L	97.5	85.0	115	---
Physical Tests (QCLot: 273641)									
solids, total dissolved [TDS]	---	E162	10	mg/L	1000 mg/L	98.7	85.0	115	---
Physical Tests (QCLot: 274746)									
pH	---	E108	---	pH units	7 pH units	100	98.6	101	---
Physical Tests (QCLot: 274747)									
conductivity	---	E100	1	µS/cm	146.9 µS/cm	99.2	90.0	110	---
Physical Tests (QCLot: 274748)									
alkalinity, phenolphthalein (as CaCO ₃)	---	E290	1	mg/L	229 mg/L	96.2	85.0	115	---
alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	500 mg/L	103	85.0	115	---
Anions and Nutrients (QCLot: 270034)									
phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.1 mg/L	105	80.0	120	---
Anions and Nutrients (QCLot: 270190)									
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	100	90.0	110	---
Anions and Nutrients (QCLot: 270193)									
sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	98.8	90.0	110	---
Anions and Nutrients (QCLot: 270194)									
chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.2	90.0	110	---
Anions and Nutrients (QCLot: 270195)									
bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	98.3	85.0	115	---
Anions and Nutrients (QCLot: 270197)									
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.9	90.0	110	---
Anions and Nutrients (QCLot: 270198)									
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	102	90.0	110	---



Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 270201)									
fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 270202)									
sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	98.5	90.0	110	----
Anions and Nutrients (QCLot: 270203)									
bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	99.3	85.0	115	----
Anions and Nutrients (QCLot: 270204)									
nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 270205)									
nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 272844)									
phosphorus, total	7723-14-0	E372-U	0.002	mg/L	8.32 mg/L	103	80.0	120	----
Anions and Nutrients (QCLot: 272854)									
ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	110	85.0	115	----
Anions and Nutrients (QCLot: 284859)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	100	75.0	125	----
Organic / Inorganic Carbon (QCLot: 272177)									
carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	10 mg/L	104	80.0	120	----
Organic / Inorganic Carbon (QCLot: 273318)									
carbon, total organic [TOC]	----	E355-L	0.5	mg/L	10 mg/L	99.6	80.0	120	----
Total Metals (QCLot: 271922)									
aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	105	80.0	120	----
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	116	80.0	120	----
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	111	80.0	120	----
bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	107	80.0	120	----
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	105	80.0	120	----
cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	103	80.0	120	----
calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	106	80.0	120	----
chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	105	80.0	120	----
lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	107	80.0	120	----
lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	112	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 271922) - continued									
magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	103	80.0	120	----
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	107	80.0	120	----
nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	70.0	130	----
potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	111	80.0	120	----
silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	60.0	140	----
silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	116	80.0	120	----
sodium, total	17341-25-2	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	106	80.0	120	----
sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	91.8	80.0	120	----
thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120	----
tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	105	80.0	120	----
titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	113	80.0	120	----
vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120	----
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	102	80.0	120	----
zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	110	80.0	120	----
Total Metals (QCLot: 273722)									
mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	105	80.0	120	----
Dissolved Metals (QCLot: 273522)									
aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	102	80.0	120	----
antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	100	80.0	120	----
arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	108	80.0	120	----
beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	103	80.0	120	----
bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	101	80.0	120	----
boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	100	80.0	120	----
cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.8	80.0	120	----
calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.9	80.0	120	----
iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	101	80.0	120	----
lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	100	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 273522) - continued									
lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	103	80.0	120	----
magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	101	80.0	120	----
manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.4	80.0	120	----
molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	101	80.0	120	----
nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.9	80.0	120	----
phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	110	70.0	130	----
potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	106	80.0	120	----
selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.2	80.0	120	----
silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	105	60.0	140	----
silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	107	80.0	120	----
sodium, dissolved	17341-25-2	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	99.5	80.0	120	----
sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	102	80.0	120	----
thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	98.8	80.0	120	----
tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	100	80.0	120	----
titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	98.0	80.0	120	----
uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	101	80.0	120	----
zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0.0001 mg/L	107	80.0	120	----
Aggregate Organics (QCLot: 274708)									
chemical oxygen demand [COD]	----	E559-L	10	mg/L	100 mg/L	96.8	85.0	115	----
Volatile Organic Compounds (QCLot: 272852)									
benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	94.9	70.0	130	----
bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	91.6	70.0	130	----
bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	104	70.0	130	----
carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	97.4	70.0	130	----
chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	94.6	70.0	130	----
chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	111	60.0	140	----
chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	96.5	70.0	130	----
chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	97.6	60.0	140	----
dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	95.8	70.0	130	----
dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	101	70.0	130	----
dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	96.2	70.0	130	----
dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	99.6	70.0	130	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 272852) - continued									
dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	94.3	70.0	130	----
dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	89.3	70.0	130	----
dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	91.7	70.0	130	----
dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	95.0	70.0	130	----
dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	95.1	70.0	130	----
dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	92.4	70.0	130	----
dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	96.7	70.0	130	----
dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	106	70.0	130	----
dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	100	70.0	130	----
ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	90.0	70.0	130	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	104	70.0	130	----
styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	99.1	70.0	130	----
tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	93.5	70.0	130	----
tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	93.0	70.0	130	----
tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	92.4	70.0	130	----
toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	96.1	70.0	130	----
trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	98.9	70.0	130	----
trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	96.5	70.0	130	----
trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	99.1	70.0	130	----
trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	85.5	60.0	140	----
vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	101	60.0	140	----
xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	100	70.0	130	----
xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	97.6	70.0	130	----
Volatile Organic Compounds (QCLot: 281006)									
acetone	67-64-1	E611F	20	µg/L	100 µg/L	109	70.0	130	----
benzene	71-43-2	E611F	0.5	µg/L	100 µg/L	84.6	70.0	130	----
bromobenzene	108-86-1	E611F	0.5	µg/L	100 µg/L	103	70.0	130	----
bromochloromethane	74-97-5	E611F	0.5	µg/L	100 µg/L	91.9	70.0	130	----
bromodichloromethane	75-27-4	E611F	0.5	µg/L	100 µg/L	82.1	70.0	130	----
bromoform	75-25-2	E611F	0.5	µg/L	100 µg/L	104	70.0	130	----
bromomethane	74-83-9	E611F	0.5	µg/L	100 µg/L	89.1	70.0	130	----
butylbenzene, n-	104-51-8	E611F	0.5	µg/L	100 µg/L	86.8	70.0	130	----
butylbenzene, sec-	135-98-8	E611F	0.5	µg/L	100 µg/L	96.7	70.0	130	----
butylbenzene, tert-	98-06-6	E611F	0.5	µg/L	100 µg/L	94.0	70.0	130	----
carbon disulfide	75-15-0	E611F	0.5	µg/L	100 µg/L	96.7	70.0	130	----
carbon tetrachloride	56-23-5	E611F	0.5	µg/L	100 µg/L	87.2	70.0	130	----
chlorobenzene	108-90-7	E611F	0.5	µg/L	100 µg/L	94.6	70.0	130	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 281006) - continued									
chloroethane	75-00-3	E611F	0.5	µg/L	100 µg/L	99.2	60.0	140	----
chloroform	67-66-3	E611F	0.5	µg/L	100 µg/L	86.3	70.0	130	----
chloromethane	74-87-3	E611F	2	µg/L	100 µg/L	87.0	60.0	140	----
chlorotoluene, 2-	95-49-8	E611F	0.5	µg/L	100 µg/L	100	70.0	130	----
chlorotoluene, 4-	106-43-4	E611F	0.5	µg/L	100 µg/L	100	70.0	130	----
cymene, p-	99-87-6	E611F	0.5	µg/L	100 µg/L	99.2	70.0	130	----
dibromo-3-chloropropane, 1,2-	96-12-8	E611F	0.5	µg/L	100 µg/L	110	70.0	130	----
dibromochloromethane	124-48-1	E611F	0.5	µg/L	100 µg/L	95.8	70.0	130	----
dibromoethane, 1,2-	106-93-4	E611F	0.5	µg/L	100 µg/L	102	70.0	130	----
dibromomethane	74-95-3	E611F	0.5	µg/L	100 µg/L	103	70.0	130	----
dichlorobenzene, 1,2-	95-50-1	E611F	0.5	µg/L	100 µg/L	101	70.0	130	----
dichlorobenzene, 1,3-	541-73-1	E611F	0.5	µg/L	100 µg/L	96.2	70.0	130	----
dichlorobenzene, 1,4-	106-46-7	E611F	0.5	µg/L	100 µg/L	99.6	70.0	130	----
dichlorodifluoromethane	75-71-8	E611F	0.5	µg/L	100 µg/L	83.8	70.0	130	----
dichloroethane, 1,1-	75-34-3	E611F	0.5	µg/L	100 µg/L	84.1	70.0	130	----
dichloroethane, 1,2-	107-06-2	E611F	0.5	µg/L	100 µg/L	81.3	70.0	130	----
dichloroethylene, 1,1-	75-35-4	E611F	0.5	µg/L	100 µg/L	81.8	70.0	130	----
dichloroethylene, cis-1,2-	156-59-2	E611F	0.5	µg/L	100 µg/L	84.5	70.0	130	----
dichloroethylene, trans-1,2-	156-60-5	E611F	0.5	µg/L	100 µg/L	84.8	70.0	130	----
dichloromethane	75-09-2	E611F	1	µg/L	100 µg/L	82.4	60.0	140	----
dichloropropane, 1,2-	78-87-5	E611F	0.5	µg/L	100 µg/L	86.2	70.0	130	----
dichloropropane, 1,3-	142-28-9	E611F	0.5	µg/L	100 µg/L	113	70.0	130	----
dichloropropane, 2,2-	594-20-7	E611F	0.5	µg/L	100 µg/L	91.7	70.0	130	----
dichloropropylene, 1,1-	563-58-6	E611F	0.5	µg/L	100 µg/L	102	70.0	130	----
dichloropropylene, cis-1,3-	10061-01-5	E611F	0.5	µg/L	100 µg/L	94.6	70.0	130	----
dichloropropylene, trans-1,3-	10061-02-6	E611F	0.5	µg/L	100 µg/L	100	70.0	130	----
ethylbenzene	100-41-4	E611F	0.5	µg/L	100 µg/L	90.0	70.0	130	----
hexachlorobutadiene	87-68-3	E611F	0.5	µg/L	100 µg/L	90.7	70.0	130	----
hexane, n-	110-54-3	E611F	0.5	µg/L	100 µg/L	106	70.0	130	----
hexanone, 2-	591-78-6	E611F	20	µg/L	100 µg/L	92.5	70.0	130	----
isopropylbenzene	98-82-8	E611F	0.5	µg/L	100 µg/L	98.2	70.0	130	----
methyl ethyl ketone [MEK]	78-93-3	E611F	20	µg/L	100 µg/L	101	70.0	130	----
methyl isobutyl ketone [MIBK]	108-10-1	E611F	20	µg/L	100 µg/L	114	70.0	130	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611F	0.5	µg/L	100 µg/L	104	70.0	130	----
naphthalene	91-20-3	E611F	0.5	µg/L	100 µg/L	94.7	70.0	130	----
propylbenzene, n-	103-65-1	E611F	0.5	µg/L	100 µg/L	92.4	70.0	130	----
styrene	100-42-5	E611F	0.5	µg/L	100 µg/L	99.1	70.0	130	----
tetrachloroethane, 1,1,1,2-	630-20-6	E611F	0.5	µg/L	100 µg/L	93.5	70.0	130	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 281006) - continued									
tetrachloroethane, 1,1,2,2-	79-34-5	E611F	0.5	µg/L	100 µg/L	93.0	70.0	130	----
tetrachloroethylene	127-18-4	E611F	0.5	µg/L	100 µg/L	92.4	70.0	130	----
toluene	108-88-3	E611F	0.5	µg/L	100 µg/L	82.2	70.0	130	----
trichlorobenzene, 1,2,3-	87-61-6	E611F	0.5	µg/L	100 µg/L	94.1	70.0	130	----
trichlorobenzene, 1,2,4-	120-82-1	E611F	0.5	µg/L	100 µg/L	95.7	70.0	130	----
trichloroethane, 1,1,1-	71-55-6	E611F	0.5	µg/L	100 µg/L	88.6	70.0	130	----
trichloroethane, 1,1,2-	79-00-5	E611F	0.5	µg/L	100 µg/L	96.5	70.0	130	----
trichloroethylene	79-01-6	E611F	0.5	µg/L	100 µg/L	88.3	70.0	130	----
trichlorofluoromethane	75-69-4	E611F	0.5	µg/L	100 µg/L	71.4	60.0	140	----
trichloropropane, 1,2,3-	96-18-4	E611F	0.5	µg/L	100 µg/L	108	70.0	130	----
trimethylbenzene, 1,2,4-	95-63-6	E611F	0.5	µg/L	100 µg/L	91.8	70.0	130	----
trimethylbenzene, 1,3,5-	108-67-8	E611F	0.5	µg/L	100 µg/L	93.3	70.0	130	----
vinyl chloride	75-01-4	E611F	0.5	µg/L	100 µg/L	90.2	60.0	140	----
xylene, m+p-	179601-23-1	E611F	0.4	µg/L	200 µg/L	100	70.0	130	----
xylene, o-	95-47-6	E611F	0.3	µg/L	100 µg/L	97.6	70.0	130	----
Hydrocarbons (QCLot: 271477)									
EPH (C10-C19)	----	E601A	250	µg/L	8310 µg/L	102	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3570 µg/L	90.2	70.0	130	----
TEH (C10-C30), BC	----	E601A	250	µg/L	11080 µg/L	99.4	70.0	130	----
Hydrocarbons (QCLot: 272853)									
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	72.3	70.0	130	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 270034)										
CG2103365-009	Anonymous	phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0525 mg/L	0.05 mg/L	105	70.0	130	----
Anions and Nutrients (QCLot: 270195)										
CG2103358-003	Anonymous	bromide	24959-67-9	E235.Br-L	0.524 mg/L	0.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 270197)										
CG2103358-003	Anonymous	nitrate (as N)	14797-55-8	E235.NO3-L	2.58 mg/L	2.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 270198)										
CG2103358-003	Anonymous	nitrite (as N)	14797-65-0	E235.NO2-L	0.515 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 270201)										
CG2103369-005	FIELD BLANK	fluoride	16984-48-8	E235.F	1.06 mg/L	1 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 270202)										
CG2103369-005	FIELD BLANK	sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 272844)										
CG2103368-009	Anonymous	phosphorus, total	7723-14-0	E372-U	0.0717 mg/L	0.0676 mg/L	106	70.0	130	----
Anions and Nutrients (QCLot: 272854)										
CG2103368-002	Anonymous	ammonia, total (as N)	7664-41-7	E298	ND mg/L	0.1 mg/L	ND	75.0	125	----
Anions and Nutrients (QCLot: 284859)										
CG2103375-001	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	ND mg/L	2.5 mg/L	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 272177)										
CG2103369-001	MICH-13.0	carbon, dissolved organic [DOC]	----	E358-L	24.6 mg/L	23.9 mg/L	103	70.0	130	----
Organic / Inorganic Carbon (QCLot: 273318)										
CG2103369-001	MICH-13.0	carbon, total organic [TOC]	----	E355-L	24.9 mg/L	23.9 mg/L	104	70.0	130	----
Total Metals (QCLot: 271922)										
CG2103369-005	FIELD BLANK	aluminum, total	7429-90-5	E420	1.88 mg/L	2 mg/L	93.8	70.0	130	----
		antimony, total	7440-36-0	E420	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		arsenic, total	7440-38-2	E420	0.186 mg/L	0.2 mg/L	93.0	70.0	130	----
		barium, total	7440-39-3	E420	0.186 mg/L	0.2 mg/L	93.0	70.0	130	----
		beryllium, total	7440-41-7	E420	0.390 mg/L	0.4 mg/L	97.4	70.0	130	----
		bismuth, total	7440-69-9	E420	0.0929 mg/L	0.1 mg/L	92.9	70.0	130	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 271922) - continued										
CG2103369-005	FIELD BLANK	boron, total	7440-42-8	E420	0.984 mg/L	1 mg/L	98.4	70.0	130	----
		cadmium, total	7440-43-9	E420	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		calcium, total	7440-70-2	E420	38.9 mg/L	40 mg/L	97.3	70.0	130	----
		chromium, total	7440-47-3	E420	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		cobalt, total	7440-48-4	E420	0.188 mg/L	0.2 mg/L	94.0	70.0	130	----
		copper, total	7440-50-8	E420	0.190 mg/L	0.2 mg/L	95.0	70.0	130	----
		iron, total	7439-89-6	E420	18.8 mg/L	20 mg/L	94.3	70.0	130	----
		lead, total	7439-92-1	E420	0.199 mg/L	0.2 mg/L	99.4	70.0	130	----
		lithium, total	7439-93-2	E420	0.982 mg/L	1 mg/L	98.2	70.0	130	----
		magnesium, total	7439-95-4	E420	9.12 mg/L	10 mg/L	91.2	70.0	130	----
		manganese, total	7439-96-5	E420	0.183 mg/L	0.2 mg/L	91.7	70.0	130	----
		molybdenum, total	7439-98-7	E420	0.194 mg/L	0.2 mg/L	96.8	70.0	130	----
		nickel, total	7440-02-0	E420	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		phosphorus, total	7723-14-0	E420	91.7 mg/L	100 mg/L	91.7	70.0	130	----
		potassium, total	7440-09-7	E420	38.5 mg/L	40 mg/L	96.4	70.0	130	----
		selenium, total	7782-49-2	E420	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		silicon, total	7440-21-3	E420	95.0 mg/L	100 mg/L	95.0	70.0	130	----
		silver, total	7440-22-4	E420	0.0420 mg/L	0.04 mg/L	105	70.0	130	----
		sodium, total	17341-25-2	E420	18.9 mg/L	20 mg/L	94.6	70.0	130	----
		strontium, total	7440-24-6	E420	0.197 mg/L	0.2 mg/L	98.4	70.0	130	----
		sulfur, total	7704-34-9	E420	181 mg/L	200 mg/L	90.4	70.0	130	----
		thallium, total	7440-28-0	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		tin, total	7440-31-5	E420	0.191 mg/L	0.2 mg/L	95.7	70.0	130	----
		titanium, total	7440-32-6	E420	0.365 mg/L	0.4 mg/L	91.2	70.0	130	----
		uranium, total	7440-61-1	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
		vanadium, total	7440-62-2	E420	0.942 mg/L	1 mg/L	94.2	70.0	130	----
		zinc, total	7440-66-6	E420	3.73 mg/L	4 mg/L	93.2	70.0	130	----
		zirconium, total	7440-67-7	E420	0.396 mg/L	0.4 mg/L	99.1	70.0	130	----
Total Metals (QCLot: 273722)										
CG2103369-002	MICH-33.8	mercury, total	7439-97-6	E508	0.000103 mg/L	0.0001 mg/L	103	70.0	130	----
Dissolved Metals (QCLot: 273522)										
CG2103363-003	Anonymous	aluminum, dissolved	7429-90-5	E421	1.76 mg/L	2 mg/L	87.8	70.0	130	----
		antimony, dissolved	7440-36-0	E421	0.189 mg/L	0.2 mg/L	94.4	70.0	130	----
		arsenic, dissolved	7440-38-2	E421	0.180 mg/L	0.2 mg/L	89.8	70.0	130	----
		barium, dissolved	7440-39-3	E421	0.174 mg/L	0.2 mg/L	87.0	70.0	130	----
		beryllium, dissolved	7440-41-7	E421	0.324 mg/L	0.4 mg/L	80.9	70.0	130	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 273522) - continued										
CG2103363-003	Anonymous	bismuth, dissolved	7440-69-9	E421	0.0858 mg/L	0.1 mg/L	85.8	70.0	130	----
		boron, dissolved	7440-42-8	E421	0.846 mg/L	1 mg/L	84.6	70.0	130	----
		cadmium, dissolved	7440-43-9	E421	0.0365 mg/L	0.04 mg/L	91.2	70.0	130	----
		calcium, dissolved	7440-70-2	E421	ND mg/L	40 mg/L	ND	70.0	130	----
		chromium, dissolved	7440-47-3	E421	0.370 mg/L	0.4 mg/L	92.4	70.0	130	----
		cobalt, dissolved	7440-48-4	E421	0.182 mg/L	0.2 mg/L	91.3	70.0	130	----
		copper, dissolved	7440-50-8	E421	0.184 mg/L	0.2 mg/L	91.9	70.0	130	----
		iron, dissolved	7439-89-6	E421	17.6 mg/L	20 mg/L	88.2	70.0	130	----
		lead, dissolved	7439-92-1	E421	0.175 mg/L	0.2 mg/L	87.3	70.0	130	----
		lithium, dissolved	7439-93-2	E421	0.807 mg/L	1 mg/L	80.7	70.0	130	----
		magnesium, dissolved	7439-95-4	E421	ND mg/L	10 mg/L	ND	70.0	130	----
		manganese, dissolved	7439-96-5	E421	0.188 mg/L	0.2 mg/L	94.2	70.0	130	----
		molybdenum, dissolved	7439-98-7	E421	0.178 mg/L	0.2 mg/L	89.2	70.0	130	----
		nickel, dissolved	7440-02-0	E421	0.363 mg/L	0.4 mg/L	90.6	70.0	130	----
		phosphorus, dissolved	7723-14-0	E421	88.7 mg/L	100 mg/L	88.7	70.0	130	----
		potassium, dissolved	7440-09-7	E421	36.6 mg/L	40 mg/L	91.4	70.0	130	----
		selenium, dissolved	7782-49-2	E421	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		silicon, dissolved	7440-21-3	E421	85.7 mg/L	100 mg/L	85.7	70.0	130	----
		silver, dissolved	7440-22-4	E421	0.0362 mg/L	0.04 mg/L	90.5	70.0	130	----
		sodium, dissolved	17341-25-2	E421	ND mg/L	20 mg/L	ND	70.0	130	----
		strontium, dissolved	7440-24-6	E421	ND mg/L	0.2 mg/L	ND	70.0	130	----
		sulfur, dissolved	7704-34-9	E421	157 mg/L	200 mg/L	78.3	70.0	130	----
		thallium, dissolved	7440-28-0	E421	0.0346 mg/L	0.04 mg/L	86.4	70.0	130	----
		tin, dissolved	7440-31-5	E421	0.181 mg/L	0.2 mg/L	90.7	70.0	130	----
		titanium, dissolved	7440-32-6	E421	0.373 mg/L	0.4 mg/L	93.3	70.0	130	----
		uranium, dissolved	7440-61-1	E421	0.0356 mg/L	0.04 mg/L	89.1	70.0	130	----
		vanadium, dissolved	7440-62-2	E421	0.921 mg/L	1 mg/L	92.1	70.0	130	----
		zinc, dissolved	7440-66-6	E421	3.72 mg/L	4 mg/L	92.9	70.0	130	----
		zirconium, dissolved	7440-67-7	E421	0.362 mg/L	0.4 mg/L	90.5	70.0	130	----
Dissolved Metals (QCLot: 273727)										
CG2103369-002	MICH-33.8	mercury, dissolved	7439-97-6	E509	0.000108 mg/L	0.0001 mg/L	108	70.0	130	----
Aggregate Organics (QCLot: 274708)										
CG2103368-010	Anonymous	chemical oxygen demand [COD]	----	E559-L	101 mg/L	100 mg/L	101	75.0	125	----
Volatile Organic Compounds (QCLot: 272852)										
CG2103369-002	MICH-33.8	benzene	71-43-2	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		bromodichloromethane	75-27-4	E611C	99.8 µg/L	100 µg/L	99.8	60.0	140	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 272852) - continued										
CG2103369-002	MICH-33.8	bromoform	75-25-2	E611C	116 µg/L	100 µg/L	116	60.0	140	----
		carbon tetrachloride	56-23-5	E611C	106 µg/L	100 µg/L	106	60.0	140	----
		chlorobenzene	108-90-7	E611C	99.1 µg/L	100 µg/L	99.1	60.0	140	----
		chloroethane	75-00-3	E611C	112 µg/L	100 µg/L	112	50.0	150	----
		chloroform	67-66-3	E611C	106 µg/L	100 µg/L	106	60.0	140	----
		chloromethane	74-87-3	E611C	93.0 µg/L	100 µg/L	93.0	50.0	150	----
		dibromochloromethane	124-48-1	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		dichlorobenzene, 1,2-	95-50-1	E611C	106 µg/L	100 µg/L	106	60.0	140	----
		dichlorobenzene, 1,3-	541-73-1	E611C	104 µg/L	100 µg/L	104	60.0	140	----
		dichlorobenzene, 1,4-	106-46-7	E611C	107 µg/L	100 µg/L	107	60.0	140	----
		dichloroethane, 1,1-	75-34-3	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		dichloroethane, 1,2-	107-06-2	E611C	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		dichloroethylene, 1,1-	75-35-4	E611C	97.1 µg/L	100 µg/L	97.1	60.0	140	----
		dichloroethylene, cis-1,2-	156-59-2	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		dichloroethylene, trans-1,2-	156-60-5	E611C	99.9 µg/L	100 µg/L	99.9	60.0	140	----
		dichloromethane	75-09-2	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		dichloropropane, 1,2-	78-87-5	E611C	104 µg/L	100 µg/L	104	60.0	140	----
		dichloropropylene, cis-1,3-	10061-01-5	E611C	106 µg/L	100 µg/L	106	60.0	140	----
		dichloropropylene, trans-1,3-	10061-02-6	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		ethylbenzene	100-41-4	E611C	92.1 µg/L	100 µg/L	92.1	60.0	140	----
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	107 µg/L	100 µg/L	107	60.0	140	----
		styrene	100-42-5	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		tetrachloroethane, 1,1,1,2-	630-20-6	E611C	99.8 µg/L	100 µg/L	99.8	60.0	140	----
		tetrachloroethane, 1,1,2,2-	79-34-5	E611C	98.4 µg/L	100 µg/L	98.4	60.0	140	----
		tetrachloroethylene	127-18-4	E611C	95.8 µg/L	100 µg/L	95.8	60.0	140	----
		toluene	108-88-3	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		trichloroethane, 1,1,1-	71-55-6	E611C	107 µg/L	100 µg/L	107	60.0	140	----
		trichloroethane, 1,1,2-	79-00-5	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		trichloroethylene	79-01-6	E611C	105 µg/L	100 µg/L	105	60.0	140	----
		trichlorofluoromethane	75-69-4	E611C	102 µg/L	100 µg/L	102	50.0	150	----
		vinyl chloride	75-01-4	E611C	97.5 µg/L	100 µg/L	97.5	50.0	150	----
		xylene, m+p-	179601-23-1	E611C	208 µg/L	200 µg/L	104	60.0	140	----
		xylene, o-	95-47-6	E611C	99.8 µg/L	100 µg/L	99.8	60.0	140	----
Hydrocarbons (QCLot: 272853)										
CG2103369-003	AND1	VHw (C6-C10)	----	E581.VH+F1	4200 µg/L	6310 µg/L	66.5	60.0	140	----



Report To	Report Format / Distribution	Service Requested (Rush for routine analysis subject to availability)
Company: North Coal Limited	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other	<input checked="" type="radio"/> Regular (Standard Turnaround Times - Business Days)
Contact: Abby Cousins	<input checked="" type="checkbox"/> PDF <input type="checkbox"/> Email <input type="checkbox"/> Digital <input type="checkbox"/> Fax	<input type="radio"/> Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT
Address: 652F Sparwood Dr, PO Box 576 Sparwood, BC, V0B 2G0	Email 1: acousin@northcoal.ca	<input type="radio"/> Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT
Phone: _____ Fax: _____	Email 2: berling@orthcoal.ca	<input type="radio"/> Same Day or Weekend Emergency - Contact ALS to Confirm TAT
	Email 3: mia.otto@otic.co	

Invoice To Same as Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Client / Project Information	Analysis Request												
Hardcopy of Invoice with Report? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Job #: 21NORT02	Please indicate below Filtered, Preserved or both (F, P, F/P)												
Company: Same as Report	PO / AFE: 15708		P	PF	P	P	F/P	PF	P	P				
Contact: Same as Report	LSD:													
Address: Same as Report	Quote #: CG2020NOCL1000001													
Phone: _____ Fax: _____														

Lab Work Order # (lab use only)	ALS Contact: Patryk Wojciak	Sampler:
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Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	General	EPH x2	DOC	COD/NH3/TKN/TOC	Total Metals	Dissolved Metals	Dissolved mercury	Total Mercury	VOCx2	Number of Containers
MICH-13.0		17-08-21	08:00	Surface Water										11
MICH-33.8		17-08-21	11:00	Surface Water										11
AND1		17/8/21	14:30	Surface Water										11
Duplicate		17/8/21	17:00	Surface Water										11
Field Blank		17-08-21	15:30	Surface Water										11

Environmental Division
 Calgary
 Work Order Reference
CG2103369



Telephone: +1 403 407 1800

water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided on a separate Excel tab.

Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
						3 °C	<i>[Signature]</i>			