May 28, 2024

Aypa Power 8 King Street East, Suite 1000 Toronto, ON M5C 1B5

Re: Preliminary On-Site Groundwater Assessment, 6235 Guelph Road, Centre Wellington ON Project #: CCO-24-2294

Egis has been retained to conduct a Preliminary on-Site Groundwater Assessment in connection with the proposed location of the Battery Energy Storage System (BESS) at 6235 Guelph Road, Centre Wellington ON (the Site).

1.1 Monitoring Well Installation

One (1) borehole with a monitoring well identified as BH1-MW was advanced at the Site on April 11, 2024. The borehole/monitoring well was advanced by Aardvark Drilling (Aardvark) a licensed drilling contractor, under the direct supervision of Egis staff. Aardvark used a track mounted CME 850. The boreholes were advanced using split spoons, to a depth of approximately 8.5 m below ground surface (m bgs). The stratigraphy/soil was obtained at 0.61 m intervals in the borehole/monitoring well.

The monitoring wells were constructed using 2" (50 mm) diameter, Schedule 40 PVC well screens (10 slot), flushthreaded to Schedule 40 PVC riser pipe. A silica sand 'filter pack' was installed in the annular space around the well screens to a depth of approximately 0.5 m above the top of the screen. A bentonite clay seal was installed above the screened interval of each well to prevent infiltration of surface water. Flush-mount protective steel casings were concreted in place to cover the top of the PVC pipes.

Borehole and Monitoring Well ID	Borehole diameter (mm)	Standpipe (mm)	Borehole Depth (mbgs)	Well Screen Interval (mbgs)
BH1-MW	152	50	8.5	3.93– 8.5

Table 1 – Borehole and Monitoring Well Details

1.2 Single Well Response Testing

Egis conducted a Site visit on April 18th, 2024, to complete single well response testing (SWRT) at the monitoring well installed as per above.



Prior to the test, the pipe was examined to ensure that no sediment remained at the bottom of the pipe. The slug test was performed by adding water to rapidly increase the water level in the monitoring wells and recording the recovery back to equilibrium. The rate of recovery measurement allows for the calculation of the hydraulic conductivity of the screened formation. The static water level and dynamic water level during the test was recorded using a Levellogger®3001 data logger at 10 second intervals.

The slug test results were analysed using the Hvorslev Method and Bouwer-Rice Method to estimate the hydraulic conductivity of the screened overburden. The results of hydraulic conductivity and aquifer parameters are described in Table 2 below. The calculations of the hydraulic conductivity are appended to this report memo.

A summary of the estimated hydraulic conductivity values from the in-situ slug testing is provided in Table 2 below.

Table 2 – Summary of Hydraulic Conductivity	values (m/s) – Single Well Response Testing
---	---

Monitoring Well ID	Hydraulic Conductivity (m/s) (Bouwer-Rice/Hvorslev)	Screened Elevation (mbgs)	Screened Formation	Static Water Level (mbgs)
BH1-MW	3.03 x 10 ⁻⁸ /3.49 x 10 ⁻⁸	3.93-8.5	Clayey Silt	3.26

The result of the SWRT is appended to this report.



1.3 Groundwater Quality

One (1) groundwater sample was collected on April 18th, 2024, at BH1-MW to assess the general water quality. Prior to the collection of the groundwater sample the well was developed and purged, a minimum of three (3) well volumes, to ensure the well screen is free of sediment and particles and to allow for the influx of fresh formation water.

Groundwater samples were collected from the above noted monitoring wells in laboratory prepared sample bottles and kept in an ice-packed cooler prior to submission to ALS Environmental (ALS), a CALA-accredited laboratory.

The groundwater samples were compared to the Township of Centre Wellington Sewer Use By-Law (#2022-66). It is assumed that the area of the Site does not rely on sanitary/storm sewers, therefore, the analytical results were also compared to the Provincial Water Quality Objectives (PWQO) for groundwater discharge to the natural environment.

The groundwater quality exceedances are outlined in Table 3 below:

Parameter	PWQO	Sanitary Sewer Use Criteria	Storm Sewer Use Criteria	Units	BH1-MW April 18, 2024
Copper	0.005	2	0.005	mg/L	0.0346
Nickel	-	2	0.03	mg/L	0.0322
Zinc	-	2	0.03	mg/L	0.117

Table 3 –Summary of Groundwater Quality Exceedances

The analytical results indicate that the groundwater quality does not meet the Centre Wellington storm sewer use criteria for copper, nickel and zinc.

Additionally, the analytical results indicate that the groundwater quality does not meet the PWQO for copper.

The laboratory certificates of analysis for the groundwater sample is appended to this report memo.

1.4 DEWATERING CALCULATIONS

For the purpose of assessing the requirements for groundwater control and dewatering during the trench excavations in support of the proposed development, the Dupuit-Forcheimer Equation was used to estimate groundwater inflow (Q) into the proposed excavations. The worst-case scenario has been established based on the findings of this study, by utilizing the highest measured hydraulic conductivity (K) and the highest saturated thickness that will be encountered based on water table elevation and anticipated excavation depths. The following assumptions were made in calculating groundwater inflow:



- The trench excavations were estimated to be 4.27 m (14 ft) long x 3.66 m (12 ft) wide, with a maximum depth of 15.24 m (50 ft).
- The saturated formation is unconfined and in steady-state;
- Groundwater inflow into the excavation is at steady-state;
- Hydraulic conductivity is based on the highest hydraulic conductivity measured at BH1-MW;
- The highest measured static water level measured in the field at BH1-MW was used;
- Stormwater is based on a 2 hour/2-year rain event (based on IDF curves from the Ministry of Transportation).

A safety factor of 2 was applied to the calculated Q value. It is noted that these calculations include dewatering requirements for stormwater runoff are based on a 2 year-2-hour storm event.

Hydraulic Conductivity calculations along with drawdown and recovery data from the single-well response tests and dewatering calculations (Dupuit-Forcheimer) are appended to this report.

1.4.1 DEWATERING VOLUMES

The well testing undertaken by Egis staff on April 18^{th} , 2024, provided a reasonable indication of typical hydraulic conductivities values for the silty clay/clayey silt formation at the Site. The highest hydraulic conductivity determined from monitoring well BH1-MW was used to calculate groundwater influx into a standard open trench excavation for the proposed construction (4.27 x 3.66 m) to demonstrate the worst-case scenario. As such, the hydraulic conductivity of the saturated fill of 3.49×10^{-8} m/s was used to determine groundwater inflow. The dewatering volumes are as follows:

Estimated Q (L/day)	2X Safety Factor on Q (L/day)	2-year Storm Event (L/day)	Total Dewatering Requirements (L/day)	EASR or PTTW?
1,686	3,373	450	3,822	None

Table 4: Short Term Dewatering Estimates

Based on dewatering calculations, a required pumping rate of up to 1,686 L of groundwater per day was calculated. Including a safety factor of two (2), a conservative total groundwater pumping rate can be estimated at 3,373 L/day. The total groundwater pumping rate including any stormwater runoff (assuming a 2-year, 2-hour storm event) that may enter the excavation is estimated to be **3,822** L/day.



1.5 Conclusions

Based on the information summarized in this report, the estimated short-term dewatering rates are expected to be less than 50, 000 L/day and less than 400,000 L/day for each excavation, therefore an application for an EASR (Environmental Activity and Sector Registry) and/or PTTW (permit to take water), stipulated by the MECP, will not be required.

The contractor will conduct any water discharge under the approval from the Township of Centre Wellington in accordance with Sewer Use Agreements.

Discharged water must meet all applicable sewer-use guidelines, or Provincial Water Quality Standards, Objectives, and Guidelines (PWQO) if discharged to the natural environment and/or the Townships sewer systems.

Discharged water should be re-tested following appropriate filtration/treatment to ensure compliance. The design and compliance of any treatment system is the ultimate responsibility of the contractor.

If compliance to the regulatory requirements of the City's sewer system or to the natural environment (PWQO) cannot be attained through appropriate filtration/treatment groundwater should be hauled off site by a licensed MECP carrier to an MECP licensed disposal facility.

Sediment erosion and control practices as per Ontario Provincial Standard Specification (OPPS) would need to be implemented to minimize or prevent adverse effects from discharging groundwater to the natural environment and nearby surface water.



Preliminary on-Site Groundwater Assessment 6235 Guelph Road, Centre Wellington ON

Closure

We trust that this information is satisfactory for your present requirements. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,

Egis Canada Ltd.

Report prepared by:

Menica Block

Monica Black, B.Sc. Practice Area Lead, Groundwater monica.black@egis-group.com

Angela Hulle







Preliminary on-Site Groundwater Assessment 6235 Guelph Road, Centre Wellington ON

Limitations

This report has been prepared, and the work referred to in this report has been undertaken by, Egis for the Client. It is intended for the sole, and exclusive use of the Client with respect to the stated purpose of the work carried out by Egis.

The report may not be relied upon by any other person or entity without the express written consent of Egis. Any use which a third party makes of this report, or any reliance on decisions made based on it, without a Reliance Letter, are the responsibility of such third parties. Egis accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, or the information contained within it.

The investigation undertaken by Egis with respect to this report and any conclusions or recommendations made in this report reflect Egis' judgment based on the Site conditions observed at the time of the Site investigations, inspections, and/or sampling on the date(s) set out in this report, and on information available at the time of the preparation of this report. Conditions such as ground cover, weather, physical obstructions, etc. may influence conclusions or recommendations made in this report. Egis does not certify or warrant the environmental status of the property.

This report has been prepared for specific application to this Site and it may be based, in part, upon visual observation of the Site, subsurface investigation at discrete locations and depths, and/or specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future Site conditions, portions of the Site which were unavailable for direct investigation, Site locations, subsurface or otherwise, which were not investigated directly, or chemical parameters, materials, or analysis which were not addressed or performed. Substances other than those addressed by the investigation described in this report may exist at the Site, substances addressed by the investigation may exist in areas of the Site not investigated, and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If Site conditions or applicable standards change, or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.





Groundwater and Stormwater Dewatering Calculation

Project Number: CCO-22-2294

Source 1:

Project Name 6235 Guelph Road, Centre Wellington ON

Work Area Dimensions				Hydraulic Conductivit			
Length of tre	nch 4	1.27	metres (m)				
Width of main Tre	nch: 3	3.66	m		K =	3.49E-08	m/s*
Depth of tree	nch: 1	5.24	m				
Equations				Radius of Influence			
Radius of Influence line source	$R_0 = 1750^*($	H-h)*(K)^1	/2		R _o =	4.2	m
Equivalent radius of excavation	r = trench w	/idth/2			r _e =	1.8	m
	x = trench le	ength			R _a =	6.1	
Dupuit Equation unconfined for open trench	Q = pK	[(H ² -h ²)/Ln	n(R/r) + 2 (xK ((H ² -h ²)/2R)				
tw	nere:	Q =	discharge flow rate	Aquifer Information			
		K =	hydraulic conductivity		K =	3.5E-08	m/s
	1	H =	Initial saturated thickness		H=	13.0	m
	1	h =	Final saturated thickness		h=	0.0	m
				-			
Typical Hydraulic Conductivities for S	ub-Surface Mate	rials		Steady state seepage			
					Q =	2.0E-05	cubic metres/second (m ³ /s)
					Q =	2.0E-02	litres/second (L/s)
silty sand	K= 3.4	9E-08	m/sec		Q =	1,686	litres/day (L/day)
 average K of the most permeable or domin 	nant soil type interse	cted by excav	ation	Safety Factor	of 2 =	3,373	litres/day (L/day)
** radius of influence adjusted for low permi	ability units						
groundwater elevation		90	5.74 m AD	Stormwater			
impermeable boundary		83	3.76 m AD	Precipitation (14.4 mm	'hour)		
excavation elevation		84	4.76 m AD	2-year 2 hour storm =		4	150
dewatering elevation		83	3.76 m AD				
*assumed ground surface is 100 m AD				Total Dewatering=		3.8	22 I /day

Summary of Laboratory Water Quality Results

Sample ID						BH1 (MW)
Sample Date				Centre Wellington	Centre Wellingston	18-Apr-23
Location	Units	MDL	PWQO	Sanitary Sewer By- Law	Sewer By-Law	6235 Guelph
Parameter:						ROAD
General Inorganics		1				1
Alkalinity, total	mg/L	5	-	-	-	546
Ammonia as N	mg/L	0.01	-	-	-	0.0433
Dissolved Organic Carbon	mg/L	0.5	-	-	-	1.34
Colour	ICU	2	-	-	-	3.8
Lonductivity	us/cm	5		-	-	/0/
Organic Nitrogon (calculated)	mg/L	-	-	-	-	0.2727
	nH Units	- 0.1	-	- 6 9 5	-	0.3737
Phenols total (400P)	ma/l	0.001	0.01	0-0.5	0.0 - 0.0	<0.0010
Total Dissolved Solids	mg/L	10	0.001			501
Sulphide, total (as S)	ma/l	0.02	-	-	-	0.0082
Sulphide, total (as H2S)			0.002	1	-	0.0087
Tannin & Lignin	mg/L	0.1		-	-	0.93
Total Kjeldahl Nitrogen	mg/L	0.1	-	-	-	0.417
Turbidity	NŤU	0.1	-		-	>4,000
Anions				•		
Chloride	mg/L	1.0	-	1,500	-	30.4
Fluoride	mg/L	0.1		-	-	0.086
Nitrate as N	mg/L	0.1	-	-	-	14.4
Nitrite as N	mg/L	0.05	-	-	-	0.027
Phosphate as P	mg/L	0.2	-	-	-	0.0047
Sulphate	mg/L	1.0		1	-	35.9
Metals						
Aluminum	mg/L	1	0.075	50	-	18.9
Antimony	mg/L	0.5	0.02	5	-	<0.00100
Arsenic	mg/L	1	0.005	1	-	0.00556
Banum	mg/L	1	-	-	-	0.292
Bicmuth	mg/L	0.5	I	-	-	0.000834
Bisiliuti	mg/L	0.5	- 0.2	3	-	<0.000300
Cadmium	mg/L	10	0.2	- 0.7	- 0.001	0.000353
Calcium	mg/L	0.1	0.0002	0.7	0.001	492
Cesium	ma/l	0.1			-	0.00165
Chromium	ma/l	100		3	0.08	0.0456
Cobalt	ma/L	0.5	0.0009	5		0.0149
Copper	mg/L	1	0.005	2	0.005	0.0346
Iron	mg/L	100	-	50	-	32.5
Lead	mg/L	0.5		0.7	0.03	0.0249
Lithium	mg/L		-	-	-	0.0368
Magnesium	mg/L	0.5	-	-	-	148
Manganese	mg/L	100	-	5	-	1.41
Mercury	mg/L	0.1	-	0.1	-	< 0.000050
Molybdenum	mg/L	0.5	-	5	-	0.00322
Nickel	mg/L	1	-	2	0.03	0.0322
Phosphorous	mg/L	0.1	-	10	-	1.42
Potassium	mg/L	0.1	-	-	-	6.93
Rubidium	mg/L	200	-	-	-	0.0232
Selenium	mg/L	200		2	-	0.000973
Silver	mg/L	0.1		- 1	-	<0.000100
Sodium	mg/L	5		-		10.4
Strontium	mg/L	0.5			-	0.721
Sulfur	ma/l		-	-	-	11.7
Tellerium	ma/L			-	-	<0.00200
Thallium	mg/L	0.1	-	-	-	0.000240
Thorium	mg/L		-	-	-	0.00763
Tin	mg/L	5	-	1	-	< 0.00100
Titanium	mg/L	5		5	-	0.592
Tungsten	mg/L	10	-	-	-	< 0.00100
Uranium	mg/L	1	-	-	-	0.00244
Vanadium	mg/L	0.5	-	5	-	0.0378
Zinc	mg/L	100	-	2	0.03	0.117
Zirconium	mg/L			-	-	<0.00200
NOTES:	Eveneda David		unlity Cuidalizes (DMCC)			

1050	Exceeds Provincial Water Quality Guidelines (PWQO)
21	Exceeds Centre Wellington Sanitary Sewer By-Law
	Exceeds Centre Wellington Storm Sewer By-Law
N/A	Not Analyzed
MDL	Method Detection Limit
ODWSOG	Ontario Drinking Water Standards, Objectives, and Guidelines (MOECC, 2003 rev. 2006; PIBs 4449e01)
AO	Aesthetic Objective
MAC	Maximum Allowable Concentration (Health-Related Parameter)
OG	Operational Guideline
ND	Non detectable (below MDL)
ug/L	Micrograms per litre
mg/L	Milligrams per litre
TCU	True Colour Units
uS/cm	Microsemens per centimeter
NTU	Nephelometric Turbidity Units
CFU/100 mL	Colony-forming units (bacteria) per 100 mL

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: WT2409485	Page	: 1 of 5
Amendment	:1		
Client	: Egis Canada Ltd.	Laboratory	: ALS Environmental - Waterloo
Contact	: Amir Karim	Account Manager	Emily Smith
Address	: 6240 Hwy 7 Suite 200 Woodbridge ON Canada L4H 4G3	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone		Telephone	: +1 519 886 6910
Project	: CCO-24-2294-Guelph Rd	Date Samples Received	: 22-Apr-2024 10:30
PO		Date Analysis Commenced	: 22-Apr-2024
C-O-C number	:	Issue Date	: 28-May-2024 10:47
Sampler	: AK		
Site	:		
Quote number	: Subdivision Water Testing		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
- Guideline Comparison

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.

Signatories	Position	Laboratory Department
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Inorganics, Waterloo, Ontario
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Metals, Waterloo, Ontario
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Kelly Fischer	Technical Specialist	Inorganics, Waterloo, Ontario
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Inorganics, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non -infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

>: greater than.	
<: less than.	
Red shading is appli	ed where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water sa	amples. Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit

Workorder Comments

Amendment (28/05/2024): This report has been amended following minor LIMS report formatting corrections. All analysis results are as per the previous report.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical
	Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
TKNI	TKN result may be biased low due to Nitrate interference. Nitrate-N is > 10x TKN.
TMV	Turbidity exceeded upper limit of the nephelometric method. Minimum value reported.



Analytical Results

			Client sample ID	BH1 (MW)				
Sub-Matrix: Groundwater		Sa	ampling date/time	18-Apr-2024				
(Matrix: Water)				16:10				
Analyte	Method/Lab	LOR	Unit	WT2409485-001		 	 	
Physical Tests								
Colour, true	E329-L/WT	2.0	CU	3.8		 	 	
Conductivity	E100/WT	1.0	μS/cm	767		 	 	
Hardness (as CaCO3), from total Ca/Mg	EC100A/WT	0.50	mg/L	1840		 	 	
pН	E108/WT	0.10	pH units	7.81		 	 	
Solids, total dissolved [TDS]	E162/WT	10	mg/L	501	DLDS	 	 	
Turbidity	E121/WT	0.10	NTU	>4000	TM∨	 	 	
Alkalinity, total (as CaCO3)	E290/WT	2.0	mg/L	546		 	 	
Anions and Nutrients								
Ammonia, total (as N)	E298/WT	0.0050	mg/L	0.0433		 	 	
Bromide	E235.Br/WT	0.10	mg/L	0.16		 	 	
Chloride	E235.CI/WT	0.50	mg/L	30.4		 	 	
Fluoride	E235.F/WT	0.020	mg/L	0.086		 	 	
Kjeldahl nitrogen, total [TKN]	E318/WT	0.050	mg/L	0.417	TKNI	 	 	
Nitrate (as N)	E235.NO3/WT	0.020	mg/L	14.4		 	 	
Nitrite (as N)	E235.NO2/WT	0.010	mg/L	0.027		 	 	
Phosphate, ortho-, dissolved (as P)	E378-T/WT	0.0030	mg/L	0.0047		 	 	
Sulfate (as SO4)	E235.SO4/WT	0.30	mg/L	35.9		 	 	
Organic / Inorganic Carbon								
Carbon, dissolved organic [DOC]	E358-L/WT	0.50	mg/L	1.34		 	 	
Total Sulfides								
Sulfide, total (as S)	E395/VA	0.0015	mg/L	0.0082		 	 	
Sulfide, total (as H2S)	E395/VA	0.0016	mg/L	0.0087		 	 	
Total Metals								
Aluminum, total	E420/WT	0.0030	mg/L	18.9	DLHC	 	 	
Antimony, total	E420/WT	0.00010	mg/L	<0.00100	DLHC	 	 	
Arsenic, total	E420/WT	0.00010	mg/L	0.00556	DLHC	 	 	
Barium, total	E420/WT	0.00010	mg/L	0.292	DLHC	 	 	
Beryllium, total	E420/WT	0.000020	mg/L	0.000834	DLHC	 	 	
Bismuth, total	E420/WT	0.000050	mg/L	<0.000500	DLHC	 	 	

Page	:	4 of 5
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Analyte	Method/Lab	LOR	Unit	WT2409485-001		 	 	
				(Continued)				
Total Metals - Continued								
Boron, total	E420/WT	0.010	mg/L	<0.100	DLHC	 	 	
Cadmium, total	E420/WT	0.0000050	mg/L	0.000353	DLHC	 	 	
Calcium, total	E420/WT	0.050	mg/L	492	DLHC	 	 	
Cesium, total	E420/WT	0.000010	mg/L	0.00165	DLHC	 	 	
Chromium, total	E420/WT	0.00050	mg/L	0.0456	DLHC	 	 	
Cobalt, total	E420/WT	0.00010	mg/L	0.0149	DLHC	 	 	
Copper, total	E420/WT	0.00050	mg/L	0.0346	DLHC	 	 	
ron, total	E420/WT	0.010	mg/L	32.5	DLHC	 	 	
₋ead, total	E420/WT	0.000050	mg/L	0.0249	DLHC	 	 	
₋ithium, total	E420/WT	0.0010	mg/L	0.0368	DLHC	 	 	
Magnesium, total	E420/WT	0.0050	mg/L	148	DLHC	 	 	
Manganese, total	E420/WT	0.00010	mg/L	1.41	DLHC	 	 	
Mercury, total	E508/WT	0.0000050	mg/L	<0.0000050		 	 	
Molybdenum, total	E420/WT	0.000050	mg/L	0.00322	DLHC	 	 	
Nickel, total	E420/WT	0.00050	mg/L	0.0322	DLHC	 	 	
Phosphorus, total	E420/WT	0.050	mg/L	1.42	DLHC	 	 	
Potassium, total	E420/WT	0.050	mg/L	6.93	DLHC	 	 	
Rubidium, total	E420/WT	0.00020	mg/L	0.0232	DLHC	 	 	
Selenium, total	E420/WT	0.000050	mg/L	0.000973	DLHC	 	 	
Silicon, total	E420/WT	0.10	mg/L	35.7	DLHC	 	 	
Silver, total	E420/WT	0.000010	mg/L	<0.000100	DLHC	 	 	
Sodium, total	E420/WT	0.050	mg/L	10.4	DLHC	 	 	
Strontium, total	E420/WT	0.00020	mg/L	0.721	DLHC	 	 	
Sulfur, total	E420/WT	0.50	mg/L	11.7	DLHC	 	 	
Fellurium, total	E420/WT	0.00020	mg/L	<0.00200	DLHC	 	 	
Fhallium, total	E420/WT	0.000010	mg/L	0.000240	DLHC	 	 	
Thorium, total	E420/WT	0.00010	mg/L	0.00763	DLHC	 	 	
Γin, total	E420/WT	0.00010	mg/L	<0.00100	DLHC	 	 	
Γitanium, total	E420/WT	0.00030	mg/L	0.592	DLHC	 	 	
Γungsten, total	E420/WT	0.00010	mg/L	<0.00100	DLHC	 	 	
Jranium, total	E420/WT	0.000010	mg/L	0.00244	DLHC	 	 	
/anadium, total	E420/WT	0.00050	mg/L	0.0378	DLHC	 	 	
Zinc, total	E420/WT	0.0030	mg/L	0.117	DLHC	 	 	
Zirconium, total	E420/WT	0.00020	mg/L	<0.00200	DLHC	 	 	
Aggregate Organics								
Phenols, total (4AAP)	E562/EO	0.0010	mg/L	<0.0010		 	 	

Page : E Work Order : V Client : E Project : C	5 of 5 NT2409485 Amendm Egis Canada Ltd. CCO-24-2294-Guelph	ent 1 Rd					ALS
Analyte	Method/Lab	LOR	Unit	WT2409485-001 (Continued)	 	 	
Aggregate Organics - Conti	nued						
Tannin + Lignin (as Tannic acid)	E563/WT	0.10	mg/L	0.93	 	 	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

No Breaches Found

Key:

ALS Canada Ltd.



QUALITY CONTROL REPORT Work Order Page : 1 of 13 WT2409485 Amendment :1 Client : Egis Canada Ltd. Laboratory : ALS Environmental - Waterloo Contact : Amir Karim Account Manager : Emily Smith Address :6240 Hwy 7 Suite 200 Address :60 Northland Road, Unit 1 Woodbridge ON Canada L4H 4G3 Waterloo, Ontario Canada N2V 2B8 Telephone Telephone :----:+1 519 886 6910 Date Samples Received Project : CCO-24-2294-Guelph Rd : 22-Apr-2024 10:30 PO Date Analysis Commenced : 22-Apr-2024 · ____ C-O-C number **Issue Date** :28-May-2024 10:48 :-----Sampler :AK Site :----Quote number : Subdivision Water Testing No. of samples received :1 No. of samples analysed :1

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 Durbiests (DLD) Percent Polative Dercent Difference (DDD) at

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

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.

Signatories	Position	Laboratory Department
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Waterloo Inorganics, Waterloo, Ontario
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Waterloo Metals, Waterloo, Ontario
Brooke Miller	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Kelly Fischer	Technical Specialist	Waterloo Inorganics, Waterloo, Ontario
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario



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 Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

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

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



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: 1411798)										
WT2409483-001	Anonymous	Colour, true		E329-L	2.0	CU	<2.0	<2.0	0	Diff <2x LOR	
Physical Tests (QC	Lot: 1412527)										
WT2409439-001	Anonymous	Turbidity		E121	0.10	NTU	288	282	2.10%	15%	
Physical Tests (QC	Lot: 1413064)										
WT2409441-001	Anonymous	рН		E108	0.10	pH units	8.05	8.08	0.372%	4%	
Physical Tests (QC	Lot: 1413065)										
WT2409441-001	Anonymous	Alkalinity, total (as CaCO3)		E290	1.0	mg/L	153	150	1.82%	20%	
Physical Tests (QC	Lot: 1413066)										
WT2409441-001	Anonymous	Conductivity		E100	2.0	µS/cm	274	275	0.364%	10%	
Physical Tests (QC	Lot: 1416453)										
WT2409440-001	Anonymous	Solids, total dissolved [TDS]		E162	20	mg/L	374	386	3.03%	20%	
Anions and Nutrient	ts (QC Lot: 1413058)										
WT2409485-001	BH1 (MW)	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	14.4	14.5	0.688%	20%	
Anions and Nutrien	ts (QC Lot: 1413059)										
WT2409485-001	BH1 (MW)	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	0.027	0.026	0.0007	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1413060)										
WT2409485-001	BH1 (MW)	Chloride	16887-00-6	E235.CI	0.50	mg/L	30.4	30.3	0.0695%	20%	
Anions and Nutrien	ts (QC Lot: 1413061)										
WT2409485-001	BH1 (MW)	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	35.9	36.2	0.600%	20%	
Anions and Nutrien	ts (QC Lot: 1413062)										
WT2409485-001	BH1 (MW)	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.086	0.081	0.004	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1413063)										
WT2409485-001	BH1 (MW)	Bromide	24959-67-9	E235.Br	0.10	mg/L	0.16	0.16	0.00001	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1413707)										
WT2409483-001	Anonymous	Kjeldahl nitrogen, total [TKN]		E318	0.050	mg/L	0.465	0.465	0.0004	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1413708)										
HA2400799-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	15.5	15.3	1.14%	20%	
Anions and Nutrien	ts (QC Lot: 1416204)										
WT2409483-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.0030	mg/L	0.0104	0.0104	0.00001	Diff <2x LOR	
Organic / Inorganic	Carbon (QC Lot: 14124)	71)									



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
Organic / Inorganic	Carbon (QC Lot: 141247	1) - continued									
WT2409483-001	Anonymous	Carbon, dissolved organic [DOC]		E358-L	0.50	mg/L	1.71	1.79	0.08	Diff <2x LOR	
Total Sulfides (QC	Lot: 1416081)										
CG2404887-021	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.0290	0.0266	8.69%	20%	
Total Metals (QC Lo	ot: 1412254)										
HA2400788-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	210 µg/L	0.216	2.70%	20%	
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.28 µg/L	0.00027	0.000009	Diff <2x LOR	
		Barium, total	7440-39-3	E420	0.00010	mg/L	2.61 µg/L	0.00250	4.32%	20%	
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.020 µg/L	<0.000020	0	Diff <2x LOR	
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	
		Boron, total	7440-42-8	E420	0.010	mg/L	<10 µg/L	<0.010	0	Diff <2x LOR	
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0154 µg/L	0.0000130	0.0000024	Diff <2x LOR	
		Calcium, total	7440-70-2	E420	0.050	mg/L	428 µg/L	0.441	0.012	Diff <2x LOR	
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.012 µg/L	0.000012	0	Diff <2x LOR	
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.35 µg/L	0.00035	0.000001	Diff <2x LOR	
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	
		Iron, total	7439-89-6	E420	0.010	mg/L	326 µg/L	0.324	0.666%	20%	
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.262 µg/L	0.000268	0.000006	Diff <2x LOR	
		Lithium, total	7439-93-2	E420	0.0010	mg/L	<1.0 µg/L	<0.0010	0	Diff <2x LOR	
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	231 µg/L	0.237	2.76%	20%	
		Manganese, total	7439-96-5	E420	0.00010	mg/L	34.6 µg/L	0.0352	1.82%	20%	
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<50 µg/L	<0.050	0	Diff <2x LOR	
		Potassium, total	7440-09-7	E420	0.050	mg/L	136 µg/L	0.139	0.003	Diff <2x LOR	
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.61 µg/L	0.00056	0.00005	Diff <2x LOR	
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.055 µg/L	0.000069	0.000014	Diff <2x LOR	
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.06	1.05	1.04%	20%	
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.010 µg/L	<0.000010	0	Diff <2x LOR	
		Sodium, total	7440-23-5	E420	0.050	mg/L	2230 µg/L	2.23	0.171%	20%	
		Strontium, total	7440-24-6	E420	0.00020	mg/L	3.51 µg/L	0.00351	0.0598%	20%	
		Sulfur, total	7704-34-9	E420	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	
1	1		1	1	1			l i i i i i i i i i i i i i i i i i i i			1

Page	:	5 of 13
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Sub-Matrix: Water	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 Lo	t: 1412254) - continued										
HA2400788-001	Anonymous	Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.010 µg/L	<0.000010	0	Diff <2x LOR	
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	
		Titanium, total	7440-32-6	E420	0.00030	mg/L	1.37 µg/L	0.00133	0.00004	Diff <2x LOR	
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.10 µg/L	<0.00010	0	Diff <2x LOR	
		Uranium, total	7440-61-1	E420	0.000010	mg/L	<0.010 µg/L	<0.000010	0	Diff <2x LOR	
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<3.0 µg/L	<0.0030	0	Diff <2x LOR	
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.20 µg/L	<0.00020	0	Diff <2x LOR	
Total Metals (QC Lo	t: 1414159)										
WT2409483-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
Aggregate Organics	(QC Lot: 1412603)										
SK2401638-001	Anonymous	Tannin + Lignin (as Tannic acid)		E563	5.00	mg/L	69.1	68.8	0.374%	20%	
Aggregate Organics	(QC Lot: 1416957)										
WT2409314-002	Anonymous	Phenols, total (4AAP)		E562	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	



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.

Analyte	CAS Number Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1411798)					
Colour, true	E329-L	2	CU	<2.0	
hysical Tests (QCLot: 1412527)					
Turbidity	E121	0.1	NTU	<0.10	
hysical Tests (QCLot: 1413065)					
Alkalinity, total (as CaCO3)	E290	1	mg/L	<1.0	
hysical Tests (QCLot: 1413066)					
Conductivity	E100	1	µS/cm	1.2	
hysical Tests (QCLot: 1416453)					
Solids, total dissolved [TDS]	E162	10	mg/L	<10	
nions and Nutrients (QCLot: 1413058)					
Nitrate (as N)	14797-55-8 E235.NO3	0.02	mg/L	<0.020	
nions and Nutrients (QCLot: 1413059)					
Nitrite (as N)	14797-65-0 E235.NO2	0.01	mg/L	<0.010	
nions and Nutrients (QCLot: 1413060)					
Chloride	16887-00-6 E235.Cl	0.5	mg/L	<0.50	
nions and Nutrients (QCLot: 1413061)					
Sulfate (as SO4)	14808-79-8 E235.SO4	0.3	mg/L	<0.30	
nions and Nutrients (QCLot: 1413062)					
Fluoride	16984-48-8 E235.F	0.02	mg/L	<0.020	
nions and Nutrients (QCLot: 1413063)					
Bromide	24959-67-9 E235.Br	0.1	mg/L	<0.10	
nions and Nutrients (QCLot: 1413707)					
Kjeldahl nitrogen, total [TKN]	E318	0.05	mg/L	<0.050	
nions and Nutrients (QCLot: 1413708)					
Ammonia, total (as N)	7664-41-7 E298	0.005	mg/L	<0.0050	
nions and Nutrients (QCLot: 1416204)					
Phosphate, ortho-, dissolved (as P)	14265-44-2 E378-T	0.003	mg/L	<0.0030	
rganic / Inorganic Carbon (QCLot: 1412	471)				
Carbon, dissolved organic [DOC]	E358-L	0.5	mg/L	<0.50	
otal Sulfides (QCLot: 1416081)					
Sulfide, total (as S)	18496-25-8 E395	0.0015	mg/L	<0.0015	
otal Metals (QCLot: 1412254)					

Page	:	7 of 13
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals(QCLot: 1412254)- co	ontinued					
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	<0.000050	
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	
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	
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	
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	
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	7440-23-5	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	
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	
		I Contraction of the second	1	1		I

Page	:	8 of 13
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1412254) - con	tinued					
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: 1414159)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.000050	
Aggregate Organics (QCLot: 141260	3)					
Tannin + Lignin (as Tannic acid)		E563	0.1	mg/L	<0.10	
Aggregate Organics (QCLot: 141695	7)					
Phenols, total (4AAP)		E562	0.001	mg/L	<0.0010	



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	Recovery (%)	Recovery	Limits (%)				
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier			
Physical Tests (QCLot: 1411798)												
Colour, true		E329-L	2	CU	25 CU	109	85.0	115				
Physical Tests (QCLot: 1412527)												
Turbidity		E121	0.1	NTU	200 NTU	101	85.0	115				
Physical Tests (QCLot: 1413064)												
рН		E108		pH units	7 pH units	100	98.0	102				
Physical Tests (QCLot: 1413065)												
Alkalinity, total (as CaCO3)		E290	1	mg/L	150 mg/L	103	85.0	115				
Physical Tests (QCLot: 1413066)												
Conductivity		E100	1	µS/cm	1410 µS/cm	104	90.0	110				
Physical Tests (QCLot: 1416453)												
Solids, total dissolved [TDS]		E162	10	mg/L	1000 mg/L	86.6	85.0	115				
Anions and Nutrients (QCLot: 1413058)	4 4 7 0 7 5 5 0	East Nos	0.00		0.5 "	00.0	00.0	140				
Nitrate (as N)	14797-55-8	E235.NU3	0.02	mg/L	2.5 mg/L	99.6	90.0	110				
Anions and Nutrients (QCLot: 1413059)	4 4707 05 0	FORENOO	0.04		0.5 //	07.0	00.0	140				
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	97.8	90.0	110				
Anions and Nutrients (QCLot: 1413060)	40007.00.0	E005 OI	0.5	an a ()	400	00.5	00.0	110				
Chloride	16887-00-6	E235.CI	0.5	mg/L	100 mg/L	99.5	90.0	110				
Anions and Nutrients (QCLot: 1413061)	14000 70 0	5005.004	0.0		400 //	101	00.0	140				
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110				
Anions and Nutrients (QCLot: 1413062)	10001 10 0	FORFE	0.00			00.0	00.0	140				
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	96.8	90.0	110				
Anions and Nutrients (QCLot: 1413063)	04050.07.0	East D	0.4		0.5 //	100	05.0	145				
Bromide	24959-67-9	E235.Br	0.1	mg/L	0.5 mg/L	103	85.0	115				
Anions and Nutrients (QCLot: 1413707)		5240	0.05		4	404	75.0	405				
Kjeldahl nitrogen, total [IKN]		E318	0.05	mg/L	4 mg/L	104	75.0	125				
Anions and Nutrients (QCLot: 1413708)	7004 44 7	5000	0.005		0.0 //	100	05.0	145				
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	108	85.0	115				
Anions and Nutrients (QCLot: 1416204)	14005 11 0	5070 T	0.000		0.004 //	00.0	00.0	100				
Phosphate, ortho-, dissolved (as P)	14265-44-2	E3/8-1	0.003	mg/∟	0.031 mg/L	98.9	80.0	120				
Organic / Inorganic Carbon (QCLot: 1412471												



Sub-Matrix: Water		Laboratory Control Sample (LCS) Report							
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot:	1412471) - continued								
Carbon, dissolved organic [DOC]		E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	
Total Sulfides (QCLot: 1416081)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	106	80.0	120	
Total Metals (QCLot: 1412254)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	0.1 mg/L	99.0	80.0	120	
Antimony, total	7440-36-0	E420	0.0001	mg/L	0.05 mg/L	105	80.0	120	
Arsenic, total	7440-38-2	E420	0.0001	mg/L	0.05 mg/L	104	80.0	120	
Barium, total	7440-39-3	E420	0.0001	mg/L	0.012 mg/L	100	80.0	120	
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.005 mg/L	93.4	80.0	120	
Bismuth, total	7440-69-9	E420	0.00005	mg/L	0.05 mg/L	95.0	80.0	120	
Boron, total	7440-42-8	E420	0.01	mg/L	0.05 mg/L	94.8	80.0	120	
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.005 mg/L	105	80.0	120	
Calcium, total	7440-70-2	E420	0.05	mg/L	2.5 mg/L	99.4	80.0	120	
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.002 mg/L	108	80.0	120	
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.012 mg/L	101	80.0	120	
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.012 mg/L	98.8	80.0	120	
Copper, total	7440-50-8	E420	0.0005	mg/L	0.012 mg/L	100	80.0	120	
Iron, total	7439-89-6	E420	0.01	mg/L	0.05 mg/L	120	80.0	120	
Lead, total	7439-92-1	E420	0.00005	mg/L	0.025 mg/L	96.9	80.0	120	
Lithium, total	7439-93-2	E420	0.001	mg/L	0.012 mg/L	92.8	80.0	120	
Magnesium, total	7439-95-4	E420	0.005	mg/L	2.5 mg/L	111	80.0	120	
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.012 mg/L	99.6	80.0	120	
Molvbdenum, total	7439-98-7	E420	0.00005	mg/L	0.012 mg/L	101	80.0	120	
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.025 mg/L	99.2	80.0	120	
Phosphorus, total	7723-14-0	E420	0.05	mg/L	0.5 mg/L	108	80.0	120	
Potassium, total	7440-09-7	E420	0.05	mg/L	2.5 mg/L	91.2	80.0	120	
Rubidium. total	7440-17-7	E420	0.0002	mg/L	0.005 mg/L	100	80.0	120	
Selenium total	7782-49-2	E420	0.00005	mg/L	0.05 mg/L	102	80.0	120	
Silicon. total	7440-21-3	E420	0.1	ma/L	0.5 ma/L	96.9	80.0	120	
Silver total	7440-22-4	E420	0.00001	ma/l	0.005 mg/l	97.8	80.0	120	
Sodium total	7440-23-5	E420	0.05	ma/l	2.5 mg/l	104	80.0	120	
Strantium total	7//0 0/ 6	E420	0.0002	mg/L	0.012 mg/l	105	80.0	120	
	7704 24 0	E420	0.0002	mg/L	2.5 mg/l	86 4	80.0	120	
Sunur, IOlar	1704-34-9	E420	0.000	mg/L	2.0 IIIg/L	00.4	80.0	120	
i eliurium, total	13494-80-9	⊑42U	0.0002	mg/L	0.005 mg/L	97.9	80.0	120	

Page	:	11 of 13
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Sub-Matrix: Water						Laboratory Co	ntrol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1412254) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	0.05 mg/L	93.6	80.0	120	
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.005 mg/L	98.2	80.0	120	
Tin, total	7440-31-5	E420	0.0001	mg/L	0.025 mg/L	104	80.0	120	
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.012 mg/L	95.3	80.0	120	
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.005 mg/L	103	80.0	120	
Uranium, total	7440-61-1	E420	0.00001	mg/L	0 mg/L	100	80.0	120	
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.025 mg/L	99.8	80.0	120	
Zinc, total	7440-66-6	E420	0.003	mg/L	0.025 mg/L	99.0	80.0	120	
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.005 mg/L	108	80.0	120	
Total Metals (QCLot: 1414159)						·			
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	95.7	80.0	120	
Aggregate Organics (QCLot: 1412603)									
Tannin + Lignin (as Tannic acid)		E563	0.1	mg/L	5 mg/L	107	85.0	115	
Aggregate Organics (QCLot: 1416957)									
Phenols, total (4AAP)		E562	0.001	mg/L	0.02 mg/L	104	85.0	115	



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							
					Spi	ke	Recovery (%)	Recovery	Limits (%)		
Laboratory sample II	D Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier	
Anions and Nutr	ients (QCLot: 1413058)										
WT2409485-001	BH1 (MW)	Nitrate (as N)	14797-55-8	E235.NO3	ND mg/L		ND	75.0	125		
Anions and Nutr	ients (QCLot: 1413059)										
WT2409485-001	BH1 (MW)	Nitrite (as N)	14797-65-0	E235.NO2	0.458 mg/L	0.5 mg/L	91.5	75.0	125		
Anions and Nutr	ients (QCLot: 1413060)										
WT2409485-001	BH1 (MW)	Chloride	16887-00-6	E235.Cl	97.0 mg/L	100 mg/L	97.0	75.0	125		
Anions and Nutr	ients (QCLot: 1413061)										
WT2409485-001	BH1 (MW)	Sulfate (as SO4)	14808-79-8	E235.SO4	97.0 mg/L	100 mg/L	97.0	75.0	125		
Anions and Nutr	ients (QCLot: 1413062)										
WT2409485-001	BH1 (MW)	Fluoride	16984-48-8	E235.F	0.821 mg/L	1 mg/L	82.1	75.0	125		
Anions and Nutr	ients (QCLot: 1413063)										
WT2409485-001	BH1 (MW)	Bromide	24959-67-9	E235.Br	0.48 mg/L	0.5 mg/L	96.2	75.0	125		
Anions and Nutr	ients (QCLot: 1413707)										
WT2409483-001	Anonymous	Kjeldahl nitrogen, total [TKN]		E318	2.74 mg/L	2.5 mg/L	110	70.0	130		
Anions and Nutr	ients (QCLot: 1413708)										
HA2400799-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L		ND	75.0	125		
Anions and Nutr	ients (QCLot: 1416204)										
WT2409483-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-T	0.0213 mg/L	0.02 mg/L	108	70.0	130		
Organic / Inorga	nic Carbon (QCLot: 141	2471)									
WT2409483-001	Anonymous	Carbon, dissolved organic [DOC]		E358-L	5.50 mg/L	5 mg/L	110	70.0	130		
Total Sulfides (0	QCLot: 1416081)										
CG2404888-010	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.202 mg/L	0.2 mg/L	101	75.0	125		
Total Metals (QC	CLot: 1412254)										
HA2400788-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L		ND	70.0	130		
		Antimony, total	7440-36-0	E420	0.0508 mg/L	0.05 mg/L	102	70.0	130		
		Arsenic, total	7440-38-2	E420	0.0516 mg/L	0.05 mg/L	103	70.0	130		
		Barium, total	7440-39-3	E420	0.0123 mg/L	0.012 mg/L	98.6	70.0	130		
		Beryllium, total	7440-41-7	E420	0.00457 mg/L	0.005 mg/L	91.4	70.0	130		
		Bismuth, total	7440-69-9	E420	0.0471 mg/L	0.05 mg/L	94.2	70.0	130		
		Boron, total	7440-42-8	E420	0.048 mg/L	0.05 mg/L	95.6	70.0	130		
		Cadmium, total	7440-43-9	E420	0.00506 mg/L	0.005 mg/L	101	70.0	130		
			/440-/0-2	E420	2.48 mg/L	2.5 mg/L	99.3	70.0	130		
1 I			7440-46-2	E420	0.00264 mg/L	0.002 mg/L	105	70.0	130		
		Chromium, total	/440-4/-3	E420	0.0131 mg/L	0.012 mg/L	104	70.0	130		

Page	:	13 of 13
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Sub-Matrix: Water	Matrix: Water				Matrix Spike (MS) Report							
					Spi	ke	Recovery (%)	Recovery	Limits (%)			
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier		
Total Metals (QC	Lot: 1412254) - conti	nued										
HA2400788-002	Anonymous	Cobalt, total	7440-48-4	E420	0.0128 mg/L	0.012 mg/L	102	70.0	130			
		Copper, total	7440-50-8	E420	0.0129 mg/L	0.012 mg/L	103	70.0	130			
		Iron, total	7439-89-6	E420	ND mg/L		ND	70.0	130			
		Lead, total	7439-92-1	E420	0.0242 mg/L	0.025 mg/L	96.7	70.0	130			
		Lithium, total	7439-93-2	E420	0.0125 mg/L	0.012 mg/L	99.8	70.0	130			
		Magnesium, total	7439-95-4	E420	2.70 mg/L	2.5 mg/L	108	70.0	130			
		Manganese, total	7439-96-5	E420	ND mg/L		ND	70.0	130			
		Molybdenum, total	7439-98-7	E420	0.0126 mg/L	0.012 mg/L	100	70.0	130			
		Nickel, total	7440-02-0	E420	0.0258 mg/L	0.025 mg/L	103	70.0	130			
		Phosphorus, total	7723-14-0	E420	0.507 mg/L	0.5 mg/L	101	70.0	130			
		Potassium, total	7440-09-7	E420	2.28 mg/L	2.5 mg/L	91.2	70.0	130			
		Rubidium, total	7440-17-7	E420	0.00505 mg/L	0.005 mg/L	101	70.0	130			
		Selenium, total	7782-49-2	E420	0.0512 mg/L	0.05 mg/L	102	70.0	130			
		Silicon, total	7440-21-3	E420	ND mg/L		ND	70.0	130			
		Silver, total	7440-22-4	E420	0.00487 mg/L	0.005 mg/L	97.4	70.0	130			
		Sodium, total	7440-23-5	E420	ND mg/L		ND	70.0	130			
		Strontium, total	7440-24-6	E420	0.0125 mg/L	0.012 mg/L	100	70.0	130			
		Sulfur, total	7704-34-9	E420	2.42 mg/L	2.5 mg/L	96.6	70.0	130			
		Tellurium, total	13494-80-9	E420	0.00491 mg/L	0.005 mg/L	98.3	70.0	130			
		Thallium, total	7440-28-0	E420	0.0480 mg/L	0.05 mg/L	96.1	70.0	130			
		Thorium, total	7440-29-1	E420	0.00489 mg/L	0.005 mg/L	97.8	70.0	130			
		Tin, total	7440-31-5	E420	0.0254 mg/L	0.025 mg/L	102	70.0	130			
		Titanium, total	7440-32-6	E420	0.0119 mg/L	0.012 mg/L	95.4	70.0	130			
		Tungsten, total	7440-33-7	E420	0.00508 mg/L	0.005 mg/L	102	70.0	130			
		Uranium, total	7440-61-1	E420	0.000249 mg/L	0 mg/L	99.6	70.0	130			
		Vanadium, total	7440-62-2	E420	0.0254 mg/L	0.025 mg/L	102	70.0	130			
		Zinc, total	7440-66-6	E420	0.0245 mg/L	0.025 mg/L	97.9	70.0	130			
		Zirconium, total	7440-67-7	E420	0.00483 mg/L	0.005 mg/L	96.6	70.0	130			
Total Metals (QC	Lot: 1414159)											
WT2409485-001	BH1 (MW)	Mercury, total	7439-97-6	E508	0.000100 mg/L	0 mg/L	100	70.0	130			
Aggregate Organ	ics (QCLot: 1412603)										
SK2401638-001	Anonymous	Tannin + Lignin (as Tannic acid)		E563	ND mg/L		ND	70.0	130			
Aggregate Organ	ics (QCLot: 1416957)										
WT2409314-002	Anonymous	Phenols, total (4AAP)		E562	0.0204 mg/L	0.02 ma/L	102	75.0	125			



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	:WT2409485	Page	: 1 of 11
Amendment	:1		
Client	Egis Canada Ltd.	Laboratory	: ALS Environmental - Waterloo
Contact	: Amir Karim	Account Manager	: Emily Smith
Address	: 6240 Hwy 7 Suite 200	Address	: 60 Northland Road, Unit 1
	Woodbridge ON Canada L4H 4G3		Waterloo, Ontario Canada N2V 2B8
Telephone	:	Telephone	: +1 519 886 6910
Project	: CCO-24-2294-Guelph Rd	Date Samples Received	: 22-Apr-2024 10:30
PO		Issue Date	: 28-May-2024 10:49
C-O-C number	:		
Sampler	: AK		
Site	:		
Quote number	: Subdivision Water Testing		
No. of samples received	:1		
No. of samples analysed	:1		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and 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 Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

• Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

• <u>No</u> Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water	Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time									
Analyte Group : Analytical Method	Method	Sampling Date	Ext	raction / Pr	eparation		Analysis			
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) [ON MECP] BH1 (MW)	E562	18-Apr-2024	25-Apr-2024	28 days	7 days	4	25-Apr-2024	28 days	7 days	~
Aggregate Organics : Tannin & Lignin in Water										
HDPE [ON MECP] BH1 (MW)	E563	18-Apr-2024					23-Apr-2024	28 days	5 days	*
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) [ON MECP] BH1 (MW)	E298	18-Apr-2024	23-Apr-2024	28 days	5 days	~	24-Apr-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Water by IC										
HDPE [ON MECP] BH1 (MW)	E235.Br	18-Apr-2024	23-Apr-2024	28 days	5 days	1	24-Apr-2024	28 days	6 days	*
Anions and Nutrients : Chloride in Water by IC										
HDPE [ON MECP] BH1 (MW)	E235.Cl	18-Apr-2024	23-Apr-2024	28 days	5 days	~	24-Apr-2024	28 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (0.003 mg/L)										
HDPE [ON MECP] BH1 (MW)	E378-T	18-Apr-2024					25-Apr-2024	7 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE [ON MECP] BH1 (MW)	E235.F	18-Apr-2024	23-Apr-2024	28 days	5 days	~	24-Apr-2024	28 days	6 days	✓



Matrix: Water					Ev	/aluation: × =	Holding time exce	edance ; •	<pre>< = Within</pre>	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pi	reparation			Analys	is	
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	Times	Eval
			Date	Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Water by IC						1		1		
HDPE [ON MECP]										
BH1 (MW)	E235.NO3	18-Apr-2024	23-Apr-2024	7 days	5 days	1	24-Apr-2024	7 days	6 days	1
Anions and Nutrients : Nitrite in Water by IC										
HDPE ION MECP1										
BH1 (MW)	E235.NO2	18-Apr-2024	23-Apr-2024	7 days	5 days	1	24-Apr-2024	7 days	6 days	1
Anions and Nutrients : Sulfate in Water by IC							•			
HDPE [ON MECP]						_				
BH1 (MW)	E235.SO4	18-Apr-2024	23-Apr-2024	28	5 days	1	24-Apr-2024	28 days	6 days	√
				days						
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) [ON MECP]										
BH1 (MW)	E318	18-Apr-2024	26-Apr-2024	28	8 days	1	26-Apr-2024	28 days	8 days	1
				days						
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Leve	I)									
Amber glass dissolved (lab preserved) [ON MECP]										
BH1 (MW)	E358-L	18-Apr-2024	23-Apr-2024	3 days	4 days	*	23-Apr-2024	28 days	0 days	✓
						EHTR				
Physical Tests : Alkalinity Species by Titration										
HDPE [ON MECP]										
BH1 (MW)	E290	18-Apr-2024	23-Apr-2024	14	5 days	1	24-Apr-2024	14 days	6 days	1
				days						
Physical Tests : Colour (True) by Spectrometer (2 CU)					1					
HDPE [ON MECP]										
BH1 (MW)	E329-L	18-Apr-2024	22-Apr-2024	51 hrs	95 hrs	*	22-Apr-2024	51 hrs	97 hrs	*
						EHTR				EHTR
Physical Tests : Conductivity in Water						I				<u> </u>
HDPE [ON MECP]										
BH1 (MW)	E100	18-Apr-2024	23-Apr-2024	28	5 days	1	24-Apr-2024	28 days	6 days	✓
				days						
Physical Tests : pH by Meter										
HDPE [ON MECP]										
BH1 (MW)	E108	18-Apr-2024	23-Apr-2024	14	5 days	1	24-Apr-2024	14 days	6 days	1
				days						



Matrix: Water					Ev	aluation: × =	Holding time excee	edance ; •	<pre>/ = Within</pre>	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Ext	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date Holding Time		g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry										
HDPE [ON MECP]										
BH1 (MW)	E162	18-Apr-2024					26-Apr-2024	7 days	8 days	*
										EHT
Physical Tests : Turbidity by Nephelometry										
HDPE [ON MECP]										
BH1 (MW)	E121	18-Apr-2024					23-Apr-2024	48 hrs	112 hrs	*
										EHTR
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) [ON MECP]										
BH1 (MW)	E508	18-Apr-2024	24-Apr-2024	28	6 days	1	25-Apr-2024	28 days	7 days	~
				days						
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
BH1 (MW)	E420	18-Apr-2024	23-Apr-2024	180	4 days	✓	23-Apr-2024	180	5 days	~
				days				days		
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) [ON MECP]										
BH1 (MW)	E395	18-Apr-2024					25-Apr-2024	7 days	7 days	1

Legend & Qualifier Definitions

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Water	Evaluation: 🗙 = QC frequency outside specification; 🗸 = QC frequency within specificatio						
Quality Control Sample Type			Co	Count Frequency (?			
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1413065	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	1413708	1	19	5.2	5.0	✓
Bromide in Water by IC	E235.Br	1413063	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1413060	1	17	5.8	5.0	✓
Colour (True) by Spectrometer (2 CU)	E329-L	1411798	1	3	33.3	5.0	✓
Conductivity in Water	E100	1413066	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1412471	1	10	10.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1416204	1	3	33.3	5.0	✓
Fluoride in Water by IC	E235.F	1413062	1	5	20.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1413058	1	7	14.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1413059	1	4	25.0	5.0	✓
pH by Meter	E108	1413064	1	19	5.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1416957	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1413061	1	3	33.3	5.0	✓
Tannin & Lignin in Water	E563	1412603	1	8	12.5	5.0	✓
TDS by Gravimetry	E162	1416453	1	20	5.0	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	1413707	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1414159	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1412254	1	20	5.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1416081	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1412527	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1413065	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	1413708	1	19	5.2	5.0	✓
Bromide in Water by IC	E235.Br	1413063	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1413060	1	17	5.8	5.0	✓
Colour (True) by Spectrometer (2 CU)	E329-L	1411798	1	3	33.3	5.0	✓
Conductivity in Water	E100	1413066	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1412471	1	10	10.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1416204	1	3	33.3	5.0	✓
Fluoride in Water by IC	E235.F	1413062	1	5	20.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1413058	1	7	14.2	5.0	✓
Nitrite in Water by IC	E235.NO2	1413059	1	4	25.0	5.0	✓
pH by Meter	E108	1413064	1	19	5.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1416957	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1413061	1	3	33.3	5.0	✓



Matrix: Water	Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.						
Quality Control Sample Type		Count			Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS) - Continued							
Tannin & Lignin in Water	E563	1412603	1	8	12.5	5.0	1
TDS by Gravimetry	E162	1416453	1	20	5.0	5.0	1
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	1413707	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1414159	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1412254	1	20	5.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1416081	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1412527	1	10	10.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1413065	1	5	20.0	5.0	1
Ammonia by Fluorescence	E298	1413708	1	19	5.2	5.0	<u> </u>
Bromide in Water by IC	E235.Br	1413063	1	2	50.0	5.0	<u> </u>
Chloride in Water by IC	E235.Cl	1413060	1	17	5.8	5.0	<u> </u>
Colour (True) by Spectrometer (2 CU)	E329-L	1411798	1	3	33.3	5.0	1
Conductivity in Water	E100	1413066	1	15	6.6	5.0	<u> </u>
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1412471	1	10	10.0	5.0	<u> </u>
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1416204	1	3	33.3	5.0	1
Fluoride in Water by IC	E235.F	1413062	1	5	20.0	5.0	<u> </u>
Nitrate in Water by IC	E235.NO3	1413058	1	7	14.2	5.0	<u> </u>
Nitrite in Water by IC	E235.NO2	1413059	1	4	25.0	5.0	<u> </u>
Phenols (4AAP) in Water by Colorimetry	E562	1416957	1	20	5.0	5.0	
Sulfate in Water by IC	E235.SO4	1413061	1	3	33.3	5.0	✓
Tannin & Lignin in Water	E563	1412603	1	8	12.5	5.0	✓
TDS by Gravimetry	E162	1416453	1	20	5.0	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	1413707	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1414159	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1412254	1	20	5.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1416081	1	20	5.0	5.0	✓
Turbidity by Nephelometry	E121	1412527	1	10	10.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1413708	1	19	5.2	5.0	1
Bromide in Water by IC	E235.Br	1413063	1	2	50.0	5.0	✓
Chloride in Water by IC	E235.Cl	1413060	1	17	5.8	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1412471	1	10	10.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T	1416204	1	3	33.3	5.0	✓
Fluoride in Water by IC	E235.F	1413062	1	5	20.0	5.0	✓
Nitrate in Water by IC	E235.NO3	1413058	1	7	14.2	5.0	~
Nitrite in Water by IC	E235.NO2	1413059	1	4	25.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1416957	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235 SO4	1413061	1	3	33.3	5.0	

Page	:	8 of 11
Work Order	:	WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Matrix: Water		Evaluation	n: × = QC freque	ency outside spe	cification; \checkmark = 0	QC frequency wit	thin specification.
Quality Control Sample Type			Со	ount		Frequency (%))
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Matrix Spikes (MS) - Continued							
Tannin & Lignin in Water	E563	1412603	1	8	12.5	5.0	1
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	1413707	1	15	6.6	5.0	✓
Total Mercury in Water by CVAAS	E508	1414159	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1412254	1	20	5.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1416081	1	20	5.0	5.0	✓



Methodology References and Summaries

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. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions				
Conductivity in Water	E100	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water				
	ALS Environmental -			sample. Conductivity measurements are temperature-compensated to 25°C.				
	Waterloo							
pH by Meter	E108	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^{\circ}$ C). For high accuracy test results.				
	ALS Environmental -			pH should be measured in the field within the recommended 15 minute hold time.				
	Waterloo							
Turbidity by Nephelometry	E121	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.				
	ALS Environmental -							
	Waterloo							
TDS by Gravimetry	E162	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at $180 \pm 2^{\circ}$ C for 16 hours or to constant weight,				
	ALS Environmental -			with gravimetric measurement of the residue.				
	Waterloo							
Bromide in Water by IC	E235.Br	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.				
	ALS Environmental -							
	Waterloo							
Chloride in Water by IC	E235.CI	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.				
	ALS Environmental -							
	Waterloo							
Fluoride in Water by IC	E235.F	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.				
	ALS Environmental -							
	Waterloo							
Nitrite in Water by IC	E235.NO2	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.				
	ALS Environmental -							
	Waterloo							
Nitrate in Water by IC	E235.NO3	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.				
	ALS Environmental -							
	Waterloo							
Sulfate in Water by IC	E235.SO4	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.				
	ALS Environmental -							
	Waterloo							

Page Work Order	:	10 of 11 WT2409485 Amendment 1
Client	:	Egis Canada Ltd.
Project	:	CCO-24-2294-Guelph Rd



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental - Waterloo	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021).
Colour (True) by Spectrometer (2 CU)	E329-L ALS Environmental - Waterloo	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Dissolved Orthophosphate by Colourimetry (0.003 mg/L)	E378-T ALS Environmental - Waterloo	Water	APHA 4500-P E (mod)	Dissolved Orthophosphate is determined colourimetrically on a water sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Sulfide by Colourimetry (Automated Flow)	E395 ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Waterloo	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Waterloo	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Edmonton	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K3Fe(CN)6) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.

Page Work Order	:	11 of 11 WT2409485 Amendment 1
Client Project	:	Egis Canada Ltd. CCO-24-2294-Guelph Rd



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Tannin & Lignin in Water	E563 ALS Environmental - Waterloo	Water	APHA 5550 B-Colorimetry	This analysis is carried out using procedures adapted from APHA Method 5550 B. "Tannin & Lignin ". Both lignin and tannin contain aromatic hydroxyl groups that react with Folin phenol reagent (tungstophosphoric and molybdophosphoric acids) to form a blue color suitable for the estimation of tannin and lignin concentrations. However, the reaction is not specific for lignin or tannin, nor for compounds containing aromatic hydroxyl groups, in as much as many other reducing materials, both organic and inorganic, respond similarly.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Waterloo	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Waterloo	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in water	EP318 ALS Environmental - Waterloo	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon