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Date Received: 20- OCT- 21
Report Date: 09- NOV- 21 16:24 (MT)
Version: FINAL REV. 2

Client Phone: 519- 729- 0681

Certificate of Analysis

Lab Work Order #: L2653496
Project P.O. #: NOT SUBMITTED
Job Reference: RENERGY
C of C Numbers:
Legal Site Desc:

Comments: ADDITIONAL 02- NOV- 21 14:16

KARANPARTAP SINGH
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2653496-1 DOVETAIL NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Physical Tests							
Conductivity	8110		1.0	umhos/cm		21-OCT-21	R5626636
pH	8.01		0.10	pH units		21-OCT-21	R5626636
Volatile Dissolved Solids	2340		800	mg/L		23-OCT-21	R5632464
Total Dissolved Solids	3870		400	mg/L		23-OCT-21	R5632464
Volatile Solids	4610	PEHT	100	mg/L	26-OCT-21	27-OCT-21	R5629847
Total Solids	7970	PEHT	100	mg/L	26-OCT-21	27-OCT-21	R5629847
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	561	DLM	25	mg/L		21-OCT-21	R5626636
Ammonia, Total (as N)	750	DLHC	100	mg/L		22-OCT-21	R5626853
Bromide (Br)	<10	DLM	10	mg/L		22-OCT-21	R5627857
Chloride (Cl)	493	DLM	50	mg/L		22-OCT-21	R5627857
Fluoride (F)	<2.0	DLM	2.0	mg/L		22-OCT-21	R5627857
Nitrate (as N)	<2.0	DLM	2.0	mg/L		22-OCT-21	R5627857
Nitrite (as N)	<1.0	DLM	1.0	mg/L		22-OCT-21	R5627857
Total Kjeldahl Nitrogen	860	RRR	50	mg/L	22-OCT-21	22-OCT-21	R5626798
Orthophosphate-Dissolved (as P)	82	DLHC	12	mg/L		25-OCT-21	R5628411
Phosphorus, Total	738	RRR	3.0	mg/L	22-OCT-21	25-OCT-21	R5627961
Sulfate (SO4)	<30	DLM	30	mg/L		22-OCT-21	R5627857
Organic / Inorganic Carbon							
Total Organic Carbon	1650	DLM	50	mg/L		23-OCT-21	R5627713
Total Metals							
Aluminum (Al)-Total	136		2.0	mg/L	27-OCT-21	27-OCT-21	R5631217
Antimony (Sb)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Arsenic (As)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Barium (Ba)-Total	0.647		0.040	mg/L	27-OCT-21	27-OCT-21	R5631217
Beryllium (Be)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Bismuth (Bi)-Total	<0.010		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Boron (B)-Total	<2.0		2.0	mg/L	27-OCT-21	27-OCT-21	R5631217
Cadmium (Cd)-Total	0.0023		0.0020	mg/L	27-OCT-21	27-OCT-21	R5631217
Calcium (Ca)-Total	400		100	mg/L	27-OCT-21	27-OCT-21	R5631217
Chromium (Cr)-Total	0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Cobalt (Co)-Total	<0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Copper (Cu)-Total	1.75		0.20	mg/L	27-OCT-21	27-OCT-21	R5631217
Iron (Fe)-Total	35		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Lead (Pb)-Total	0.025		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Lithium (Li)-Total	<0.20		0.20	mg/L	27-OCT-21	27-OCT-21	R5631217
Magnesium (Mg)-Total	293		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Manganese (Mn)-Total	3.20		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Molybdenum (Mo)-Total	0.119		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Nickel (Ni)-Total	0.18		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Phosphorus (P)-Total	266		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Potassium (K)-Total	1280		10	mg/L	27-OCT-21	27-OCT-21	R5631217

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2653496-1 DOVETAIL NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Total Metals							
Selenium (Se)-Total	0.026		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Silver (Ag)-Total	<0.010		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Sodium (Na)-Total	639		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Strontium (Sr)-Total	6.26		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Sulfur (S)-Total	<100		100	mg/L	27-OCT-21	27-OCT-21	R5631217
Thallium (Tl)-Total	<0.0020		0.0020	mg/L	27-OCT-21	27-OCT-21	R5631217
Tin (Sn)-Total	0.039		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Titanium (Ti)-Total	0.164		0.060	mg/L	27-OCT-21	27-OCT-21	R5631217
Tungsten (W)-Total	<0.18		0.18	mg/L	27-OCT-21	27-OCT-21	R5631217
Uranium (U)-Total	0.0170		0.0020	mg/L	27-OCT-21	27-OCT-21	R5631217
Vanadium (V)-Total	<0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Zinc (Zn)-Total	10.9		0.60	mg/L	27-OCT-21	27-OCT-21	R5631217
Zirconium (Zr)-Total	<0.060		0.060	mg/L	27-OCT-21	27-OCT-21	R5631217
Dissolved Metals							
Dissolved Metals Filtration Location	LAB					20-OCT-21	R5625639
Aluminum (Al)-Dissolved	<0.50	DLHC	0.50	mg/L	20-OCT-21	21-OCT-21	R5626450
Antimony (Sb)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Arsenic (As)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Barium (Ba)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Beryllium (Be)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Bismuth (Bi)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Boron (B)-Dissolved	<1.0	DLHC	1.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Cadmium (Cd)-Dissolved	<0.00050	DLHC	0.00050	mg/L	20-OCT-21	21-OCT-21	R5626450
Calcium (Ca)-Dissolved	136	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Cesium (Cs)-Dissolved	0.0017	DLHC	0.0010	mg/L	20-OCT-21	21-OCT-21	R5626450
Chromium (Cr)-Dissolved	<0.050	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Cobalt (Co)-Dissolved	0.032	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Copper (Cu)-Dissolved	<0.020	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Iron (Fe)-Dissolved	1.3	DLHC	1.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Lead (Pb)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Lithium (Li)-Dissolved	<0.10	DLHC	0.10	mg/L	20-OCT-21	21-OCT-21	R5626450
Magnesium (Mg)-Dissolved	181	DLHC	0.50	mg/L	20-OCT-21	21-OCT-21	R5626450
Manganese (Mn)-Dissolved	0.130	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Molybdenum (Mo)-Dissolved	0.0580	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Nickel (Ni)-Dissolved	<0.050	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Phosphorus (P)-Dissolved	7.9	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Potassium (K)-Dissolved	1180	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Rubidium (Rb)-Dissolved	0.509	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Selenium (Se)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Silicon (Si)-Dissolved	24.7	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Silver (Ag)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2653496-1 DOVETAIL NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Dissolved Metals							
Sodium (Na)-Dissolved	560	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Strontium (Sr)-Dissolved	0.92	DLHC	0.10	mg/L	20-OCT-21	21-OCT-21	R5626450
Sulfur (S)-Dissolved	<50	DLHC	50	mg/L	20-OCT-21	21-OCT-21	R5626450
Tellurium (Te)-Dissolved	<0.020	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Thallium (Tl)-Dissolved	<0.0010	DLHC	0.0010	mg/L	20-OCT-21	21-OCT-21	R5626450
Thorium (Th)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Tin (Sn)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Titanium (Ti)-Dissolved	<0.030	DLHC	0.030	mg/L	20-OCT-21	21-OCT-21	R5626450
Tungsten (W)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Uranium (U)-Dissolved	0.0020	DLHC	0.0010	mg/L	20-OCT-21	21-OCT-21	R5626450
Vanadium (V)-Dissolved	<0.050	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Zinc (Zn)-Dissolved	0.12	DLHC	0.10	mg/L	20-OCT-21	21-OCT-21	R5626450
Zirconium (Zr)-Dissolved	<0.020	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Aggregate Organics							
BOD	1320	PEHT	2.0	mg/L		03-NOV-21	R5638429
BOD, Dissolved	934	PEHT	2.0	mg/L		03-NOV-21	R5638439
BOD Carbonaceous	1440	PEHT	2.0	mg/L		03-NOV-21	R5638434
BOD Carbonaceous, Dissolved	1060	PEHT	2.0	mg/L		03-NOV-21	R5638436
COD	6770	DLHC	100	mg/L		28-OCT-21	R5632227
COD, Soluble	2140	DLHC	100	mg/L		28-OCT-21	R5632228
Oil and Grease, Total	37.8		2.0	mg/L	25-OCT-21	25-OCT-21	R5628780
Fatty Acids							
Acetic Acid	1600	DLHC	1000	mg/L		27-OCT-21	R5631977
Butyric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Caproic (Hexanoic) Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Formic Acid	<300	DLM	300	mg/L		27-OCT-21	R5631977
Isobutyric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Isovaleric Acid	39	DLM	10	mg/L		27-OCT-21	R5631977
Propionic Acid	<50	DLM	50	mg/L		27-OCT-21	R5631977
Valeric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Report Remarks : SP Sample was Preserved at the laboratory., DLHC Detection Limit Raised: Dilution required due to high concentration of test analyte(s). Report Remarks : TP qualifier: DLM:Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity). SP:Sample was Preserved at the laboratory							
L2653496-2 EMERAID NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Physical Tests							
Conductivity	9650		1.0	umhos/cm		21-OCT-21	R5626636
pH	8.22		0.10	pH units		21-OCT-21	R5626636
Volatile Dissolved Solids	2390		800	mg/L		23-OCT-21	R5632464
Total Dissolved Solids	5510		400	mg/L		23-OCT-21	R5632464
Volatile Solids	3340	PEHT	100	mg/L	26-OCT-21	27-OCT-21	R5629847

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2653496-2 EMERAID NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Physical Tests							
Total Solids	8120	PEHT	100	mg/L	26-OCT-21	27-OCT-21	R5629847
Anions and Nutrients							
Alkalinity, Total (as CaCO3)	4940	DLM	25	mg/L		21-OCT-21	R5626636
Ammonia, Total (as N)	540	DLHC	100	mg/L		22-OCT-21	R5626853
Bromide (Br)	<10	DLM	10	mg/L		22-OCT-21	R5627857
Chloride (Cl)	927	DLM	50	mg/L		22-OCT-21	R5627857
Fluoride (F)	<2.0	DLM	2.0	mg/L		22-OCT-21	R5627857
Nitrate (as N)	<2.0	DLM	2.0	mg/L		22-OCT-21	R5627857
Nitrite (as N)	<1.0	DLM	1.0	mg/L		22-OCT-21	R5627857
Total Kjeldahl Nitrogen	660	RRR	50	mg/L	22-OCT-21	22-OCT-21	R5626798
Orthophosphate-Dissolved (as P)	68	DLHC	12	mg/L		25-OCT-21	R5628411
Phosphorus, Total	90.1	RRR	3.0	mg/L	22-OCT-21	25-OCT-21	R5627961
Sulfate (SO4)	<30	DLM	30	mg/L		22-OCT-21	R5627857
Organic / Inorganic Carbon							
Total Organic Carbon	1140	DLM	50	mg/L		23-OCT-21	R5627713
Total Metals							
Aluminum (Al)-Total	3.8		2.0	mg/L	27-OCT-21	27-OCT-21	R5631217
Antimony (Sb)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Arsenic (As)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Barium (Ba)-Total	0.450		0.040	mg/L	27-OCT-21	27-OCT-21	R5631217
Beryllium (Be)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Bismuth (Bi)-Total	<0.010		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Boron (B)-Total	<2.0		2.0	mg/L	27-OCT-21	27-OCT-21	R5631217
Cadmium (Cd)-Total	<0.0020		0.0020	mg/L	27-OCT-21	27-OCT-21	R5631217
Calcium (Ca)-Total	360		100	mg/L	27-OCT-21	27-OCT-21	R5631217
Chromium (Cr)-Total	<0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Cobalt (Co)-Total	<0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Copper (Cu)-Total	0.51		0.20	mg/L	27-OCT-21	27-OCT-21	R5631217
Iron (Fe)-Total	11		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Lead (Pb)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Lithium (Li)-Total	<0.20		0.20	mg/L	27-OCT-21	27-OCT-21	R5631217
Magnesium (Mg)-Total	276		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Manganese (Mn)-Total	2.47		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Molybdenum (Mo)-Total	0.057		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Nickel (Ni)-Total	<0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Phosphorus (P)-Total	102		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Potassium (K)-Total	1210		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Selenium (Se)-Total	0.014		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Silver (Ag)-Total	<0.010		0.010	mg/L	27-OCT-21	27-OCT-21	R5631217
Sodium (Na)-Total	757		10	mg/L	27-OCT-21	27-OCT-21	R5631217
Strontium (Sr)-Total	6.99		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Sulfur (S)-Total	<100		100	mg/L	27-OCT-21	27-OCT-21	R5631217

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2653496-2 EMERAID NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Total Metals							
Thallium (Tl)-Total	<0.0020		0.0020	mg/L	27-OCT-21	27-OCT-21	R5631217
Tin (Sn)-Total	<0.020		0.020	mg/L	27-OCT-21	27-OCT-21	R5631217
Titanium (Ti)-Total	0.091		0.060	mg/L	27-OCT-21	27-OCT-21	R5631217
Tungsten (W)-Total	<0.18		0.18	mg/L	27-OCT-21	27-OCT-21	R5631217
Uranium (U)-Total	0.0108		0.0020	mg/L	27-OCT-21	27-OCT-21	R5631217
Vanadium (V)-Total	<0.10		0.10	mg/L	27-OCT-21	27-OCT-21	R5631217
Zinc (Zn)-Total	1.82		0.60	mg/L	27-OCT-21	27-OCT-21	R5631217
Zirconium (Zr)-Total	<0.060		0.060	mg/L	27-OCT-21	27-OCT-21	R5631217
Dissolved Metals							
Dissolved Metals Filtration Location	LAB					20-OCT-21	R5625639
Aluminum (Al)-Dissolved	<0.50	DLHC	0.50	mg/L	20-OCT-21	21-OCT-21	R5626450
Antimony (Sb)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Arsenic (As)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Barium (Ba)-Dissolved	0.028	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Beryllium (Be)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Bismuth (Bi)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Boron (B)-Dissolved	<1.0	DLHC	1.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Cadmium (Cd)-Dissolved	<0.00050	DLHC	0.00050	mg/L	20-OCT-21	21-OCT-21	R5626450
Calcium (Ca)-Dissolved	191	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Cesium (Cs)-Dissolved	0.0014	DLHC	0.0010	mg/L	20-OCT-21	21-OCT-21	R5626450
Chromium (Cr)-Dissolved	<0.050	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Cobalt (Co)-Dissolved	0.023	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Copper (Cu)-Dissolved	0.033	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Iron (Fe)-Dissolved	2.0	DLHC	1.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Lead (Pb)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Lithium (Li)-Dissolved	<0.10	DLHC	0.10	mg/L	20-OCT-21	21-OCT-21	R5626450
Magnesium (Mg)-Dissolved	223	DLHC	0.50	mg/L	20-OCT-21	21-OCT-21	R5626450
Manganese (Mn)-Dissolved	0.176	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Molybdenum (Mo)-Dissolved	0.0219	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Nickel (Ni)-Dissolved	<0.050	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Phosphorus (P)-Dissolved	9.6	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Potassium (K)-Dissolved	1140	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Rubidium (Rb)-Dissolved	0.490	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Selenium (Se)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Silicon (Si)-Dissolved	55.2	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Silver (Ag)-Dissolved	<0.0050	DLHC	0.0050	mg/L	20-OCT-21	21-OCT-21	R5626450
Sodium (Na)-Dissolved	694	DLHC	5.0	mg/L	20-OCT-21	21-OCT-21	R5626450
Strontium (Sr)-Dissolved	3.08	DLHC	0.10	mg/L	20-OCT-21	21-OCT-21	R5626450
Sulfur (S)-Dissolved	<50	DLHC	50	mg/L	20-OCT-21	21-OCT-21	R5626450
Tellurium (Te)-Dissolved	<0.020	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Thallium (Tl)-Dissolved	<0.0010	DLHC	0.0010	mg/L	20-OCT-21	21-OCT-21	R5626450

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2653496-2 EMERAID NS Sampled By: MHENRARD on 18-OCT-21 @ 09:00 Matrix: WATER							
Dissolved Metals							
Thorium (Th)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Tin (Sn)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Titanium (Ti)-Dissolved	<0.030	DLHC	0.030	mg/L	20-OCT-21	21-OCT-21	R5626450
Tungsten (W)-Dissolved	<0.010	DLHC	0.010	mg/L	20-OCT-21	21-OCT-21	R5626450
Uranium (U)-Dissolved	0.0012	DLHC	0.0010	mg/L	20-OCT-21	21-OCT-21	R5626450
Vanadium (V)-Dissolved	<0.050	DLHC	0.050	mg/L	20-OCT-21	21-OCT-21	R5626450
Zinc (Zn)-Dissolved	<0.10	DLHC	0.10	mg/L	20-OCT-21	21-OCT-21	R5626450
Zirconium (Zr)-Dissolved	<0.020	DLHC	0.020	mg/L	20-OCT-21	21-OCT-21	R5626450
Aggregate Organics							
BOD	125	PEHT	2.0	mg/L		03-NOV-21	R5638429
BOD, Dissolved	55.4	PEHT	2.0	mg/L		03-NOV-21	R5638439
BOD Carbonaceous	110	PEHT	2.0	mg/L		03-NOV-21	R5638434
BOD Carbonaceous, Dissolved	52.0	PEHT	2.0	mg/L		03-NOV-21	R5638436
COD	4000	DLHC	100	mg/L		28-OCT-21	R5632227
COD, Soluble	1530	DLHC	100	mg/L		28-OCT-21	R5632228
Oil and Grease, Total	6.3		2.0	mg/L	25-OCT-21	25-OCT-21	R5628780
Fatty Acids							
Acetic Acid	<100	DLM	100	mg/L		27-OCT-21	R5631977
Butyric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Caproic (Hexanoic) Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Formic Acid	<300	DLM	300	mg/L		27-OCT-21	R5631977
Isobutyric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Isovaleric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977
Propionic Acid	<50	DLM	50	mg/L		27-OCT-21	R5631977
Valeric Acid	<10	DLM	10	mg/L		27-OCT-21	R5631977

Report Remarks : SP Sample was Preserved at the laboratory., DLHC Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
Report Remarks : TP qualifier: DLM:Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
SP:Sample was Preserved at the laboratory

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	COD, Soluble	MS-B	L2653496-1, -2
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Titanium (Ti)-Dissolved	MS-B	L2653496-1, -2
Matrix Spike	Acetic Acid	MS-B	L2653496-1, -2

Sample Parameter Qualifier key listed:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
PEHT	Parameter Exceeded Recommended Holding Time Prior to Analysis
RRR	Refer to Report Remarks for issues regarding this analysis

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-WT	Water	Alkalinity, Total (as CaCO3)	APHA 2320B

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint.

BOD-C-S-WT	Water	BOD Carbonaceous, Dissolved	APHA 5210 B

This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.

BOD-C-WT	Water	BOD Carbonaceous	APHA 5210 B (CBOD)

This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.

BOD-S-WT	Water	BOD, Dissolved	APHA 5210 B

This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.

BOD-WT	Water	BOD	APHA 5210 B

This analysis is carried out using procedures adapted from APHA Method 5210B - "Biochemical Oxygen Demand (BOD)". All forms of biochemical oxygen demand (BOD) are determined by diluting and incubating a sample for a specified time period, and measuring the oxygen depletion using a dissolved oxygen meter. Dissolved BOD (SOLUBLE) is determined by filtering the sample through a glass fibre filter prior to dilution. Carbonaceous BOD (CBOD) is determined by adding a nitrification inhibitor to the diluted sample prior to incubation.

BR-IC-N-WT	Water	Bromide in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CL-IC-N-WT	Water	Chloride by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

COD-S-WT	Water	COD, Soluble	APHA 5220 D

Sample is filtered through a 1um filter, sample is digested and then analyzed on a spectrophotometer.

COD-T-WT	Water	Chemical Oxygen Demand	APHA 5220 D

Reference Information

This analysis is carried out using procedures adapted from APHA Method 5220 "Chemical Oxygen Demand (COD)". Chemical oxygen demand is determined using the closed reflux colourimetric method.

EC-SCREEN-WT	Water	Conductivity Screen (Internal Use Only)	APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

EC-WT	Water	Conductivity	APHA 2510 B

Water samples can be measured directly by immersing the conductivity cell into the sample.

F-IC-N-WT	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

MET-D-CCMS-WT	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-T-SLUDGE-CCMS-WT	Water	Metals in Sludge by CRC ICPMS	EPA 200.2/6020A (mod)

Sludge samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

NH3-F-WT	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-IC-WT	Water	Nitrite in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-WT	Water	Nitrate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

OGG-TOT-WT	Water	Oil and Grease, Total	APHA 5520 B

The procedure involves an extraction of the entire water sample with hexane. This extract is then evaporated to dryness, and the residue weighed to determine Oil and Grease.

P-T-COL-WT	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is deteremined colourimetrically after persulphate digestion of the sample.

PH-WT	Water	pH	APHA 4500 H-Electrode

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days

PO4-DO-COL-WT	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.

SO4-IC-N-WT	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

SOLIDS-TDS-WT	Water	Total Dissolved Solids	APHA 2540C

Reference Information

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.

SOLIDS-TS-WT	Water	Total Solids on Liquid Matrix	APHA 2540B

Total solids in aqueous matrices is determined gravimetrically after evaporation of the sample at 104 – 1 C.

SOLIDS-VDS-WT	Water	Volatile Dissolved Solids	APHA 2540 D-Gravimetric

The residue from the TDS method is ignited at 550–25 C for a certain time period.

SOLIDS-VS-WT	Water	Volatile Solids on Liquid Matrix	APHA 2540E

A well-mixed sample is evaporated in a weighed dish and dried to constant weight in an oven at 103 to 105 C. The increase in weight over that of the empty dish represents the total solids.
This residue is ignited to constant weight at 550 C. The remaining solids represent the fixed total solids while the weight lost on ignition is the volatile solids.

TKN-F-WT	Water	TKN in Water by Fluorescence	J. ENVIRON. MONIT., 2005,7,37-42,RSC

Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection

TOC-WT	Water	Total Organic Carbon	APHA 5310B

Sample is injected into a heated reaction chamber which is packed with an oxidative catalyst. The water is vaporized and the organic cabon is oxidized to carbon dioxide. The carbon dioxide is transported in a carrier gas and is measured by a non-dispersive infrared detector.

VFA-WP	Water	Volatile fatty/carboxylic acids	ASTM D2908-91

Water samples are filtered through a 0.45 um PES filter at the laboratory to remove particulate matter. Dissolved phase Volatile Fatty Acids are analyzed by direct injection GC/MS in Selected Ion Monitoring (SIM) mode.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-WT	Water							
Batch R5626636								
WG3642790-4 DUP		**WG3642790-3**						
Alkalinity, Total (as CaCO3)		586	592		mg/L	1.0	20	21-OCT-21
WG3642790-2 LCS								
Alkalinity, Total (as CaCO3)			92.9		%		85-115	21-OCT-21
WG3642790-1 MB								
Alkalinity, Total (as CaCO3)			<2.0		mg/L		2	21-OCT-21
BOD-C-S-WT	Water							
Batch R5638436								
WG3651677-2 DUP		**L2653496-2**						
BOD Carbonaceous, Dissolved		52.0	50.2		mg/L	3.5	30	03-NOV-21
WG3651677-3 LCS								
BOD Carbonaceous, Dissolved			100.0		%		85-115	03-NOV-21
WG3651677-1 MB								
BOD Carbonaceous, Dissolved			<2.0		mg/L		2	03-NOV-21
BOD-C-WT	Water							
Batch R5638434								
WG3651675-2 DUP		**L2657875-1**						
BOD Carbonaceous		<2.0	2.5	RPD-NA	mg/L	N/A	30	03-NOV-21
WG3651675-3 LCS								
BOD Carbonaceous			100.0		%		85-115	03-NOV-21
WG3651675-1 MB								
BOD Carbonaceous			<2.0		mg/L		2	03-NOV-21
BOD-S-WT	Water							
Batch R5638439								
WG3651676-2 DUP		**L2653496-1**						
BOD, Dissolved		934	1020		mg/L	8.4	30	03-NOV-21
WG3651676-3 LCS								
BOD, Dissolved			100.5		%		85-115	03-NOV-21
WG3651676-1 MB								
BOD, Dissolved			<2.0		mg/L		2	03-NOV-21
BOD-WT	Water							
Batch R5638429								
WG3651674-2 DUP		**L2657852-1**						
BOD		6.6	7.1		mg/L	7.4	30	03-NOV-21
WG3651674-3 LCS								
BOD			100.5		%		85-115	03-NOV-21
WG3651674-1 MB								

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BOD-WT	Water							
Batch R5638429								
WG3651674-1 MB								
BOD			<2.0		mg/L		2	03-NOV-21
BR-IC-N-WT	Water							
Batch R5627857								
WG3643798-14 DUP		**WG3643798-13**						
Bromide (Br)		<0.10	<0.10	RPD-NA	mg/L	N/A	20	22-OCT-21
WG3643798-12 LCS								
Bromide (Br)			99.8		%		85-115	22-OCT-21
WG3643798-11 MB								
Bromide (Br)			<0.10		mg/L		0.1	22-OCT-21
WG3643798-15 MS		**WG3643798-13**						
Bromide (Br)			99.0		%		75-125	22-OCT-21
CL-IC-N-WT	Water							
Batch R5627857								
WG3643798-14 DUP		**WG3643798-13**						
Chloride (Cl)		20.7	20.7		mg/L	0.2	20	22-OCT-21
WG3643798-12 LCS								
Chloride (Cl)			100.2		%		90-110	22-OCT-21
WG3643798-11 MB								
Chloride (Cl)			<0.50		mg/L		0.5	22-OCT-21
WG3643798-15 MS		**WG3643798-13**						
Chloride (Cl)			101.9		%		75-125	22-OCT-21
COD-S-WT	Water							
Batch R5632228								
WG3647933-3 DUP		**L2653496-1**						
COD, Soluble		2140	2120		mg/L	0.6	20	28-OCT-21
WG3647933-2 LCS								
COD, Soluble			105.5		%		85-115	28-OCT-21
WG3647933-1 MB								
COD, Soluble			<10		mg/L		10	28-OCT-21
WG3647933-4 MS		**L2653496-1**						
COD, Soluble			N/A	MS-B	%		-	28-OCT-21
COD-T-WT	Water							

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
COD-T-WT	Water							
Batch R5632227								
WG3647935-19 DUP		**L2651543-20**						
COD		<10	<10	RPD-NA	mg/L	N/A	20	28-OCT-21
WG3647935-18 LCS								
COD			99.6		%		85-115	28-OCT-21
WG3647935-17 MB								
COD			<10		mg/L		10	28-OCT-21
WG3647935-20 MS		**L2651543-20**						
COD			108.0		%		75-125	28-OCT-21
EC-WT	Water							
Batch R5626636								
WG3642790-4 DUP		**WG3642790-3**						
Conductivity		2190	2180		umhos/cm	0.5	10	21-OCT-21
WG3642790-2 LCS								
Conductivity			97.5		%		90-110	21-OCT-21
WG3642790-1 MB								
Conductivity			<1.0		umhos/cm		1	21-OCT-21
F-IC-N-WT	Water							
Batch R5627857								
WG3643798-14 DUP		**WG3643798-13**						
Fluoride (F)		0.044	0.044		mg/L	0.1	20	22-OCT-21
WG3643798-12 LCS								
Fluoride (F)			103.2		%		90-110	22-OCT-21
WG3643798-11 MB								
Fluoride (F)			<0.020		mg/L		0.02	22-OCT-21
WG3643798-15 MS		**WG3643798-13**						
Fluoride (F)			102.6		%		75-125	22-OCT-21
MET-D-CCMS-WT	Water							
Batch R5626450								
WG3642152-4 DUP		**WG3642152-3**						
Aluminum (Al)-Dissolved		0.549	0.553		mg/L	0.7	20	21-OCT-21
Antimony (Sb)-Dissolved		0.00012	0.00012		mg/L	0.6	20	21-OCT-21
Arsenic (As)-Dissolved		0.00260	0.00256		mg/L	1.3	20	21-OCT-21
Barium (Ba)-Dissolved		0.0123	0.0125		mg/L	2.2	20	21-OCT-21
Beryllium (Be)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	21-OCT-21
Bismuth (Bi)-Dissolved		<0.000050	0.000052	RPD-NA	mg/L	N/A	20	21-OCT-21
Boron (B)-Dissolved		<0.010	<0.010	RPD-NA	mg/L	N/A	20	21-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water							
Batch R5626450								
WG3642152-4 DUP		**WG3642152-3**						
Cadmium (Cd)-Dissolved		0.000112	0.000104		mg/L	7.3	20	21-OCT-21
Calcium (Ca)-Dissolved		7.23	7.23		mg/L	0.0	20	21-OCT-21
Cesium (Cs)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	21-OCT-21
Chromium (Cr)-Dissolved		0.00193	0.00193		mg/L	0.0	20	21-OCT-21
Cobalt (Co)-Dissolved		0.00069	0.00071		mg/L	1.5	20	21-OCT-21
Copper (Cu)-Dissolved		0.0182	0.0179		mg/L	1.6	20	21-OCT-21
Iron (Fe)-Dissolved		1.00	1.05		mg/L	4.9	20	21-OCT-21
Lead (Pb)-Dissolved		0.00127	0.00132		mg/L	4.2	20	21-OCT-21
Lithium (Li)-Dissolved		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	21-OCT-21
Magnesium (Mg)-Dissolved		3.01	2.97		mg/L	1.5	20	21-OCT-21
Manganese (Mn)-Dissolved		0.0165	0.0167		mg/L	1.0	20	21-OCT-21
Molybdenum (Mo)-Dissolved		0.000102	0.000101		mg/L	1.0	20	21-OCT-21
Nickel (Ni)-Dissolved		0.0429	0.0426		mg/L	0.8	20	21-OCT-21
Phosphorus (P)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	21-OCT-21
Potassium (K)-Dissolved		0.735	0.726		mg/L	1.3	20	21-OCT-21
Rubidium (Rb)-Dissolved		0.00197	0.00192		mg/L	2.6	20	21-OCT-21
Selenium (Se)-Dissolved		0.000570	0.000606		mg/L	6.1	20	21-OCT-21
Silicon (Si)-Dissolved		6.05	6.18		mg/L	2.1	20	21-OCT-21
Silver (Ag)-Dissolved		0.000057	0.000059		mg/L	3.5	20	21-OCT-21
Sodium (Na)-Dissolved		2.28	2.24		mg/L	1.9	20	21-OCT-21
Strontium (Sr)-Dissolved		0.0325	0.0329		mg/L	1.1	20	21-OCT-21
Sulfur (S)-Dissolved		1.26	1.28		mg/L	1.6	20	21-OCT-21
Tellurium (Te)-Dissolved		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	21-OCT-21
Thallium (Tl)-Dissolved		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	21-OCT-21
Thorium (Th)-Dissolved		0.00018	0.00018		mg/L	1.0	20	21-OCT-21
Tin (Sn)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	21-OCT-21
Titanium (Ti)-Dissolved		0.00736	0.00765		mg/L	4.0	20	21-OCT-21
Tungsten (W)-Dissolved		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	21-OCT-21
Uranium (U)-Dissolved		0.000076	0.000077		mg/L	2.2	20	21-OCT-21
Vanadium (V)-Dissolved		0.00134	0.00131		mg/L	2.5	20	21-OCT-21
Zinc (Zn)-Dissolved		0.0143	0.0148		mg/L	3.3	20	21-OCT-21
Zirconium (Zr)-Dissolved		0.00075	0.00076		mg/L	2.1	20	21-OCT-21
WG3642152-2 LCS								

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water							
Batch R5626450								
WG3642152-2 LCS								
Aluminum (Al)-Dissolved			104.5		%		80-120	21-OCT-21
Antimony (Sb)-Dissolved			103.7		%		80-120	21-OCT-21
Arsenic (As)-Dissolved			106.9		%		80-120	21-OCT-21
Barium (Ba)-Dissolved			106.9		%		80-120	21-OCT-21
Beryllium (Be)-Dissolved			101.3		%		80-120	21-OCT-21
Bismuth (Bi)-Dissolved			102.4		%		80-120	21-OCT-21
Boron (B)-Dissolved			95.2		%		80-120	21-OCT-21
Cadmium (Cd)-Dissolved			101.5		%		80-120	21-OCT-21
Calcium (Ca)-Dissolved			102.4		%		80-120	21-OCT-21
Cesium (Cs)-Dissolved			107.2		%		80-120	21-OCT-21
Chromium (Cr)-Dissolved			102.5		%		80-120	21-OCT-21
Cobalt (Co)-Dissolved			102.7		%		80-120	21-OCT-21
Copper (Cu)-Dissolved			101.2		%		80-120	21-OCT-21
Iron (Fe)-Dissolved			102.8		%		80-120	21-OCT-21
Lead (Pb)-Dissolved			103.3		%		80-120	21-OCT-21
Lithium (Li)-Dissolved			96.2		%		80-120	21-OCT-21
Magnesium (Mg)-Dissolved			104.3		%		80-120	21-OCT-21
Manganese (Mn)-Dissolved			103.3		%		80-120	21-OCT-21
Molybdenum (Mo)-Dissolved			106.5		%		80-120	21-OCT-21
Nickel (Ni)-Dissolved			101.4		%		80-120	21-OCT-21
Phosphorus (P)-Dissolved			109.6		%		80-120	21-OCT-21
Potassium (K)-Dissolved			107.3		%		80-120	21-OCT-21
Rubidium (Rb)-Dissolved			110.5		%		80-120	21-OCT-21
Selenium (Se)-Dissolved			102.4		%		80-120	21-OCT-21
Silicon (Si)-Dissolved			101.7		%		60-140	21-OCT-21
Silver (Ag)-Dissolved			109.5		%		80-120	21-OCT-21
Sodium (Na)-Dissolved			103.9		%		80-120	21-OCT-21
Strontium (Sr)-Dissolved			108.9		%		80-120	21-OCT-21
Sulfur (S)-Dissolved			96.2		%		80-120	21-OCT-21
Tellurium (Te)-Dissolved			99.3		%		80-120	21-OCT-21
Thallium (Tl)-Dissolved			103.6		%		80-120	21-OCT-21
Thorium (Th)-Dissolved			100.4		%		80-120	21-OCT-21
Tin (Sn)-Dissolved			102.6		%		80-120	21-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water							
Batch R5626450								
WG3642152-2 LCS								
Titanium (Ti)-Dissolved			101.0		%		80-120	21-OCT-21
Tungsten (W)-Dissolved			101.8		%		80-120	21-OCT-21
Uranium (U)-Dissolved			102.7		%		80-120	21-OCT-21
Vanadium (V)-Dissolved			103.8		%		80-120	21-OCT-21
Zinc (Zn)-Dissolved			99.2		%		80-120	21-OCT-21
Zirconium (Zr)-Dissolved			107.1		%		80-120	21-OCT-21
WG3642152-1 MB								
Aluminum (Al)-Dissolved			<0.0050		mg/L		0.005	21-OCT-21
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Barium (Ba)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Bismuth (Bi)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-21
Boron (B)-Dissolved			<0.010		mg/L		0.01	21-OCT-21
Cadmium (Cd)-Dissolved			<0.000005(		mg/L		0.000005	21-OCT-21
Calcium (Ca)-Dissolved			<0.050		mg/L		0.05	21-OCT-21
Cesium (Cs)-Dissolved			<0.000010		mg/L		0.00001	21-OCT-21
Chromium (Cr)-Dissolved			<0.00050		mg/L		0.0005	21-OCT-21
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Copper (Cu)-Dissolved			<0.00020		mg/L		0.0002	21-OCT-21
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	21-OCT-21
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-21
Lithium (Li)-Dissolved			<0.0010		mg/L		0.001	21-OCT-21
Magnesium (Mg)-Dissolved			<0.0050		mg/L		0.005	21-OCT-21
Manganese (Mn)-Dissolved			<0.00050		mg/L		0.0005	21-OCT-21
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-21
Nickel (Ni)-Dissolved			<0.00050		mg/L		0.0005	21-OCT-21
Phosphorus (P)-Dissolved			<0.050		mg/L		0.05	21-OCT-21
Potassium (K)-Dissolved			<0.050		mg/L		0.05	21-OCT-21
Rubidium (Rb)-Dissolved			<0.00020		mg/L		0.0002	21-OCT-21
Selenium (Se)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-21
Silicon (Si)-Dissolved			<0.050		mg/L		0.05	21-OCT-21
Silver (Ag)-Dissolved			<0.000050		mg/L		0.00005	21-OCT-21
Sodium (Na)-Dissolved			<0.050		mg/L		0.05	21-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water							
Batch R5626450								
WG3642152-1 MB								
Strontium (Sr)-Dissolved			<0.0010		mg/L		0.001	21-OCT-21
Sulfur (S)-Dissolved			<0.50		mg/L		0.5	21-OCT-21
Tellurium (Te)-Dissolved			<0.00020		mg/L		0.0002	21-OCT-21
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	21-OCT-21
Thorium (Th)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Titanium (Ti)-Dissolved			<0.00030		mg/L		0.0003	21-OCT-21
Tungsten (W)-Dissolved			<0.00010		mg/L		0.0001	21-OCT-21
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	21-OCT-21
Vanadium (V)-Dissolved			<0.00050		mg/L		0.0005	21-OCT-21
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	21-OCT-21
Zirconium (Zr)-Dissolved			<0.00020		mg/L		0.0002	21-OCT-21
WG3642152-5 MS		**WG3642152-6**						
Aluminum (Al)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Antimony (Sb)-Dissolved			100.3		%		70-130	21-OCT-21
Arsenic (As)-Dissolved			109.5		%		70-130	21-OCT-21
Barium (Ba)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Beryllium (Be)-Dissolved			98.5		%		70-130	21-OCT-21
Bismuth (Bi)-Dissolved			91.7		%		70-130	21-OCT-21
Boron (B)-Dissolved			91.9		%		70-130	21-OCT-21
Cadmium (Cd)-Dissolved			102.4		%		70-130	21-OCT-21
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Cesium (Cs)-Dissolved			104.5		%		70-130	21-OCT-21
Chromium (Cr)-Dissolved			94.1		%		70-130	21-OCT-21
Cobalt (Co)-Dissolved			99.9		%		70-130	21-OCT-21
Copper (Cu)-Dissolved			95.4		%		70-130	21-OCT-21
Iron (Fe)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Lead (Pb)-Dissolved			99.9		%		70-130	21-OCT-21
Lithium (Li)-Dissolved			94.3		%		70-130	21-OCT-21
Magnesium (Mg)-Dissolved			94.9		%		70-130	21-OCT-21
Manganese (Mn)-Dissolved			93.8		%		70-130	21-OCT-21
Molybdenum (Mo)-Dissolved			100.6		%		70-130	21-OCT-21
Nickel (Ni)-Dissolved			96.0		%		70-130	21-OCT-21
Phosphorus (P)-Dissolved			105.4		%		70-130	21-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water							
Batch	**R5626450**							
WG3642152-5	**MS**	**WG3642152-6**						
Potassium (K)-Dissolved			101.5		%		70-130	21-OCT-21
Rubidium (Rb)-Dissolved			99.8		%		70-130	21-OCT-21
Selenium (Se)-Dissolved			113.1		%		70-130	21-OCT-21
Silicon (Si)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Silver (Ag)-Dissolved			93.4		%		70-130	21-OCT-21
Sodium (Na)-Dissolved			96.5		%		70-130	21-OCT-21
Strontium (Sr)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Sulfur (S)-Dissolved			98.3		%		70-130	21-OCT-21
Tellurium (Te)-Dissolved			105.7		%		70-130	21-OCT-21
Thallium (Tl)-Dissolved			101.1		%		70-130	21-OCT-21
Thorium (Th)-Dissolved			74.4		%		70-130	21-OCT-21
Tin (Sn)-Dissolved			83.7		%		70-130	21-OCT-21
Titanium (Ti)-Dissolved			N/A	MS-B	%		-	21-OCT-21
Tungsten (W)-Dissolved			96.6		%		70-130	21-OCT-21
Uranium (U)-Dissolved			92.1		%		70-130	21-OCT-21
Vanadium (V)-Dissolved			100.0		%		70-130	21-OCT-21
Zinc (Zn)-Dissolved			99.6		%		70-130	21-OCT-21
Zirconium (Zr)-Dissolved			78.2		%		70-130	21-OCT-21
MET-T-SLUDGE-CCMS-WT	Water							
Batch	**R5631217**							
WG3646689-2	**CRM**	**WT-SS-2-SLUDGE**						
Aluminum (Al)-Total			99.0		%		70-130	27-OCT-21
Antimony (Sb)-Total			92.6		%		70-130	27-OCT-21
Arsenic (As)-Total			108.1		%		70-130	27-OCT-21
Barium (Ba)-Total			106.9		%		70-130	27-OCT-21
Beryllium (Be)-Total			94.8		%		70-130	27-OCT-21
Bismuth (Bi)-Total			0.126		mg/L		0-0.343	27-OCT-21
Boron (B)-Total			8.2		mg/L		3.5-13.5	27-OCT-21
Cadmium (Cd)-Total			97.7		%		70-130	27-OCT-21
Calcium (Ca)-Total			102.7		%		70-130	27-OCT-21
Chromium (Cr)-Total			99.1		%		70-130	27-OCT-21
Cobalt (Co)-Total			101.9		%		70-130	27-OCT-21
Copper (Cu)-Total			107.4		%		70-130	27-OCT-21
Iron (Fe)-Total			102.1		%		70-130	

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-SLUDGE-CCMS-WT	Water							
Batch	**R5631217**							
WG3646689-2	**CRM**	**WT-SS-2-SLUDGE**						
Iron (Fe)-Total			102.1		%		70-130	27-OCT-21
Lead (Pb)-Total			98.6		%		70-130	27-OCT-21
Lithium (Li)-Total			88.4		%		70-130	27-OCT-21
Magnesium (Mg)-Total			106.8		%		70-130	27-OCT-21
Manganese (Mn)-Total			101.7		%		70-130	27-OCT-21
Molybdenum (Mo)-Total			104.6		%		70-130	27-OCT-21
Nickel (Ni)-Total			107.0		%		70-130	27-OCT-21
Phosphorus (P)-Total			96.6		%		70-130	27-OCT-21
Potassium (K)-Total			103.7		%		70-130	27-OCT-21
Selenium (Se)-Total			0.112		mg/L		0-0.337	27-OCT-21
Silver (Ag)-Total			88.0		%		70-130	27-OCT-21
Sodium (Na)-Total			103.1		%		70-130	27-OCT-21
Strontium (Sr)-Total			102.9		%		70-130	27-OCT-21
Thallium (Tl)-Total			0.0733		mg/L		0.029-0.129	27-OCT-21
Tin (Sn)-Total			98.5		%		70-130	27-OCT-21
Titanium (Ti)-Total			96.4		%		70-130	27-OCT-21
Uranium (U)-Total			112.0		%		70-130	27-OCT-21
Vanadium (V)-Total			101.7		%		70-130	27-OCT-21
Zinc (Zn)-Total			98.9		%		70-130	27-OCT-21
Zirconium (Zr)-Total			101.5		%		70-130	27-OCT-21
WG3646689-6	**DUP**	**WG3646689-5**						
Aluminum (Al)-Total		<2.0	<2.0	RPD-NA	mg/L	N/A	40	27-OCT-21
Antimony (Sb)-Total		<0.020	<0.020	RPD-NA	mg/L	N/A	40	27-OCT-21
Arsenic (As)-Total		<0.020	<0.020	RPD-NA	mg/L	N/A	40	27-OCT-21
Barium (Ba)-Total		0.281	0.302		mg/L	7.3	40	27-OCT-21
Beryllium (Be)-Total		<0.020	<0.020	RPD-NA	mg/L	N/A	40	27-OCT-21
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	40	27-OCT-21
Boron (B)-Total		<2.0	<2.0	RPD-NA	mg/L	N/A	40	27-OCT-21
Cadmium (Cd)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	40	27-OCT-21
Calcium (Ca)-Total		<100	<100	RPD-NA	mg/L	N/A	40	27-OCT-21
Chromium (Cr)-Total		<0.10	<0.10	RPD-NA	mg/L	N/A	40	27-OCT-21
Cobalt (Co)-Total		<0.10	<0.10	RPD-NA	mg/L	N/A	40	27-OCT-21
Copper (Cu)-Total		0.58	0.58		mg/L	0.1	40	27-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-SLUDGE-CCMS-WT	Water							
Batch	**R5631217**							
WG3646689-6	**DUP**	**WG3646689-5**						
Iron (Fe)-Total		<10	<10	RPD-NA	mg/L	N/A	40	27-OCT-21
Lead (Pb)-Total		<0.020	<0.020	RPD-NA	mg/L	N/A	40	27-OCT-21
Lithium (Li)-Total		<0.20	<0.20	RPD-NA	mg/L	N/A	40	27-OCT-21
Magnesium (Mg)-Total		33	32		mg/L	2.4	40	27-OCT-21
Manganese (Mn)-Total		0.24	0.28		mg/L	14	40	27-OCT-21
Molybdenum (Mo)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	40	27-OCT-21
Nickel (Ni)-Total		<0.10	<0.10	RPD-NA	mg/L	N/A	40	27-OCT-21
Phosphorus (P)-Total		45	41		mg/L	10	40	27-OCT-21
Potassium (K)-Total		118	114		mg/L	3.4	40	27-OCT-21
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	40	27-OCT-21
Silver (Ag)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	40	27-OCT-21
Sodium (Na)-Total		186	179		mg/L	3.4	40	27-OCT-21
Strontium (Sr)-Total		22.8	21.9		mg/L	4.0	40	27-OCT-21
Sulfur (S)-Total		<100	<100	RPD-NA	mg/L	N/A	40	27-OCT-21
Thallium (Tl)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	40	27-OCT-21
Tin (Sn)-Total		<0.020	<0.020	RPD-NA	mg/L	N/A	40	27-OCT-21
Titanium (Ti)-Total		<0.060	<0.060	RPD-NA	mg/L	N/A	40	27-OCT-21
Tungsten (W)-Total		<0.18	<0.18	RPD-NA	mg/L	N/A	40	27-OCT-21
Uranium (U)-Total		<0.0020	<0.0020	RPD-NA	mg/L	N/A	40	27-OCT-21
Vanadium (V)-Total		<0.10	<0.10	RPD-NA	mg/L	N/A	40	27-OCT-21
Zinc (Zn)-Total		<0.60	0.60	RPD-NA	mg/L	N/A	40	27-OCT-21
Zirconium (Zr)-Total		<0.060	<0.060	RPD-NA	mg/L	N/A	40	27-OCT-21
WG3646689-1	**MB**							
Aluminum (Al)-Total			<2.0		mg/L		2	27-OCT-21
Antimony (Sb)-Total			<0.020		mg/L		0.02	27-OCT-21
Arsenic (As)-Total			<0.020		mg/L		0.02	27-OCT-21
Barium (Ba)-Total			<0.040		mg/L		0.04	27-OCT-21
Beryllium (Be)-Total			<0.020		mg/L		0.02	27-OCT-21
Bismuth (Bi)-Total			<0.010		mg/L		0.01	27-OCT-21
Boron (B)-Total			<2.0		mg/L		2	27-OCT-21
Cadmium (Cd)-Total			<0.0020		mg/L		0.002	27-OCT-21
Calcium (Ca)-Total			<100		mg/L		100	27-OCT-21
Chromium (Cr)-Total			<0.10		mg/L		0.1	27-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-SLUDGE-CCMS-WT	Water							
Batch R5631217								
WG3646689-1 MB								
Cobalt (Co)-Total			<0.10		mg/L		0.1	27-OCT-21
Copper (Cu)-Total			<0.20		mg/L		0.2	27-OCT-21
Iron (Fe)-Total			<10		mg/L		10	27-OCT-21
Lead (Pb)-Total			<0.020		mg/L		0.02	27-OCT-21
Lithium (Li)-Total			<0.20		mg/L		0.2	27-OCT-21
Magnesium (Mg)-Total			<10		mg/L		10	27-OCT-21
Manganese (Mn)-Total			<0.10		mg/L		0.1	27-OCT-21
Molybdenum (Mo)-Total			<0.010		mg/L		0.01	27-OCT-21
Nickel (Ni)-Total			<0.10		mg/L		0.1	27-OCT-21
Phosphorus (P)-Total			<10		mg/L		10	27-OCT-21
Potassium (K)-Total			<10		mg/L		10	27-OCT-21
Selenium (Se)-Total			<0.010		mg/L		0.01	27-OCT-21
Silver (Ag)-Total			<0.010		mg/L		0.01	27-OCT-21
Sodium (Na)-Total			<10		mg/L		10	27-OCT-21
Strontium (Sr)-Total			<0.020		mg/L		0.02	27-OCT-21
Sulfur (S)-Total			<100		mg/L		100	27-OCT-21
Thallium (Tl)-Total			<0.0020		mg/L		0.002	27-OCT-21
Tin (Sn)-Total			<0.020		mg/L		0.02	27-OCT-21
Titanium (Ti)-Total			<0.060		mg/L		0.06	27-OCT-21
Tungsten (W)-Total			<0.18		mg/L		0.18	27-OCT-21
Uranium (U)-Total			<0.0020		mg/L		0.002	27-OCT-21
Vanadium (V)-Total			<0.10		mg/L		0.1	27-OCT-21
Zinc (Zn)-Total			<0.60		mg/L		0.6	27-OCT-21
Zirconium (Zr)-Total			<0.060		mg/L		0.06	27-OCT-21
NH3-F-WT	Water							
Batch R5626853								
WG3642977-3 DUP		**WG3642977-5**						
Ammonia, Total (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	22-OCT-21
WG3642977-2 LCS								
Ammonia, Total (as N)			98.1		%		85-115	22-OCT-21
WG3642977-1 MB								
Ammonia, Total (as N)			<0.010		mg/L		0.01	22-OCT-21
WG3642977-4 MS		**WG3642977-5**						
Ammonia, Total (as N)			96.3		%		75-125	22-OCT-21

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-WT	Water							
Batch R5627857								
WG3643798-14 DUP		**WG3643798-13**						
Nitrite (as N)		0.106	0.107		mg/L	0.2	20	22-OCT-21
WG3643798-12 LCS								
Nitrite (as N)			100.2		%		90-110	22-OCT-21
WG3643798-11 MB								
Nitrite (as N)			<0.010		mg/L		0.01	22-OCT-21
WG3643798-15 MS		**WG3643798-13**						
Nitrite (as N)			104.5		%		75-125	22-OCT-21
NO3-IC-WT	Water							
Batch R5627857								
WG3643798-14 DUP		**WG3643798-13**						
Nitrate (as N)		1.15	1.15		mg/L	0.0	20	22-OCT-21
WG3643798-12 LCS								
Nitrate (as N)			99.8		%		90-110	22-OCT-21
WG3643798-11 MB								
Nitrate (as N)			<0.020		mg/L		0.02	22-OCT-21
WG3643798-15 MS		**WG3643798-13**						
Nitrate (as N)			102.2		%		75-125	22-OCT-21
OGG-TOT-WT	Water							
Batch R5628780								
WG3644530-2 LCS								
Oil and Grease, Total			88.4		%		70-130	25-OCT-21
WG3644530-1 MB								
Oil and Grease, Total			<2.0		mg/L		2	25-OCT-21
P-T-COL-WT	Water							
Batch R5627961								
WG3643045-3 DUP		**L2653604-1**						
Phosphorus, Total		0.0443	0.0412		mg/L	7.3	20	25-OCT-21
WG3643045-2 LCS								
Phosphorus, Total			93.8		%		80-120	25-OCT-21
WG3643045-1 MB								
Phosphorus, Total			<0.0030		mg/L		0.003	25-OCT-21
WG3643045-4 MS		**L2653604-1**						
Phosphorus, Total			82.8		%		70-130	25-OCT-21
PH-WT	Water							

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-WT	Water							
Batch R5626636								
WG3642790-4 DUP		**WG3642790-3**						
pH		7.70	7.71	J	pH units	0.01	0.2	21-OCT-21
WG3642790-2 LCS								
pH			7.01		pH units		6.9-7.1	21-OCT-21
PO4-DO-COL-WT	Water							
Batch R5628411								
WG3644728-3 DUP		**L2654740-2**						
Orthophosphate-Dissolved (as P)		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	25-OCT-21
WG3644728-2 LCS								
Orthophosphate-Dissolved (as P)			99.95		%		80-120	25-OCT-21
WG3644728-1 MB								
Orthophosphate-Dissolved (as P)			<0.0030		mg/L		0.003	25-OCT-21
WG3644728-4 MS		**L2654740-2**						
Orthophosphate-Dissolved (as P)			107.0		%		70-130	25-OCT-21
SO4-IC-N-WT	Water							
Batch R5627857								
WG3643798-14 DUP		**WG3643798-13**						
Sulfate (SO4)		44.1	44.1		mg/L	0.1	20	22-OCT-21
WG3643798-12 LCS								
Sulfate (SO4)			101.4		%		90-110	22-OCT-21
WG3643798-11 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	22-OCT-21
WG3643798-15 MS		**WG3643798-13**						
Sulfate (SO4)			102.8		%		75-125	22-OCT-21
SOLIDS-TDS-WT	Water							
Batch R5632464								
WG3644281-3 DUP		**L2653496-1**						
Total Dissolved Solids		3870	4000		mg/L	3.3	20	23-OCT-21
WG3644281-2 LCS								
Total Dissolved Solids			98.8		%		85-115	23-OCT-21
WG3644281-1 MB								
Total Dissolved Solids			<10		mg/L		10	23-OCT-21
SOLIDS-TS-WT	Water							
Batch R5629847								
WG3643682-3 DUP		**L2653496-2**						
Total Solids		8120	8130		mg/L	0.1	20	27-OCT-21
WG3643682-2 LCS								

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SOLIDS-TS-WT	Water							
Batch R5629847								
WG3643682-2 LCS								
Total Solids			99.4		%		85-115	27-OCT-21
WG3643682-1 MB								
Total Solids			<100		mg/L		100	27-OCT-21
SOLIDS-VDS-WT	Water							
Batch R5632464								
WG3644281-3 DUP		**L2653496-1**						
Volatile Dissolved Solids		2340	2440		mg/L	4.2	25	23-OCT-21
WG3644281-1 MB								
Volatile Dissolved Solids			<20		mg/L		20	23-OCT-21
SOLIDS-VS-WT	Water							
Batch R5629847								
WG3643682-3 DUP		**L2653496-2**						
Volatile Solids		3340	3300		mg/L	1.2	20	27-OCT-21
WG3643682-1 MB								
Volatile Solids			<100		mg/L		100	27-OCT-21
TKN-F-WT	Water							
Batch R5626798								
WG3643052-3 DUP		**L2653242-2**						
Total Kjeldahl Nitrogen		1.02	1.10		mg/L	7.5	20	22-OCT-21
WG3643052-2 LCS								
Total Kjeldahl Nitrogen			101.3		%		75-125	22-OCT-21
WG3643052-1 MB								
Total Kjeldahl Nitrogen			<0.050		mg/L		0.05	22-OCT-21
WG3643052-4 MS		**L2653242-2**						
Total Kjeldahl Nitrogen			104.0		%		70-130	22-OCT-21
TOC-WT	Water							
Batch R5627713								
WG3642990-3 DUP		**L2652682-5**						
Total Organic Carbon		9.17	9.08		mg/L	1.0	20	23-OCT-21
WG3642990-2 LCS								
Total Organic Carbon			98.1		%		80-120	23-OCT-21
WG3642990-1 MB								
Total Organic Carbon			<0.50		mg/L		0.5	23-OCT-21
WG3642990-4 MS		**L2652682-5**						
Total Organic Carbon			94.6		%		70-130	23-OCT-21
VFA-WP	Water							

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VFA-WP	Water							
Batch R5631977								
WG3646880-7 DUP		**L2653809-1**						
Formic Acid		<30	<30	RPD-NA	mg/L	N/A	30	27-OCT-21
Acetic Acid		370	350		mg/L	6.2	30	27-OCT-21
Propionic Acid		99.0	91.0		mg/L	8.5	30	27-OCT-21
Butyric Acid		7.6	8.1		mg/L	6.4	30	27-OCT-21
Isobutyric Acid		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-OCT-21
Valeric Acid		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-OCT-21
Isovaleric Acid		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-OCT-21
Caproic (Hexanoic) Acid		<1.0	<1.0	RPD-NA	mg/L	N/A	30	27-OCT-21
WG3646880-6 LCS								
Formic Acid			101.6		%		70-130	27-OCT-21
Acetic Acid			105.8		%		70-130	27-OCT-21
Propionic Acid			96.2		%		70-130	27-OCT-21
Butyric Acid			104.6		%		70-130	27-OCT-21
Isobutyric Acid			108.8		%		70-130	27-OCT-21
Valeric Acid			100.2		%		70-130	27-OCT-21
Isovaleric Acid			96.6		%		70-130	27-OCT-21
Caproic (Hexanoic) Acid			111.7		%		70-130	27-OCT-21
WG3646880-5 MB								
Formic Acid			<30		mg/L		30	27-OCT-21
Acetic Acid			<10		mg/L		10	27-OCT-21
Propionic Acid			<5.0		mg/L		5	27-OCT-21
Butyric Acid			<1.0		mg/L		1	27-OCT-21
Isobutyric Acid			<1.0		mg/L		1	27-OCT-21
Valeric Acid			<1.0		mg/L		1	27-OCT-21
Isovaleric Acid			<1.0		mg/L		1	27-OCT-21
Caproic (Hexanoic) Acid			<1.0		mg/L		1	27-OCT-21
WG3646880-8 MS		**L2653807-1**						
Formic Acid			95.9		%		70-130	27-OCT-21
Acetic Acid			N/A	MS-B	%		-	27-OCT-21
Propionic Acid			95.1		%		70-130	27-OCT-21
Butyric Acid			102.7		%		70-130	27-OCT-21
Isobutyric Acid			109.6		%		70-130	27-OCT-21
Valeric Acid			109.8		%		70-130	27-OCT-21
Isovaleric Acid			108.5		%		70-130	27-OCT-21

Quality Control Report

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8

Contact: Dave Ellis

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VFA-WP	Water							
Batch R5631977								
WG3646880-8 MS		**L2653807-1**						
Caproic (Hexanoic) Acid			99.98		%		70-130	27-OCT-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8
Contact: Dave Ellis

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2653496 Report Date: 09-NOV-21

Client: AZURA ASSOCIATES (Waterloo)
22 King Street South Suite 300
Waterloo ON N2J 1N8
Contact: Dave Ellis

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Total Solids on Liquid Matrix							
	1	18-OCT-21 09:00	27-OCT-21 16:48	7	9	days	EHT
	2	18-OCT-21 09:00	27-OCT-21 16:48	7	9	days	EHT
Volatile Solids on Liquid Matrix							
	1	18-OCT-21 09:00	27-OCT-21 16:48	7	9	days	EHT
	2	18-OCT-21 09:00	27-OCT-21 16:48	7	9	days	EHT
Aggregate Organics							
BOD							
	1	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
	2	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
BOD Carbonaceous							
	1	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
	2	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
BOD Carbonaceous, Dissolved							
	1	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
	2	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
BOD, Dissolved							
	1	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT
	2	18-OCT-21 09:00	03-NOV-21 00:00	4	16	days	EHT

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2653496 were received on 20-OCT-21 13:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes 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 pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2653496-COFC

COC Number: 17 -

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Report To	Contact and company name below will appear on the final report
Company:	AZURA ASSOCIATES
Contact:	DAVE ELLIS
Phone:	519 729 0681
	Company address below will appear on the final report
Street:	22 KING STREET, Ste 300
City/Province:	WATERLOO, ON
Postal Code:	N2J 1N8
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Report Form

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Quality Control (QC) Report with Report ☐ YES ☐ NO

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax dave.ellis@azuraassociates.com

Email 2 michael.nelson@azuraassociates.com

Email 3

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax same

Email 2

Project Information

ALS Account # / Quote #:	24856
Job #:	Renergy
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): L2653496 ALS Contact: Rick Sampler: Mhenrard

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐; 3 day [P3-25%] ☐; 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐; Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	VFA (Rush to Winnepegby Friday)	TS/VS	TDS/VDS	TOC, BOD5, sBOD5, CBOD5, sCBOD5	alkalinity	elec.conductivity	COD (total & soluble)	TKN/NH3-N	TP/ortho-P	FOG	total & dissolved metals (Azura's suite of met	pH	Anions (Br, Cl, F, SO4, SO3, NO2, NO3)		SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	Dovetail NS	18-Oct-21	9:00	WW		P4	R	R	R	R	R	R	R	R	R	R	R	R			
	Emerald NS	18-Oct-21	9:00	WW		P4	R	R	R	R	R	R	R	R	R	R	R	R			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO

Are samples for human consumption/ use? ☐ YES ☑ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☑ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			6.8		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
		Time:	Received by:	Date:	Time:	Received by:	Date: 200721	Time: 1300

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

NOV 2016 FRONT

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 specified on the back page of the white - report copy.