



## Chapter 2.0 Marine Water Quality

*2024 Milne Port Marine Environmental Effects Monitoring Program (MEEMP) and Non-Indigenous Species/Aquatic Invasive Species (NIS/AIS) Monitoring Program*

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## ACRONYMS AND ABBREVIATIONS

Acronym or Abbreviation	Definitions
ALS	ALS Canada Ltd.
BC	British Columbia
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CALA	Canadian Association for Laboratory Accreditation Inc.
CCME	Canadian Council of Ministers of the Environment
DL	Detection limit
DQOs	Data Quality Objectives
ERP	Early Revenue Phase
FEIS	Final Environmental Impact Statement
HEPH	Heavy Extractable Petroleum Hydrocarbons
LEPH	Light Extractable Petroleum Hydrocarbons
MEEMP	Marine Environmental Effects Monitoring Program
MDL	Method Detection Limit
NTU	Nephelometric Turbidity Unit
PAHs	Polycyclic aromatic hydrocarbons
PC	Project Certificate
PSU	Practical Salinity Unit
QA/QC	Quality Assurance / Quality Control
QC	Quality Control
RPD	Relative Percent Difference
TARP	Trigger Action Response Plan
TSS	Total Suspended Solids
UTM	Universal Transverse Mercator
WQGs	Water Quality Guidelines

## 2.0 WATER QUALITY

### 2.1 Introduction

This chapter presents the results of the marine water quality monitoring program, a component of the larger Marine Environmental Effects Monitoring Program (MEEMP) conducted at Milne Port and in Milne Inlet during the 2024 open-water season. The water quality component was developed in consideration of the potential Project-related impacts to the marine environment as predicted in the Final Environmental Impact Statement (FEIS) and FEIS addenda (Baffinland 2012, 2013), as well as monitoring requirements outlined in the Project Certificate (PC) Conditions described in Chapter 1.0, Table 1-2 (i.e., PC Conditions No. 76, 83(a), 87, 89 and 99(a)), and as required by the Type A Water License.

#### 2.1.1 Objectives

The MEEMP objectives are outlined in Section 1.3 for the overall program. The objective specific to the marine water quality component is:

- Assess potential changes in marine water quality parameters in the receiving environment related to site drainage and effluent discharges at MP-05 and MP-06.

### 2.2 Study Design

#### 2.2.1 Sampling Parameters

The marine water quality program is designed to monitor potential changes in receiving environment water quality associated with site drainage and effluent from two discharge points (MP-05 and MP-06), including run-off from the iron ore stockpiles. The MP-05 discharge is permitted from the Milne Port Ore Stockpile Sedimentation Pond (East) and the MP-06 discharge is permitted from the Milne Port Ore Stockpile Sedimentation Pond (West). The quality of both effluent discharges is monitored monthly during each intermittent discharge period by the Mine as per the requirements of the Type “A”, Water Licence No. 2AM-MRY1325, and reported elsewhere. The marine receiving environment for the MP-05 primary discharge has been monitored annually since 2015, with monitoring at a second discharge point (MP-06) added in 2020. This sampling program has been applied to identify and characterize adverse effects on marine water quality in Milne Port from the two site discharges, to evaluate the current effectiveness of existing mitigation measures, and to inform the need for further mitigation and/or alterations to Project activities, as necessary.

In 2024, water quality samples were collected at four sampling stations near the primary site discharge (MP-05) that have been monitored annually from 2015 to 2023<sup>1</sup>. One station is situated downstream from the marine discharge point for effluent and collected site drainage (i.e., Source-1), while the remaining three stations are located approximately 250 m offshore from the outfall location to the northwest (WNE-1), north (North-1), and northeast (ENE-1), respectively (Figure 2-1, Table 2-1). The same sampling plan was applied to MP-06 in 2020 and four water quality stations were monitored in 2024 downstream from the discharge (Source-2) and approximately 250 m offshore in different directions (WNE-2, North-2, ENE-2) (Figure 2-1, Table 2-1). As indicated in Table 2-1, due to the repositioning of the MP-05 and MP-06 discharge points, the 2024 sampling

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<sup>1</sup> SEM 2016; SEM 2017; Golder 2018, Golder 2019, Golder 2020, Golder 2021, Golder 2022; WSP 2023; WSP 2024

points were adjusted to be approximately 250 m from the discharge points. The coordinates for the sampling locations are provided in Table 2-1) and the locations are mapped in Figure 2-1. These modifications did not affect the relevance of the data to address study objectives, or the reliability of the water quality data collected. Similar to previous years, efforts were made to collect water quality samples during active effluent discharge periods, given that site effluent discharges were intermittent during the 2024 open-water season. The primary MP-05 discharge point was not actively discharging during the sampling period, however MP-06 had an active discharge prior to sampling (8 July 2024) as well as during the sampling period (15 August 2024).





**Table 2-1: 2024 Marine Water Quality Sampling Locations at MP-05 and MP-06**

Site Discharge Location	Station Name	UTM Coordinates (17W)	
		Easting (m)	Northing (m)
<b>MP-05</b> (Milne Port Ore Stockpile Sedimentation Pond [East])	Source-1	503484	7976487
	West Northwest (WNW) - 1	503516	7976625
	North (N) – 1	503593	7976600
	East Northeast (ENE) – 1	503692	7976495
<b>MP-06</b> (Milne Port Ore Stockpile Sedimentation Pond [West])	Source-2 <sup>1</sup>	503117	7976499
	WNW-2	502969	7976630
	N-2	503166	7976703
	ENE-2	503379	7976668

**Notes:** UTM = Universal Transverse Mercator; m = meter.

<sup>1</sup> On 6 August 2024, the MP-06 Source-2 location was too shallow to sample, and was instead sampled at 17W 503126 E, 7976471 N, approximately 30m south of the original location.

### 2.2.2 Indicators and Thresholds

Indicators and thresholds selected for the MEEMP program are described in Section 1.4.2. For marine water quality, a number of parameters are measured, including physical parameters, nutrients, metals, and hydrocarbons. A subset of these parameters (i.e., metals, total suspended solids [TSS], nutrients, and hydrocarbons) are identified as performance indicators to assess potential effects of effluent discharge on the receiving environment. To provide early warning of environmental effects from the Project, applicable water quality guidelines (WQGs) are used as a threshold where these exist (i.e., Canadian Council of Ministers of the Environment [CCME] WQGs for the protection of aquatic life in marine environments [CCME 2023]). For indicators with no associated WQG, such as iron, concentrations were compared to the data range from previous years (2015-2023). If a guideline exceedance was seen, or where no guideline exists, there was an increasing trend over time, then the effluent data from the discharge were reviewed to determine if the observed increase in these parameters was related to effluent discharges from MP-05 and MP-06.

Along with several other components of the MEEMP, the marine water quality monitoring program has indicators, thresholds and risk categories that are part of Baffinland's Trigger Action Response Plan (TARP), an adaptive management process. The TARP uses effect indicators that are measured against a series of tiered thresholds (i.e., low, moderate and high-risk thresholds) that are designed to guide short-term and long-term adaptive management strategies as outlined in Baffinland (2024). Baffinland has updated the TARP as part of the revised draft Marine Monitoring Plan (Baffinland 2023). The pre-defined actions identified in the TARP describe the responses that Baffinland would implement should the corresponding threshold levels be exceeded and assuming there is some degree of certainty that the measured change is Project-related. As adaptive management is beyond the scope of the present report, only the indicators, risk categories and thresholds are presented here (Section 2.3.4).



## 2.3 Materials and Methods

### 2.3.1 Field Methodology

Water quality samples were collected during five sampling events scheduled between 30 July and 18 August 2024 to monitor for potential changes in water quality associated with site drainage and effluent discharges to the marine environment (including iron ore stockpile run-off). Samples were typically collected every few days over this period; however, some flexibility was built into the sampling program to facilitate the collection of effluent and receiving water quality samples from the same discharge period to allow for direct comparisons.

Water samples were collected from just below the surface (1 to 2 m) or mid-water column depth from the deeper MP-06 sample locations (MP-06-WNW, MP-06-North, and MP-06-ENE) from a zodiac vessel using a 2.0 L vertically oriented Kemmerer bottle sampler. The sampler was washed with laboratory-grade detergent and then rinsed with site water prior to sample collection at each station. Samples were preserved in the field according to laboratory instructions and kept refrigerated until they were shipped (within 48 h of sample collection) on ice in coolers to ALS Canada Ltd. (ALS), a Canadian Association for Laboratory Accreditation Inc. (CALA) accredited analytical laboratory. To further limit the time between sample collection and preservation, dissolved metals and mercury samples were field-filtered and preserved, rather than being filtered by the analytical laboratory upon sample receipt. Samples were analyzed for routine parameters, TSS, nutrients, major ions, total and dissolved metals (including mercury), benzene, toluene, ethylbenzene, xylenes, hydrocarbons, and PAHs. At each sampling station, in situ water quality measurements were conducted using a YSI multiparameter meter. Instrumentation was deployed once per station at the same depth as the discrete water quality sample to collect measurements of conductivity, temperature, depth, dissolved oxygen, turbidity, and pH. A full list of field water quality parameters is provided in Appendix 2A in the field data sheets, while a full chemistry parameter list is provided in the analytical reports in Appendix 2B. A total of five field duplicates and three field blank quality control (QC) samples were collected during the field program for Quality Assurance / Quality Control (QA/QC) purposes as discussed in Section 2.3.3.

The frequency of sampling for hydrocarbons (Petroleum hydrocarbons [BTEX/F1]; Hydrocarbons [LEPH/HEPH], F2-F4, Polycyclic Aromatic Hydrocarbons [PAHs]) in 2024 was consistent with the 2021, 2022, and 2023 sampling programs. Organic constituents have not been detected in water samples collected since 2015. As such, for each of the five sampling events, hydrocarbons were sampled at two of the four receiving environment stations established for each of the two discharges, for a total of twenty samples.

### 2.3.2 Data Analysis

Descriptive summary statistics (i.e., mean, minimum, maximum) were calculated for each sampling station over the five sampling events. For these calculations, the value of the reported detection limit (DL) was conservatively used for measurements reported to be below the DL. The 2024 summary statistics were screened against the CCME WQGs for the protection of aquatic life in marine environments (CCME 2021). For parameters of interest without an applicable CCME WQG (e.g., iron), concentrations were qualitatively compared to the range of water concentrations reported in previous years (i.e., annually from 2015 to 2023). A point to note, analytical improvements in the ability to detect iron were made in 2017, which reduced the detection limit to <10 µg/L from the previous DL of 500 µg/L reported in the 2015 and 2016 MEEMP programs. Differences in the sensitivity of DL precludes comparison of the 2024 iron data to pre-2017 iron data.

The application of CCME WQGs to total concentrations measured in the environment can be conservative, especially when those metals are part of the mineral matrix that makes up the particle. This is because total metal concentrations reflect both the proportion of metals associated with particles as well as dissolved in the water column. Dissolved concentrations<sup>2</sup> tend to provide a more realistic indication of the bioavailable concentration for direct uptake from the water, particularly in turbid receiving environments (Chapman and Wang 2000); however, water quality guidelines for the protection of aquatic life are generally based on total (not dissolved) concentrations. WQGs are derived from laboratory-based toxicity tests where exposure concentrations are based on metals in solution from metal salts and the laboratory test water has a low level of suspended matter (i.e., clear water). Typically, these toxicity tests involve exposure of test fish, invertebrate, or plant species to more bioavailable dissolved metal concentrations, whereas the exposure guideline is based on total concentrations, thus contributing to conservatism in the derivation of water quality guidelines.

Baffinland was responsible for summarizing the 2024 effluent data from MP-05 and MP-06 as per the Type A Water Licence requirements and results are reported by Baffinland separately.

### **2.3.2.1 Analysis of Temporal Trends of Iron Concentrations**

The analysis of iron concentrations was performed separately for MP-05 and MP-06 data. For MP-05, where eight years of data were available, the temporal trend was analyzed using year as a continuous variable. The variable was modeled as a natural cubic spline with three degrees of freedom, to account for the non-linearity in temporal trends in fines. For MP-06, where only five years of data were available, the temporal trend was analyzed using year as a categorical variable.

Prior to analysis, the non-detect values were replaced using the approach described in USEPA (2006). A robust substitution approach, using the statistical package “NADA” in R v.4.3.2 was used to replace non-detects with values based on sample size, frequency of non-detects, and distribution of data above the detection limit. Following the substitution, the response variable (iron concentration) was log<sub>10</sub>-transformed prior to analysis.

For both analyses, the models included three fixed effects – the main effects of year and station, and the interaction between year and station. In addition, a random effect of date (as a categorical variable) was used to account for variability between sampling days. Both analyses were conducted using the package glmmTMB (Brooks et al. 2017) in the statistical package R v. 4.3.2 (R 2023). Following both regressions, if the interaction between year and station, or the main effect of station were significant, multiple comparisons between years within each station were performed using the package emmeans (Lenth 2020).

### **2.3.3 Quality Management**

Consistent application of QA/QC measures facilitates the collection of high-quality data which, in turn, increases confidence in the robustness of results. Quality management procedures were applied to the field collection, data analysis, and reporting tasks for the water quality program to verify that the data presented are valid and of acceptable quality to address MEEMP objectives.

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<sup>2</sup> The measure of “dissolved” metals is an operational definition based on whether the metal passes through a small (0.45 micrometre [µm]) filter (BC MWLAP 2013)

### 2.3.3.1 *Field QA/QC*

Field staff were trained to be proficient in standardized sampling procedures, data recording using standard forms, and equipment operations applicable to the monitoring program. Field work was conducted according to specified instructions and established technical procedures for standard sample collection, preservation, handling, storage, and shipping procedures.

General QA/QC tasks applicable to the water quality program included, but were not limited to, the following:

- Preparing geo-referenced field maps for use during the program to accurately document sampling locations and project-specific data collection forms to standardize the field data collection process.
- Regular communications between the Project Manager and field staff.
- Collection of Quality Control (QC) samples in the field (field duplicates and blanks).
- Accredited laboratories were selected for sample analysis and the performance quality of these laboratories was verified through WSP's internal vendor approval and assessment procedures.
- Field data sheets were reviewed by the field supervisor at the end of each day for completeness and accuracy.
- Chain-of-custody documentation was used to track sample shipments to the individual subcontractor laboratories.
- Samples were packaged and shipped to the laboratory in accordance with required holding times and storage conditions.

Field blanks were collected to identify potential sources of contamination during field sampling. Field blank sample containers were filled with de-ionized water in the laboratory and then processed in the field in the same manner as water samples from each station (i.e., uncapped, treated with preservative, re-capped). Five field duplicates and three field blanks were collected over the five sampling events.

### 2.3.3.2 *Laboratory and Data Analysis QA/QC*

Laboratory QA/QC reports were reviewed upon receipt to confirm adherence to sample hold times and laboratory data quality objectives (DQOs), and that the appropriate QA/QC information had been reported. Laboratory QA/QC included verification of recommended sample holding times and the analysis of laboratory control samples, laboratory duplicates, and spiked samples to assess the reliability and reproducibility of the data.

The analysis of field QC samples involved a review of field blank results. Notable results were those detected in the field blanks that were greater than five times the respective DL, in accordance with the BC Field Sampling Manual (BC MWLAP 2013). To assess variability between field duplicates, the Relative Percent Difference (RPD) was calculated as follows:

$$RPD = \left( \frac{\text{sample} - \text{duplicate}}{(\text{sample} + \text{duplicate})/2} \right) \times 100$$

In accordance with the BC Field Sampling Manual (BC MWLAP 2013), an RPD value of >20% was used to identify differences between original and duplicate samples. Values less than five times the Method Detection Limit (MDL) were not included in the RPD calculations because analytical variability near the MDL is higher and does not provide a good measure of variability associated with the collection of field samples.

### 2.3.4 TARP Assessment

As part of applying the Trigger Action Response Plan (TARP), water quality performance indicators were screened against condition status/thresholds in 2024, in order to assess risk levels for each performance indicator (Table 2-2).

**Table 2-2: Marine Environment TARP Framework for Water Quality (Baffinland 2024)**

Component	Performance Indicators	Condition Status/Threshold		
		Low Risk	Moderate Risk	High Risk
Water Quality	<ul style="list-style-type: none"> <li>Metals</li> <li>TSS</li> <li>Hydrocarbons</li> <li>Nutrients</li> </ul>	<p>30-day mean concentration of a parameter is greater than 75% of an applicable CCME long-term guideline<sup>1</sup>.</p> <p>AND</p> <p>Effluent monitoring and spatial and temporal water quality data suggest a pattern indicative of effects from the Port's effluent discharge</p>	<p>Confirmed<sup>2</sup> exceedance of an effects benchmark or an applicable CCME long-term guideline<sup>2</sup> by a mean concentration.</p> <p>AND</p> <p>Effluent monitoring and spatial and temporal water quality data suggest that the confirmed increase in this parameter is related to the Port's effluent discharge.</p>	<p>To be determined based on outcome of moderate response investigations.</p>

<sup>1</sup> Canadian Council of Ministers of the Environment (CCME) water quality guidelines for the protection of marine aquatic life. With the exception of silver, total suspended solids (TSS), and turbidity, these are long-term water quality guidelines intended to be applied to the average concentration at a receiving environment station collected over a 5-in-30 sampling program (i.e., average of 5 discrete samples collected over a 30-day period). In lieu of a long-term guideline for silver, the short-term guideline will be applied to discrete measured concentrations. The long-term guidelines for TSS and turbidity will be used.

<sup>2</sup> Confirmed indicates that the Risk Status/ Threshold trigger has been observed in at least two consecutive monitoring programs, whether during the regular monitoring schedule or confirmed through a special study.

## 2.4 Results

### 2.4.1 QA/QC Results

The 2024 marine water quality data were considered valid based on the results of the QA/QC assessment provided in Appendix 2D for the following reasons:

- Most chemical analyses on surface water samples were completed within the sample hold time requirements, with the exception of some hold time exceedances for parameters such as pH, turbidity, dissolved organic carbon, nitrite, nitrate, total dissolved phosphorus, and TSS/TDS (Appendix 2D). Although exceedances of sample hold time requirements have been documented, the hold times for the parameters in question are relatively short and are outlined in Appendix 2D. Given the remote location of the site, such exceedances were unavoidable, and so efforts were taken to minimize the extent of any hold time exceedances. The hold time exceedances did not affect interpretation of the 2024 water quality data. Baffinland continues to minimize hold time exceedances where feasible given the northern location of the sampling program.
- Water sample temperature was slightly above the laboratory recommended thresholds for receipt of samples ( $< 10^{\circ}\text{C}$ ) in two of the five sampling events (VA24B9271 and YL2401213), with measured sample temperatures between  $10.9$  and  $14^{\circ}\text{C}$ . These water temperatures did not affect interpretation of the data.
- Data reported by the laboratory were considered reliable according to the accredited laboratory QA/QC assessment because there was a low frequency and magnitude of notable detected concentrations in blank QC samples and low variability between duplicates QC samples (Appendix 2D).

To demonstrate that the samples and analytical results can be considered valid, representative, and reproducible, five field duplicate samples were collected. To assess variability between field duplicates, the Relative Percent Difference (RPD) was calculated (Appendix 2D). All samples met RPD data quality objectives with the exception of:

- Duplicate B and its parent sample MP-05 North (sampled 6 August 2024) had a RPD percentage of 23% for conductivity, 24% for total dissolved solids (TDS), 24% for salinity, 27% for chloride, and 24% for sulphate.
- Duplicate C and its parent sample MP-05 ENE (sampled 12 August 2024) had a RPD percentage of 71% for total copper. The noted variability in total copper concentrations could be attributed to laboratory interference or variability in the particulate form as suspended solids. Of note, all other parameters within this duplicate pair had RPD percentages  $\leq 16\%$ .

As these exceptions were infrequent and minor, the QA/QC results indicate that the water chemistry data collected during the 2024 MEEMP are of acceptable quality to address the objectives stated in Section 2.1.1.

### 2.4.2 Marine Water Quality Results

Field water quality measurements are documented in Appendix 2A, and laboratory reports are provided in Appendix 2B. The field measurements and laboratory raw data for each station sampled in 2024 are summarized in Appendix 2C. Summary statistics (mean, maximum, and minimum) for the 2024 water quality program calculated from these data and screened against the CCME WQGs for the protection of aquatic life in marine environments (CCME 2021) are presented in Table 2-3. Summary statistics for parameters of interest for the ten monitoring years between 2015 and 2024 are provided in Appendix 2E – Table 1.



Table 2-3: Marine Water Quality – Receiving Environment Summary Statistics for the MP-05 and MP-06 Milne Port Site Discharges over the Five Sampling Events in 2024

Parameter	CCME Marine WQG for Protection of Aquatic Life <sup>(a)</sup>		MP-05			MP-05			MP-05			MP-05			MP-06			MP-06			MP-06			MP-06		
			ENE 1 (n=5)			North 1 (n=5)			Source 1 (n=5)			WNW 1 (n=5)			ENE 1 (n=5)			North 1 (n=5)			Source 1 (n=5)			WNW 1 (n=5)		
	Short Term	Long Term	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Physical																										
pH	—	7.0-8.7	8.03	7.97	8.10	8.03	7.97	8.08	8.02	7.96	8.07	8.03	7.95	8.10	8.03	7.98	8.05	8.02	7.98	8.05	8.05	7.97	8.14	8.03	7.98	8.05
Salinity (PSU) <sup>b</sup>	—	—	21.3	7.1	29.2	21.3	7.9	29.3	21.6	7.0	29.2	21.0	2.9	29.7	28.9	23.1	30.8	30.4	29.5	31.0	18.2	1.3	29.9	29.7	27.1	30.8
TSS (mg/L)	<25 mg/L above background	<5 mg/L above background	2.9	< 2.0	5.3	2.5	< 2.0	3.5	2.3	< 2.0	3.2	2.6	< 2.0	3.4	3.2	< 2.0	5.1	2.5	< 2.0	4.7	2.5	< 2.0	3.8	3.8	< 2.0	7.2
Turbidity (NTU)	<8 NTU above background	<2 NTU above background	0.46	0.28	0.96	0.39	0.29	0.48	0.41	0.27	0.71	0.41	0.19	0.76	0.24	0.17	0.36	0.22	0.16	0.29	0.36	0.24	0.42	0.20	0.10	0.32
Nutrients (µg/L)																										
Nitrate (as N)	339,000	45,000	10.2	< 10	11	17.6	< 10	34	12.4	< 10	16	< 10	< 10	< 10	21.8	< 10	69	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total Metals (µg/L)																										
Aluminum	—	—	10.4	< 5	14.1	9.1	7.2	11.4	9	6.1	12.2	10.04	< 5	13.7	9.86	< 5	12.5	6.62	< 5	12.5	9.88	< 5	12.7	6.42	< 5	12.1
Arsenic	—	12.5	2.742	0.96	3.86	2.786	1.07	3.6	2.582	0.58	3.92	2.672	0.45	3.83	3.62	3.08	4.04	3.732	3.55	3.9	2.522	< 0.4	3.98	3.828	3.47	4.21
Cadmium	—	0.12	0.0262	< 0.02	0.034	0.022	< 0.02	0.03	0.0224	< 0.02	0.026	0.025	< 0.02	0.035	0.0336	0.026	0.041	0.028	0.022	0.036	0.0238	< 0.02	0.033	0.033	0.028	0.04
Chromium	—	1.5 (Cr(VI))	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.524	< 0.5	0.62	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Copper	—	—	2.462	< 0.5	5.63	0.918	< 0.5	1.66	3.428	< 0.5	9.58	3.2	< 0.5	10.6	2.712	< 0.5	4.63	2.342	< 0.5	5.83	6.102	< 0.5	20.1	2.86	< 0.5	6.83
Iron	—	—	14.6	< 10	22	11.8	< 10	16	12.4	< 10	19	15.4	< 10	24	16.4	< 10	36	11.4	< 10	17	15.4	< 10	19	11.4	< 10	17
Mercury	—	0.016	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Silver	7.5	—	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
PAHs (µg/L)																										
Naphthalene	—	1.4	-	-	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	-	-	-	< 0.050	< 0.050	< 0.050	-	-	-	< 0.050	< 0.050	< 0.050	-	-	-

Notes: (a) = Guidelines taken from CCME Marine WQG for the protection of Aquatic Life (<http://ceqg-rcqe.ccm.ca/download/en/221>); (b) Salinity reported as PSU by ALS and converted to mg/L for the purpose of this table. Bold Font = max exceeding a short term guideline or mean exceeding a long term guideline; CCME = Canadian Council of Ministers of the Environment; WQG = water quality guidelines; Min = minimum; Max = maximum; — = no guideline available; PSU = practical salinity unit; TSS = total suspended solid; mg/L = milligrams per liter; < = less than; N = Nitrogen; Cr(VI) = hexavalent chromium; PAH = polycyclic aromatic hydrocarbon; µg/L = micrograms per liter; mL = milliliter.

### 2.4.2.1 Conventional Parameters

The pH values in 2024 water samples collected downstream of both discharge points ranged from 7.95 to 8.14 (Table 2-3) and were within the CCME WQG range for marine waters (7.0 to 8.7) and within the pH range (7.0 – 8.2) reported in previous years (Appendix 2E – Table 1). Total suspended solids were low in most samples (<2 mg/L in 20 of 40 collected samples), with a maximum concentration of 7.2 mg/L in a sample collected from the MP-06 WNW location on 12 August 2024. Turbidity levels were similarly low (<0.1 NTU to 0.96 NTU) and both TSS and turbidity values were below CCME WQGs and within previously observed annual ranges (Appendix 2E – Table 1). Salinity ranged from 1.3 to 31.0 practical salinity units (PSU) in 2024, reflective of an estuarine environment (i.e., one that fluctuates between brackish and fully saline) and dissolved oxygen levels at all stations were indicative of well-oxygenated conditions (>90% saturation; >10.4 mg/L) (Appendix 2A).

### 2.4.2.2 Nutrients

Nutrients were mostly undetectable over the five sampling events and when detected, concentrations were low and below applicable CCME WQGs<sup>3</sup>. Nitrate concentrations downstream of both discharges in 2024 were largely below the detection limit, with a combined mean concentration of 0.01 mg-N/L and a maximum concentration of 0.07 mg-N/L. Nitrate concentrations in 2024 were consistent with those reported in 2023 for the MP-05 and MP-06 discharge stations, with slightly lower mean and maximum concentrations (Table 2-3; Appendix 2E – Table 1). Nitrite concentrations were all below detection limits in 2024 (Table 2-3), and total ammonia concentrations ranged from <0.005 to 0.0112 mg-N/L (Appendix 2C).

### 2.4.2.3 Metals

Measured metal concentrations downstream of both discharges were lower than applicable CCME WQGs over the five sampling events.

Total concentrations for a number of metals were low and often not detectable in each of the 2024 samples (Appendix 2C). For other metals (i.e., chromium and iron), detectable concentrations were driven by the particulate form as corresponding dissolved concentrations were below detection limits.

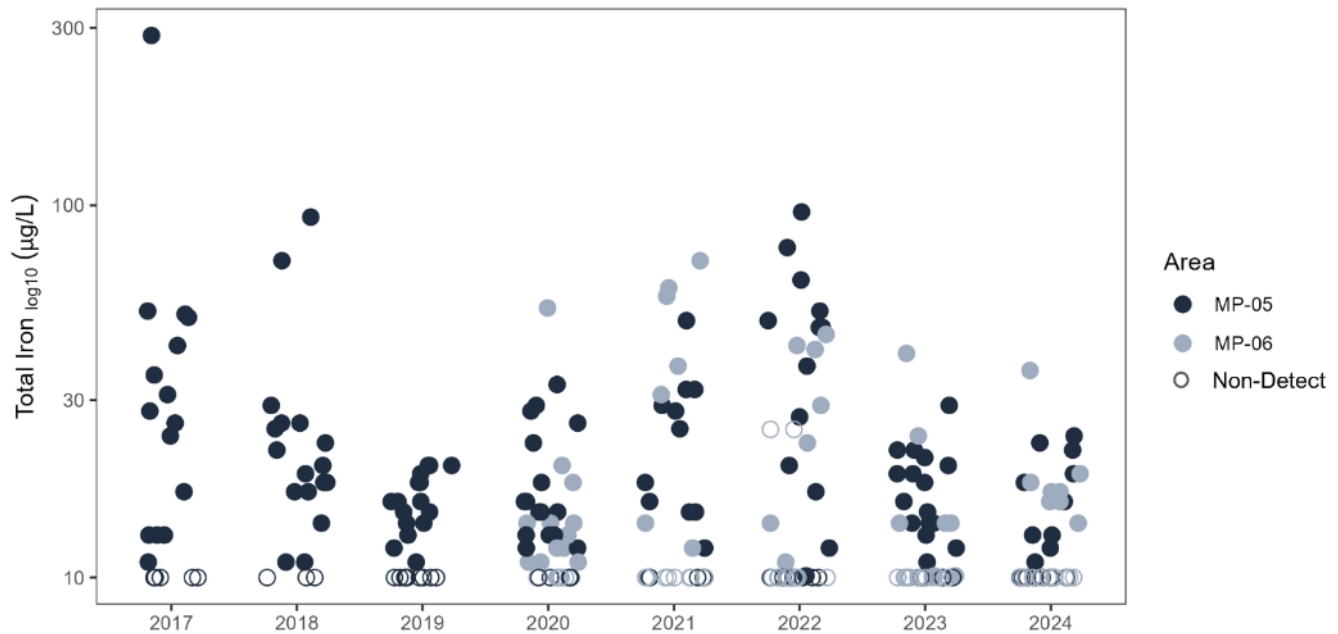
Iron is the metal of primary interest for the MEEMP. A CCME marine WQG for iron is not available and, as such, the 2024 iron data were compared to the 2015 and 2023 range measured downstream from the MP-05 and MP-06<sup>4</sup> discharges (Table 2-3, Appendix 2E – Table 1). Iron concentrations detected downstream of both discharges in 2024 were within detected concentrations measured from 2017 to 2023, which ranged from <10 to 286 mg/L (Appendix 2E – Table 1). The maximum total iron concentration in 2024 (36 µg/L) is below the maximum total iron concentration of 40 µg/L measured in 2023 (Table 2-3, Figure 2-2, Figure 2-3). Total iron concentrations were below detection limits in 20 of the 40 samples collected in 2024. While the receiving environment is considered to be marine, comparisons were also made to the recent freshwater Federal Environmental Quality Guideline (FEQG; ECCC 2024) for total iron; all concentrations were below the FEQG.

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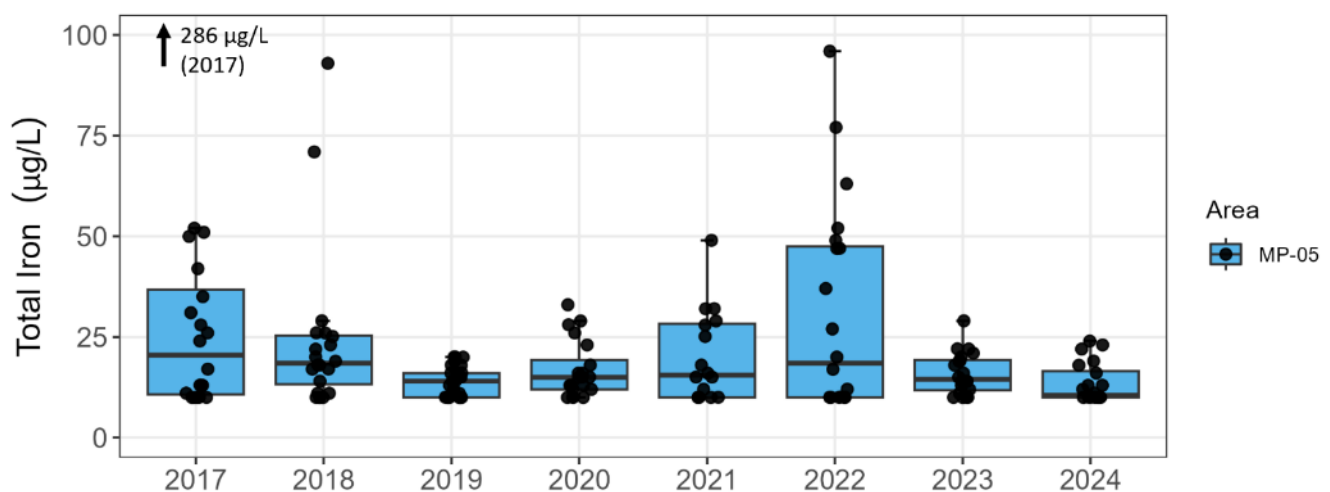
<sup>3</sup> No CCME marine WQGs are available for ammonia and nitrite.

<sup>4</sup> Receiving water quality data for the MP-06 discharge are available from 2020 onwards.

The temporal trend in iron concentrations for the MP-05 and MP-06 sampling locations from 2017 onwards is shown in Figure 2-2 and Figure 2-3. Total iron concentrations in marine water samples collected in 2024 remained within the range measured in previous years in the receiving environments of the MP-05 and MP-06 site discharges and the maximum concentration measured in 2024 (36 mg/L) was marginally lower than the maximum measured in 2023 (40 mg/L). Dissolved iron concentrations were below detection limits in each of the samples collected in 2024 (Table 2-3), meaning the majority of detectable iron concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota in the marine environment.

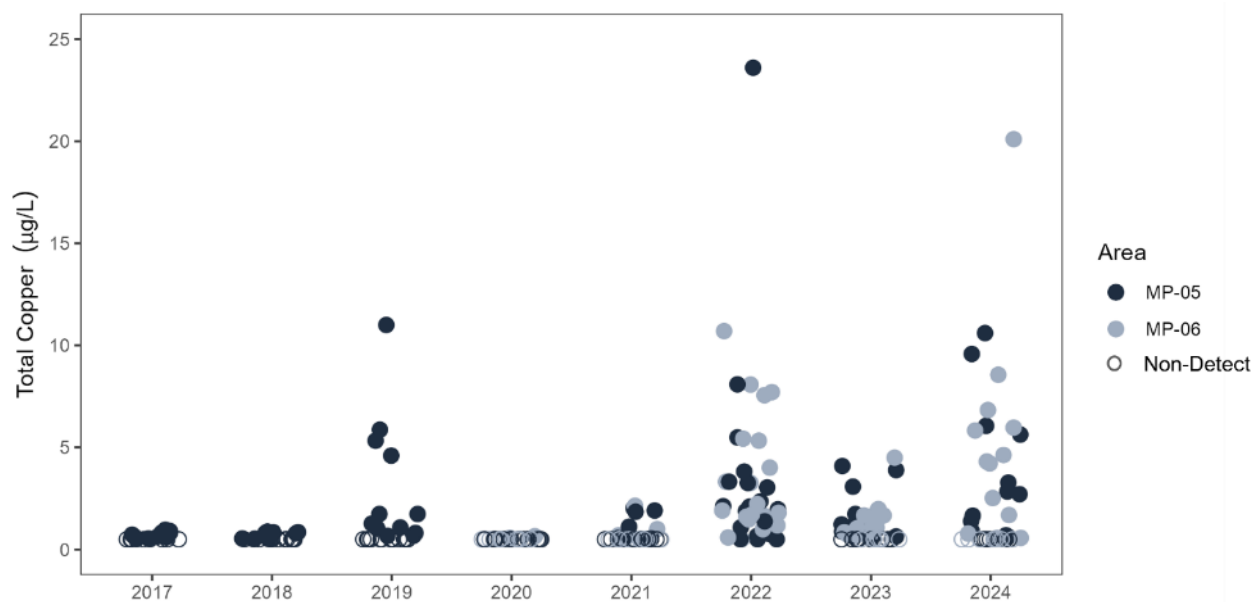


**Figure 2-2: Receiving Environment Total Iron Concentrations in Milne Inlet for the MP-05 and MP-06 Milne Port Site Discharges, (2017-2024).**

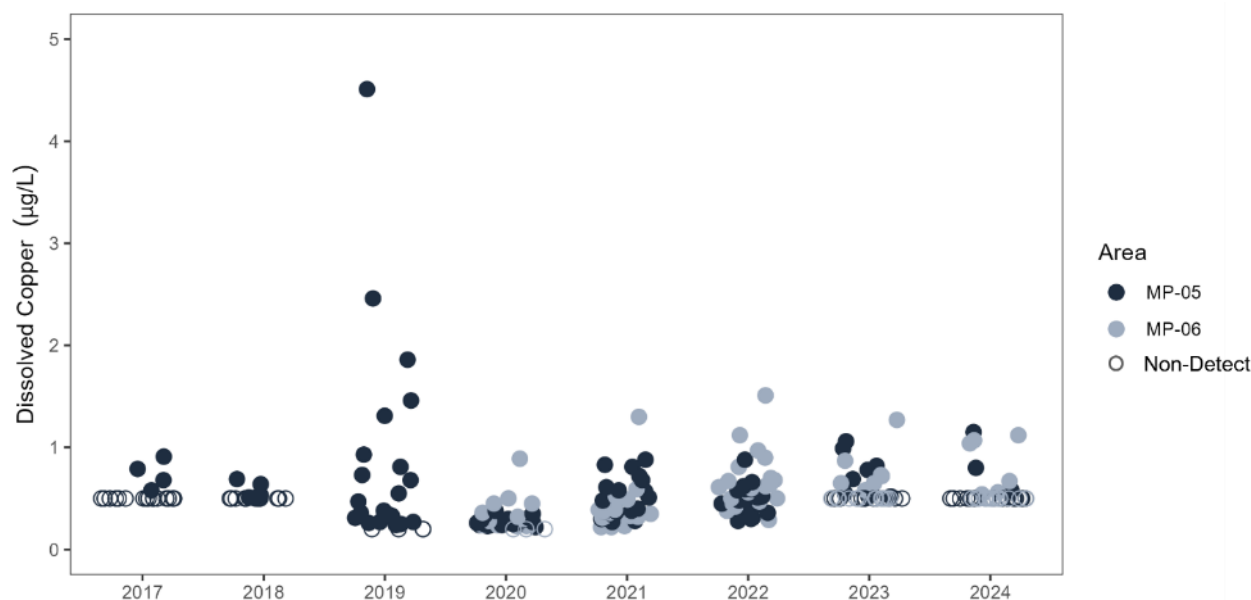


**Figure 2-3: Receiving Environment Total Iron Concentrations in Milne Inlet for the MP-05 Milne Port Site Discharges, (2017-2024).**

In addition to iron, several other metals of interest also do not have CCME marine WQGs. In these cases, comparisons of 2024 concentrations were made to the ranges reported in the 2015 to 2023 MEEMP water quality dataset (Appendix 2E – Table 1). These comparisons indicate that all measurements downstream from the primary site discharges MP-05 and MP-06 in 2024 were within ranges reported from previous years and decreasing for the most part. The temporal trend in copper concentrations for the MP-05 and MP-06 sampling locations from 2017 onwards is shown in Figure 2-4 and Figure 2-5. Total and dissolved copper concentrations were relatively stable in 2017 to 2018, as well as in 2020 to 2021 with the majority of samples below detection limits, though increased concentrations were measured in the 2019 sampling program. These 2019 concentrations are within the range reported for 2022 to 2024. In 2022, the mean total copper concentration of 3.5 µg/L for MP-05 and MP-06 (combined) was higher than mean concentrations calculated for previous years. In the 2024 sampling program, the mean total copper concentration was 3.0 µg/L, roughly 2.5-times greater than that measured in 2023 (1.2 µg/L), however the 2024 value remained within the historical range of measured concentrations (Figure 2-4 and Figure 2-5). The 2024 maximum total copper concentration of 20.1 µg/L was measured at the MP-06 Source location on 30 July 2024. This maximum was roughly 4.5-times greater than the 2023 maximum of 4.5 µg/L, however dissolved copper from the same sample was 20-times lower with concentration of 1.04 µg/L, meaning the majority of detectable copper concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota. While not coinciding with same sampling day (30 July 2024), total copper concentrations measured in the actual MP-06 site discharge effluent were 0.8 µg/L on 8 July 2024, and below detection limits on 15 August 2024, indicating that the site discharge may not be contributing to this elevated measured concentration.



**Figure 2-4: Receiving Environment Total Copper Concentrations in Milne Inlet for the MP-05 and MP-06 Milne Port Site Discharges, (2017-2024).**



**Figure 2-5: Receiving Environment Dissolved Copper Concentrations in Milne Inlet for the MP-05 and MP-06 Milne Port Site Discharges, (2017-2024).**

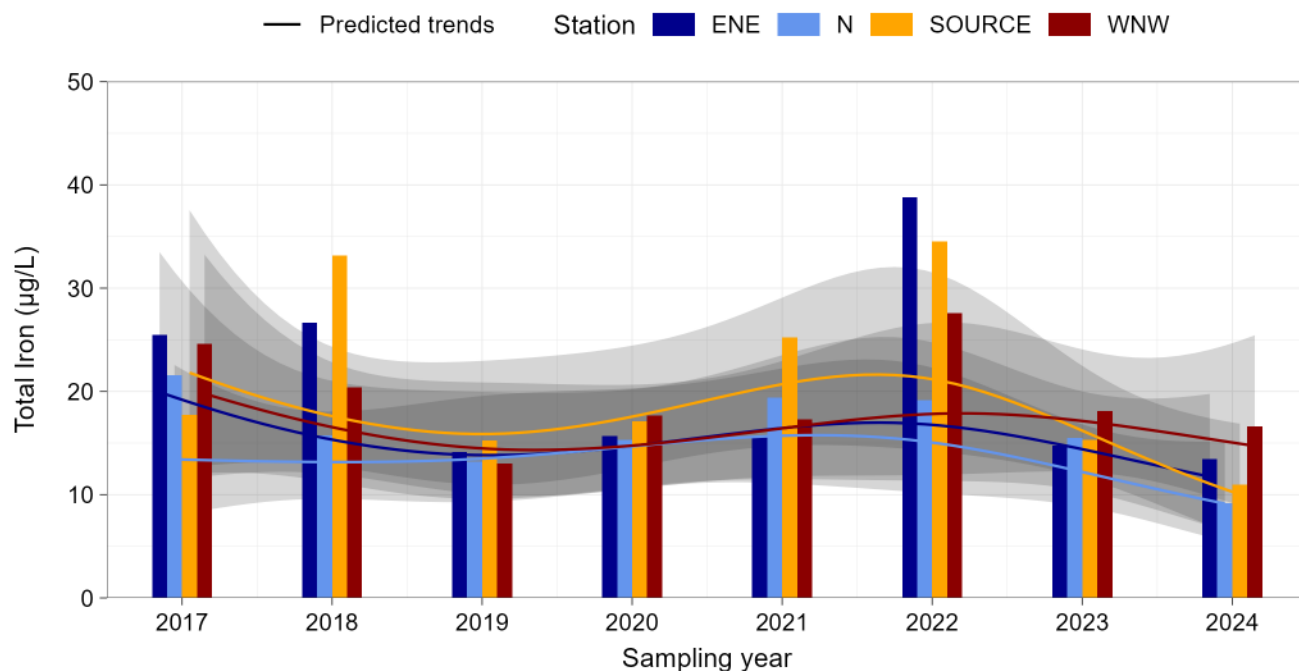
#### **2.4.2.4 Analysis of Temporal Trends of Iron Concentrations**

In the analysis of MP-05 data, the interaction between year (as a continuous variable) and station was not significant ( $P=0.7$ ). The model was rerun without the interaction for further interpretation. The main effect of year in the reduced model was not significant ( $P=0.4$ ). That is, there was no significant temporal trend in total iron concentration. Year-to-year changes in iron concentrations ranged from a reduction of 25% in concentrations between 2023 and 2024 to an increase of 12% between 2020 and 2021 (Figure 2-6). Concentrations recorded in 2023 and 2024 were similar to those recorded in 2019 and 2020. Model-estimated values were 40% lower in 2024 when compared to 2017, however the difference not significant ( $P=0.12$ ). The main effect of station was significant ( $P=0.026$ ), with effect sizes ranging from -23% (difference between ENE and Source stations;  $P=0.023$ ) and +16% (difference between ENE and N stations). N was 23% lower than Source ( $P=0.023$ ); all other pairwise comparisons were significant ( $P>0.1$  for all, effect sizes ranging from -18% to +16%). Overall, 2024 iron concentrations were lower than concentrations in 2023 and most previous years.

There was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of - 52% and +200%, respectively (Appendix 2F). The observed effect size between 2023 and 2024 was -25%. Due to the low statistical power to detect relevant effect sizes, the temporal effects should be assessed using effect sizes rather than a strict adherence to statistical significance.

The data in Figure 2-6 and the statistical results described above show that there was no significant temporal trend in total iron concentration and 2024 iron concentrations values were lower than concentrations in 2023 and most previous years.





**Figure 2-6: Observed Annual Means (Bars) and Estimated (Lines and Ribbons) Iron Concentrations in Milne Inlet for the MP-05 Milne Port Site, 2017-2024. Ribbons are 95% Confidence Intervals.**

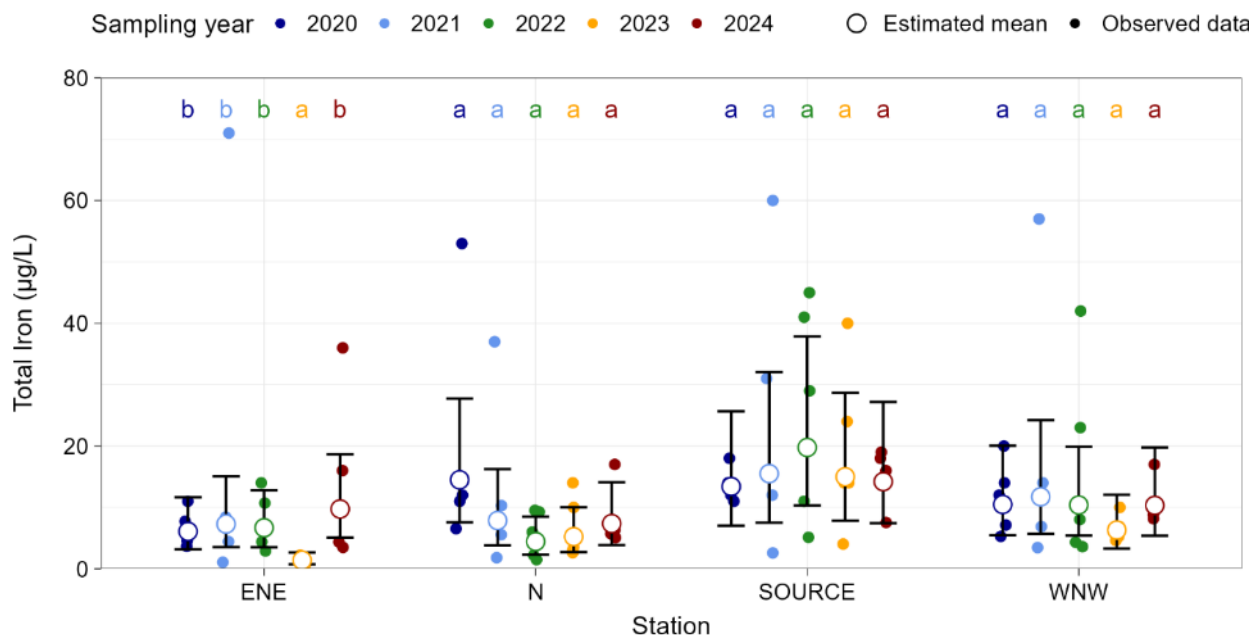
In the analysis of MP-06 data, the interaction between year (as a categorical variable) and station was significant ( $P < 0.001$ ), indicating a difference in temporal trends of iron concentrations between stations (Figure 2-7). The 2024 values were comparable to 2020 values for Source and WNW stations, lower than 2020 for N, and slightly higher than 2020 for ENE. Effect sizes of 2024 values to previous years ranged from -49% (comparison between 2024 and 2020 for N) and +600% (comparison between 2023 and 2024 for ENE, which had very low values in 2023; Figure 2-7).

Of the multiple comparisons between years within each station, 2024 values for ENE were 60% higher than 2020 ( $P = 0.9$ ), 34% higher than 2021 ( $P = 0.9$ ), 46% higher than 2022 ( $P = 0.9$ ), and 600% higher than 2023 ( $P < 0.001$ ), where iron concentrations were very low (Figure 2-7). None of the other pairwise comparisons were significant ( $P > 0.6$  for all), despite large effect sizes, ranging from a 49% decrease in iron between 2020 and 2024 for N to a 65% increase in iron between 2022 and 2024 for N. That is, at MP-06, iron concentrations at ENE were significantly higher in 2024 compared to 2023, but not any of the other previous years. This was due to the very low values recorded in 2023 and the high variability of data in other years (Figure 2-7). No significant temporal differences were found for the remaining three stations despite large effect sizes.

Overall, for ENE, 2024 values were higher than all previous years, while for N, Source, and WNW stations, 2024 values were similar to or lower than at least half of previous years. While the 2024 ENE values were higher than values at ENE in other years, they were still lower than values in all Source years and most WNW years.

There was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of -57% and +135%, respectively (Appendix 2F). Due to the low statistical power to detect relevant effect sizes, the temporal effects should be assessed using effect sizes rather than a strict adherence to statistical significance.

The data in Figure 2-7 and the statistical results described above show a significant difference in 2024 values for the ENE station when compared to 2023. ENE concentrations measured in 2024 were higher than in all previous years, while for N, Source, and WNW stations, 2024 values were similar to previous years.



**Figure 2-7: Observed (Points) and Estimated (Open Points and Error Bars) Iron Concentrations in Milne Inlet for the MP-06 Milne Port Site, 2020-2024. Error bars are 95% Confidence Intervals. Years with Different Letters Indicate Significant Difference within the Stations.**

#### 2.4.2.5 Hydrocarbons

Hydrocarbons and PAHs were not detected in any water quality sample collected during the 2024 MEEMP, except for two samples collected from the MP-06 ENE location (30 July 2024 and 18 August 2024) and one sample from the MP-05 Source location (6 August 2024).

The measured concentration of 2-methylnaphthalene (0.014 µg/L) was marginally above the detection limits (0.010 µg/L) in the MP-05-Source location on 18 August 2024. Concentrations of 1-methylnaphthalene, 2-methylnaphthalene, phenanthrene were detected in the MP-06 ENE sample on 30 July 2024, while concentrations of F3 (C16-C34), F4 (C34-C50), TEH (C10-C50), and TEH (C16-C50) were detected in the MP-06 ENE sample on 18 August 2024. No comparisons to effluent concentrations were completed as these parameters were not analyzed in the site discharges. Hydrocarbons have consistently been below DLs in water quality samples since sampling was initiated in 2015 (SEM 2016; SEM 2017; Golder 2018; Golder 2019; Golder 2020; Golder 2021; Golder 2022; WSP 2023; WSP 2024). Although, hydrocarbons and PAHs have not been previously detected in MEEMP water samples, the few detected concentrations at the MP-06 ENE and MP-05 Source locations were marginally above DLs and are not of concern. Water quality monitoring will continue in 2025 at MP-05 and MP-06 and will include monitoring of hydrocarbons to confirm if detected concentrations are present under 2025 site discharge and vessel traffic conditions.

### 2.4.3 TARP Assessment

Results of the water quality assessment above were screened against the TARP criteria (Table 2-2). The 'Low Risk' threshold was not triggered in 2024 because the 30-day mean for each water quality indicator was less than 75% of the applicable CCME water quality guideline for the protection of aquatic life.

Iron concentrations at the MP-05 discharge point did not show a spatial pattern or a temporal trend indicative of effects from the Port's effluent discharge. At the MP-06 discharge station, iron concentrations at ENE-2 were significantly higher in 2024 compared to 2023, but the 2024 concentrations were not significantly higher than any of the other previous years. This was due to the very low values recorded in 2023 and the high variability of data in other years. No significant temporal differences were found for the remaining three stations. While the 2024 ENE-2 values were higher than values in other years for this station, the 2024 concentrations were still lower than values in all years at Source-2 and most years at WNW-2.

## 2.5 Discussion

In 2024, concentrations of conventional water quality parameters, major ions, nutrients, and metals were often not detected in the water samples and did not exceed applicable CCME WQGs downstream from either discharge point (Table 2-3) and therefore are not anticipated to result in adverse effects on water quality and, by extension, aquatic biota in the receiving environment. Where guidelines were not available, maximum concentrations downstream of both discharges were within detected concentration ranges measured from the 2015 to 2023 MEEMP dataset and had decreased for many analytes when compared to previous years. For both discharges, hydrocarbons and PAHs were below detection limits in all samples, except for two samples from the MP-06 ENE location with detected concentrations of F3 (C16-C34), F4 (C34-C50), TEH (C10-C50, TEH (C16-C50), 1-methylnaphthalene, 2-methylnaphthalene, and phenanthrene, and one sample from the MP-05 Source location with a single detection concentration of 2-methylnaphthalene. Although, hydrocarbons and PAHs have not been detected in MEEMP water samples previously the few detected concentrations at the single site discharge location were marginally above DLs and are not of concern. Monitoring results from 2024 remain within original FEIS predictions (see Table 1-1), which forecasted no significant residual effects on water quality but indicated the potential for minor localized increases in TSS, nutrient, metal, and hydrocarbon concentrations.

Water quality monitoring in 2024 shows that mean total copper concentrations at both the MP-05 and MP-06 discharges were greater than those measured in 2023, however the 2024 measured concentrations remained within the historical range of measured concentrations. The 2024 maximum total copper concentration was also greater than the 2023 maximum; however, dissolved copper measured in the same sample was 20-times lower in concentration, meaning the majority of detectable copper concentrations were present in particulate form that is less bioavailable for uptake by aquatic biota.

Water quality monitoring in 2024 shows that iron concentrations in marine water samples generally remained within the range measured in previous years and were lower than measured in 2023. Results of the trend analysis indicated no significant temporal trend in total iron concentration at the MP-05 site and 2024 iron concentrations values were lower than concentrations in 2023 and most previous years. At the MP-06 site, a significant difference in 2024 values for the ENE station was seen when compared to 2023. ENE values measured in 2024 were higher than in all previous years, while for N, Source, and WNW stations, 2024 values were similar to previous years.

Dissolved concentrations tend to provide a more realistic indication of the bioavailable concentration for direct uptake from the water, particularly in turbid receiving environments (Chapman and Wang 2000); however, water quality guidelines for the protection of aquatic life are generally based on total (not dissolved) concentrations. While the receiving environment is considered to be marine, comparisons were also made to the recent freshwater FEQG (ECCC 2024) for total iron. This guideline factors in the potential for total or particulate iron to cause ecological effects via physical effects, such as smothering. Total iron concentrations were below detection limits in 20 of the 40 samples collected in 2024. However, for iron to be biologically available to phytoplankton and other marine biota, it generally needs to be in a dissolved form so that it can effectively cross biological membranes. Dissolved iron concentrations were below detection limits in each of the samples collected in 2024, meaning the majority of detectable iron concentrations were driven by the particulate form and less bioavailable for uptake by aquatic biota. Environmental conditions in the receiving environment, such as pH, dissolved oxygen concentrations, and redox potential, can influence the proportion of biologically available iron that can be released from particulates into surrounding waters. According to Millero (1998) and Lis et al. (2015), in circumneutral pH and well oxygenated environments, similar to those observed in Milne Inlet, iron tends to be poorly soluble. As a result, many open ocean waters and some freshwater systems are characterized by low dissolved iron concentrations (Johnson et al 1997; McKay et al 2004). Accordingly, iron deposition from the Project, at both present levels and in its current form, is not expected to adversely affect aquatic life.

## 2.6 Conclusions and Recommendations

Site drainage and effluent discharge to the marine environment does not appear to have resulted in adverse effects on marine water quality, as measured concentrations in downstream waters were generally low and/or undetectable, below applicable guidelines, and largely consistent with previous years' measurements. Monitoring results remain within original FEIS predictions, which forecasted no significant residual effects on water quality but indicated the potential for minor localized increases in TSS, nutrient, metal, and hydrocarbon concentrations.

With respect to iron, which is of primary concern for the Project, concentrations remain well within the range measured in previous years in the receiving environments of the MP-05 and MP-06 site discharges. In addition, concentrations showed a general decrease in comparison to the 2023 program results. Results of the trend analysis indicated that for MP-06, total iron concentrations at ENE were significantly higher than all previous years, while for N, Source, and WNW, 2024 values were similar to or lower than at least half of previous years. While the 2024 ENE concentration was higher than other ENE years, it was still lower than all Source years and most WNW years. The 2024 MP-05 concentrations were lower in 2024 than in 2023 and most previous years.

These results confirm that mitigation measures are functioning as intended and that Project activities are being managed in a way that has not adversely affected marine water quality. Moving forward, annual marine water quality monitoring is recommended to continue to evaluate whether site operations are affecting downstream water chemistry and to provide continuity in the established time series for the MEEMP. This recommendation is in line with commitments in the Project Certificate and the terms of the Type A Water Licence. Monitoring also serves to confirm that mitigation measures in place are working and to inform if additional mitigation or other adaptive management measures are required.

## 2.7 Closure

We trust this information is sufficient for your needs at this time. Should you have any questions or concerns, please do not hesitate to contact Phil Rouget, on behalf of the undersigned, at +1 250 419 4945.

**WSP Canada Inc.**



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**APPENDIX 2A**

# Water Quality Field Datasheets

## Water Quality Field Log

Project title: CA0026317.6821 -

Baffinland MEEMP

Date: 30 July 2024Sampled By: TT/OR

Discharging During Sampling:

☐ MP05 no active  
☐ MP06 discharge
Weather: Clear skies, 4-7°CWind Spd/Dir: 3-Skts SETide: Slack / Rising

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24 <sup>WP 248</sup>	1	14:35	10	5.9	110.5	11.90	35818	22760	8.20	245	0.0
MP05-WNW-1-24	1	15:05	6	5.8	105.0	11.50	35863	22615	8.20	232	0.0
MP05-North-1-24	1	14:55	10	5.3	107.4	11.77	35858	22583	8.20	235	0.0
MP05-ENE-1-24	1	15:45	6	6.2	111.0	11.80	35877	22963	8.20	232	0.0
MP06-Source-2-24 <sup>New WP</sup>	1	13:31	10	5.3	1106.0	11.70	36245	22473	8.18	238	0.0
MP06-WNW-2-24	(20)	17:45	6	0.8	111.0	13.03	47468	25424	8.30	242	0.0
MP06-North-2-4	(20)	16:40	6	1.1	109.0	12.80	47135	25418	8.30	238	0.0
MP06-ENE-2-24 <sup>MP249</sup>	(14)	17:10	10	4.1	105.0	11.80	37867	22664	8.20	209	0.0
DUP-A <sup>MP06 NW (WNW)</sup>	(20)	17:45	6	0.8	111.0	13.03	47468	25424	8.30	242	0.0
MLP-01	(10)	14:30	6								

## Comments

MP-06-Source-2-24 @ 14:00  
 MP-05-Source-1-24 @ 14:40  
 MP-05-N-1-24 @ 16:50  
 ↳ 17m YSI  
 MP-05-ENE-1-24 @ 17:20  
 ↳ 7m YSI

MP-05-N-1-24 @ 14:58  
 \*MP-05-N-1-24 dissolved metals & dissolved mercury  
 @ 15:00 heed filtered @ office → faulty filter  
 MP-05-WNW-1-24 @ 15:20  
 MP-05-ENE-1-24 @ 15:50  
 MP-05-WNW @ 17:50  
 ↳ & DUPA ↳ 10m YSI

DUP A - MP06-WNW-2

## Water Quality Field Log

Project title: CA0026317.6821 -

Baffinland MEEMP

Date: 6 Aug - 24Sampled By: MCR PV SI

Discharging During Sampling:

Weather: partly cloudyWind Spd/Dir: 5 km/h NW
☐ MP05  
☐ MP06
Tide: going down

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	7:34	10	7.3	98.6	11.23	14,495	13,245	7.88	193.6	0.15
MP05-WNW-1-24	1	7:51	6	6.7	89.5	10.42	36777	23999	7.91	192.3	0.48
MP05-North-1-24 + DUP	1	8:15	10	6.8	95.5	10.51	36442	23008	7.98	189.7	-0.36
MP05-ENE-1-24	1	8:02	6	5.7	106.2	11.53	36950	22772	7.97	192.0	-0.08
MP06-Source-2-24	1	9:10	10	8.0	93.3	11.08	267	1871	8.28	151.5	0.32
MP06-WNW-2-24 32m	13	9:25	6	0.4	113.2	13.26	48461	25695	8.11	184.2	-0.81
MP06-North-2-4 39m	20	9:40	6	0.3	113.1	13.27	48739	25747	8.12	185.7	-0.81
MP06-ENE-2-24 32m	17	9:55	6	0.4	111.9	13.12	49522	25722	8.11	186.5	-0.83
DUP- B	1	8:15	10								
MLP- 02	NH	89:00	10								

## Comments

MP06-Source 2-24 too shallow to sample location - sample collected at 17 W 503126 7976471



## Water Quality Field Log

Project title: CA0026317.6821 -

Baffinland MEEMP

Date: 12-08-24Sampled By: MCR DV NUB  
86 PH

Discharging During Sampling:



MP05



MP06

Weather: mid windy

Wind Spd/Dir: \_\_\_\_\_

Tide: ↓

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	10:15	10	2.5	102.5	11.82	41627	23717	8.08	336.0	-9.29
MP05-WNW-1-24	1	10:25	6	2.0	107.5	12.36	42615	23777	8.15	307.9	-14.10
MP05-North-1-24	1	9:55	10	2.4	105.4	12.22	42006	23718	8.01	450.0	6.41
MP05-ENE-1-24 +DWP	1	10:05	<del>10</del> 6	2.2	102.5	11.83	42100	23750	8.01	375.3	-14.75
MP06-Source-2-24	1	10:35	10	1.2	110.3	12.92	43200	23444	8.16	296.4	-14.30
MP06-WNW-2-24	<del>10</del> 1	10:55	6	0.5	111.9	13.39	44012	23418	8.20	282.1	-14.21
MP06-North-2-4	<del>20</del> 19	10:45	6	0.5	113.2	13.53	44401	23429	8.20	288.1	-14.15
MP06-ENE-2-24	<del>17</del> 17	11:10	10	0.5	110.3	13.23	44405	23419	8.21	277.8	-14.11
DUP-	1	10:05	6								
MLP-											

## Comments

DWP C - MP05-ENE-1

## Water Quality Field Log

Project title: CA0026317.6821 -

Baffinland MEEMP

Date: 15-Aug-24Sampled By: KCR DV MPJ NOB  
AB MB

Discharging During Sampling:

Weather: windy cloudyWind Spd/Dir: NW - 15 knots☐ MP05☒ MP06Tide: going down.

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	8:41	10	2.7	96.6	11.26	36215	20807	8.16	121.0	0
MP05-WNW-1-24	1	8:35	6	3.5	95.0	10.87	35470	20912	8.14	129.2	0
MP05-North-1-24	1	8:55	10	2.6	101.6	11.74	38803	22201	8.16	94.9	0
MP05-ENE-1-24	1	8:51	6	2.5	98.4	11.36	39403	22488	8.17	128.6	0
MP06-Source-2-24	1	7:46	10	3.4	99.8	11.46	36416	21400	8.08	173.4	0
MP06-WNW-2-24	17 <del>18</del>	8:26	6	0.1	103.4	12.43	44898	23540	8.04	134.5	0
MP06-North-2-4	19 <del>20</del>	8:18	6	0.0	103.9	12.49	45103	23558	8.03	177.0	0
MP06-ENE-2-24	17	7:55	10	0.2	106.4	12.75	44837	23589	8.03	173.9	0
DUP- D (ENE)	17	7:55	10	0.2	106.4	12.75	44837	23589	8.03	153.9	0
MLP-											

## Comments

ENE - 7:57

DV

## Water Quality Field Log

Project title: CA0026317.6821 -

Baffinland MEEMP

Date: 18 AugustSampled By: MCR, AB, NO, DV, MPS, MB

Discharging During Sampling:



MP05



MP06 Active

Weather: Overcast, 10-12°CWind Spd/Dir: 7-8 kts SWTide: Ebb

Sample Name	Depth (m)	Time	# Jars	Temp (°C)	DO (%)	DO (mg/L)	SPC (µs/cm)	Conductivity (µs/cm)	pH	ORP (mv)	NTU
MP05-Source-1-24	1	15:16	6	4.5	106.7	10.97	42995	26078	7.94	242.1	0
MP05-WNW-1-24 + DUP	1	15:09	6	4.0	102.8	11.26	43192	25861	7.93	241.4	0
MP05-North-1-24	1	15:25	10	4.7	107.3	11.92	43865	26134	7.96	240.1	0
MP05-ENE-1-24	1	15:21	6	4.4	101.5	11.87	43207	26294	7.96	241.7	0
MP06-Source-2-24	1	14:43	10	4.2	106.6	11.59	43512	26140	7.90	136.8	0
MP06-WNW-2-24	<del>17</del> 17	15:02	6	2.0	104.9	11.86	47156	26386	7.95	239.4	0
MP06-North-2-4	<del>219</del> 19	14:50	6	1.8	104.3	11.83	47370	26401	7.91	213.8	0
MP06-ENE-2-24	17	14:55	10	1.9	105.8	12.00	47283	26373	7.95	236.8	0
DUP- E	1	15:10	6	4.0	106.4	11.65	43185	25838	7.94	240.6	0
MLP-03	—	—	6	—	—	—	—	—	—	—	—

## Comments

\*YSI calibrated but has been giving high negative turbidity readings all program\*

DUP E - MP05-WNW

**APPENDIX 2B**

# Water Quality Analytical Reports

## CERTIFICATE OF ANALYSIS

Work Order	: VA24B9990	Page	: 1 of 16
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 09-Aug-2024 08:30
PO	: ----	Date Analysis Commenced	: 10-Aug-2024
C-O-C number	: ----	Issue Date	: 16-Aug-2024 13:00
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

## Signatories

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

Signatories	Position	Laboratory Department
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia



## General Comments

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

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

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

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

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

Unit	Description
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

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

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

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

## Qualifiers

Qualifier	Description
RRV	Reported result verified by repeat analysis.





Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	83.4	85.2	84.7	80.7	78.4
Conductivity	----	E100S/VA	2.0	µS/cm	12000	13300	12100	5320	2480
pH	----	E108/VA	0.10	pH units	8.07	8.08	8.10	8.10	8.14
Salinity	----	EC100S/VA	1.0	psu	7.0	7.9	7.1	2.9	1.3
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	7990	9020	8300	3060	1420
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0
Turbidity	----	E121/VA	0.10	NTU	0.37	0.29	0.36	0.34	0.40
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	770	1270	1230	593	308
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	814	1030	1310	608	302
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0054	<0.0050	0.0082	0.0081
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	13.2	15.1	13.4	6.3	<5.0
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	3680	4160	3800	1530	666
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	<0.20	0.22	0.20	<0.20	<0.20
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	<0.050	0.091	<0.050	<0.050	<0.050
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	0.011	0.034	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0049	0.0088	0.0058	0.0037	0.0030
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0053	0.0086	0.0054	0.0024	<0.0020
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	507	574	525	213	90.3
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.31	1.02	1.02	0.95	1.07
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	1.08	1.14	1.21	1.15	1.37
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0117	0.0072	0.0115	0.0102	0.0126
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00058	0.00107	0.00096	0.00045	<0.00040



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1	MP05-North-1-2	MP05-ENE-1-24	MP05-WNW-1-2	MP06-Source-2
(Matrix: Water)						-24	4		4	-24
Client sampling date / time						06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005	
					Result	Result	Result	Result	Result	
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0043	0.0045	0.0048	0.0041	0.0039	
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	0.47	0.64	0.81	0.37	<0.30	
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	63.6	75.6	94.5	50.7	32.4	
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	0.00606	0.00166	0.00284	0.0106	0.00856	
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	<0.010	0.011	<0.010	0.016	
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.020	0.026	0.034	<0.020	<0.020	
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	159	204	262	117	53.7	
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00077	0.00077	0.00079	0.00066	0.00083	
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00126	0.00171	0.00198	0.00085	0.00047	
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	43.7	57.8	73.3	31.6	13.8	
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0127	0.0170	0.0206	0.0091	<0.0050	
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	1120	1480	1880	803	348	
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	0.836	1.12	1.39	0.588	0.268	



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
					Result	Result	Result	Result	Result
Total Metals									
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	98.0	126	164	69.7	29.0
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00133	0.00134	0.00151	0.00125	0.00114
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00075	0.00102	0.00099	0.00046	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0042	0.0047	0.0045	0.0040	0.0038
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	0.46	0.80	0.78	0.36	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	61.2	94.5	88.6	49.6	32.8
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	0.00115	0.00080	<0.00050	0.00058	0.00107
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	<0.020	0.031	0.033	<0.020	<0.020



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	150	252	244	114	54.8
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00058	0.00051	0.00059	0.00054	0.00054
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00119	0.00193	0.00187	0.00089	0.00050
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	43.0	73.3	69.0	30.3	14.0
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0124	0.0207	0.0200	0.0092	<0.0050
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	1040	1830	1730	792	342
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	0.817	1.39	1.36	0.610	0.272
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	101	163	164	75.9	32.5
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00135	0.00140	0.00135	0.00132	0.00117
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
(Matrix: Water)					Client sampling date / time	06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Dissolved metals filtration location	---	EP421/VA	-	-	Field	Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Styrene	100-42-5	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Toluene	108-88-3	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	<0.40	<0.40	---	---	<0.40	
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	<0.30	<0.30	---	---	<0.30	
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Hydrocarbons										
EPH (C10-C19)	---	E601A/VA	250	µg/L	<250	<250	---	---	<250	
EPH (C19-C32)	---	E601A/VA	250	µg/L	<250	<250	---	---	<250	
F2 (C10-C16)	---	E601/VA	100	µg/L	<100	<100	---	---	<100	
F3 (C16-C34)	---	E601/VA	250	µg/L	<250	<250	---	---	<250	
F4 (C34-C50)	---	E601/VA	250	µg/L	<250	<250	---	---	<250	
TEH (C10-C50)	n/a	E601/VA	400	µg/L	<400	<400	---	---	<400	
TEH (C16-C50)	---	E601/VA	400	µg/L	<400	<400	---	---	<400	
VHw (C6-C10)	---	E581.VH+F1/ VA	100	µg/L	<100	<100	---	---	<100	
F1-BTEX	---	EC580/VA	100	µg/L	<100	<100	---	---	<100	
HEPHw	---	EC600A/VA	250	µg/L	<250	<250	---	---	<250	
LEPHw	---	EC600A/VA	250	µg/L	<250	<250	---	---	<250	
VPHw	---	EC580A/VA	100	µg/L	<100	<100	---	---	<100	
F1 (C6-C10)	---	E581.VH+F1/ VA	100	µg/L	<100	<100	---	---	<100	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	94.0	86.7	---	---	85.7	
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	93.2	88.6	---	---	88.0	
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%	78.4	110	---	---	108	



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					06-Aug-2024 07:34	06-Aug-2024 08:15	06-Aug-2024 08:02	06-Aug-2024 07:51	06-Aug-2024 09:10
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-001	VA24B9990-002	VA24B9990-003	VA24B9990-004	VA24B9990-005
					Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	84.6	89.4	----	----	89.4
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	100	99.7	----	----	100
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	0.014	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates									
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	95.7	96.6	----	----	108
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	94.7	95.7	----	----	93.0
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	101	104	----	----	116



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Work Order : VA24B9990  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03

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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.



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	Dup-B	MPL-02
Client sampling date / time					06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, total (as CaCO3)	---	E290/VA	1.0	mg/L	112	112	112	84.4	<1.0
Conductivity	---	E100S/VA	2.0	µS/cm	46400	46200	46100	10600	<2.0
pH	---	E108/VA	0.10	pH units	8.03	8.05	8.05	8.10	5.79
Salinity	---	EC100S/VA	1.0	psu	31.0	30.8	30.8	6.2	<1.0
Solids, total dissolved [TDS]	---	E162S/VA	10	mg/L	44300	44500	45200	7120	<10
Solids, total suspended [TSS]	---	E160S/VA	2.0	mg/L	<2.0	5.1	<2.0	<2.0	<2.0
Turbidity	---	E121/VA	0.10	NTU	0.16	0.17	0.20	0.36	<0.10
Hardness (as CaCO3), dissolved	---	EC100/VA	0.50	mg/L	5910	5730	5660	1240	<1.00
Hardness (as CaCO3), from total Ca/Mg	---	EC100A/VA	0.50	mg/L	6150	5780	5960	1050	<1.00
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0059	<0.0050	0.0060	<0.0050	0.0053
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	55.8	55.5	56.2	11.3	<5.0
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	16700	16600	16600	3170	<50
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.83	0.89	0.87	<0.20	<0.20
Kjeldahl nitrogen, total [TKN]	---	E318S/VA	0.050	mg/L	0.087	0.099	0.090	<0.050	<0.050
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	<0.010	<0.010	0.030	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0235 <sup>RRV</sup>	0.0266	0.0252	0.0104	<0.0020
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0252 <sup>RRV</sup>	0.0250	0.0242	0.0069	<0.0020
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	2250	2250	2240	449	<3.0
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	---	E358-L/VA	0.50	mg/L	2.35	1.15	1.01	1.08	<0.50
Carbon, total organic [TOC]	---	E355-L/VA	0.50	mg/L	0.96	1.17	1.27	1.13	<0.50
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	0.0098	<0.0050
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00360	0.00361	0.00415	0.00113	<0.00040
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0084	0.0083	0.0086	0.0044	<0.0010



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	Dup-B	MPL-02
Client sampling date / time					06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
					Result	Result	Result	Result	Result
Total Metals									
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	3.78	3.92	3.64	0.74	<0.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000026	0.000030	0.000040	<0.000020	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	384	367	375	78.4	<1.0
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	0.00062	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000061	0.000063	0.000060	<0.000050	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	0.00431	0.00463	0.00683	0.00180	<0.00050
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	0.036	<0.010	0.011	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.160	0.157	0.153	0.026	<0.020
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1260	1180	1220	208	<1.0
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00053	0.00069	0.00052	0.00073	<0.00020
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00955	0.00939	0.0106	0.00165	<0.00010
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	356	347	346	59.7	<1.0
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0985	0.0970	0.106	0.0168	<0.0050
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	9640	9010	8850	1510	<2.5
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	6.67	6.52	7.24	1.12	<0.010
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	759	737	773	127	<5.0



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	Dup-B	MPL-02
Client sampling date / time					06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
					Result	Result	Result	Result	Result
Total Metals									
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00288	0.00283	0.00302	0.00131	<0.000050
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00115	0.00113	0.00121	<0.00050	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00400	0.00406	0.00390	0.00123	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0081	0.0081	0.0082	0.0047	<0.0010
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	3.66	3.44	3.60	0.87	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000027	<0.000020	0.000031	<0.000020	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	373	366	371	90.0	<1.0
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000056	0.000053	0.000054	<0.000050	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	0.00067	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.154	0.147	0.147	0.031	<0.020
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1210	1170	1150	246	<1.0



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-B	MPL-02
(Matrix: Water)						4		4		
Client sampling date / time						06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00047	0.00046	0.00043	0.00051	<0.00010	
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00952	0.00930	0.00928	0.00195	<0.00010	
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	342	334	343	70.9	<1.0	
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0991	0.0971	0.0967	0.0200	<0.0050	
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	0.00055	0.00075	<0.00050	<0.00050	
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	8840	8910	9000	1860	<2.5	
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	6.82	6.64	6.48	1.34	<0.010	
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	814	799	793	164	<5.0	
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00296	0.00280	0.00282	0.00149	<0.000050	
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00115	0.00106	0.00107	<0.00050	<0.00050	
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	<0.0010	0.0014	<0.0010	<0.0010	<0.0010	
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-B	MPL-02
(Matrix: Water)						4		4		
Client sampling date / time						06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	<0.40	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	<0.30	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	<0.50	<0.50
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	<250	<250
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	<250	<250
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	<100	<100
F3 (C16-C34)	----	E601/VA	250	µg/L		----	<250	----	<250	<250
F4 (C34-C50)	----	E601/VA	250	µg/L		----	<250	----	<250	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	<400	----	<400	<400
TEH (C16-C50)	----	E601/VA	400	µg/L		----	<400	----	<400	<400
VHw (C6-C10)	----	E581.VH+F1/ VA	100	µg/L		----	<100	----	<100	<100
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	<100	<100
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	<250	<250
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	<250	<250
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	<100	<100
F1 (C6-C10)	----	E581.VH+F1/ VA	100	µg/L		----	<100	----	<100	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	88.5	----	80.7	82.5
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	89.2	----	83.2	86.4
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%		----	80.3	----	108	92.5
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	87.8	----	89.9	86.6





Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-B	MPL-02
(Matrix: Water)						4		4		
Client sampling date / time					06-Aug-2024 09:40	06-Aug-2024 09:25	06-Aug-2024 09:55	06-Aug-2024 00:00	06-Aug-2024 09:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9990-006	VA24B9990-007	VA24B9990-008	VA24B9990-009	VA24B9990-010	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	100	----	99.9	99.2	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Acridine	260-94-6	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	----	<0.0050	----	<0.0050	<0.0050	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	----	<0.015	----	<0.015	<0.015	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	----	<0.0050	----	<0.0050	<0.0050	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Fluorene	86-73-7	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	----	<0.050	----	<0.050	<0.050	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	----	<0.020	----	<0.020	<0.020	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	<0.010	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	----	<0.050	----	<0.050	<0.050	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	----	99.7	----	88.6	87.0	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	----	86.0	----	90.4	90.1	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	----	100	----	98.0	96.6	

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.



## QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: <b>VA24B9990</b>	Page	: 1 of 41
Client	: <b>WSP Canada Inc.</b>	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 09-Aug-2024 08:30
PO	: ----	Issue Date	: 16-Aug-2024 12:44
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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***

- No 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	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Dup-B	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MPL-02	E298	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE Dup-B	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-North-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓





Matrix: **Water** Evaluation: **✖** = Holding time exceedance ; **✓** = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-North-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MPL-02	E235S.Br	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Dup-B	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-North-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MPL-02	E235S.Cl	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE Dup-B	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MPL-02	E235S.F-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE Dup-B	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-ENE-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-North-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-Source-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-WNW-1-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-ENE-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-North-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MPL-02	E235S.NO3-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE Dup-B	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MPL-02	E235S.NO2-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE Dup-B	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MPL-02	E235S.SO4-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) Dup-B	E375-T	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓





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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MPL-02	E375-T	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	11-Aug-2024	28 days	1 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) Dup-B	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MPL-02	E318S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	12-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Dup-B	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-North-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MPL-02	E372S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) Dup-B	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP05-ENE-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP05-North-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP05-Source-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP05-WNW-1-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-ENE-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-North-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-Source-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP06-WNW-2-24	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MPL-02	E509S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) Dup-B	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-ENE-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-North-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-Source-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP06-WNW-2-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MPL-02	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-ENE-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-North-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-Source-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-WNW-1-24	E465S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) Dup-B	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-ENE-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-North-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-Source-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-WNW-1-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP06-ENE-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP06-North-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP06-Source-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP06-WNW-2-24	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MPL-02	E469S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) Dup-B	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MPL-02	E601A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) Dup-B	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MPL-02	E601	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓





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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) Dup-B	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-North-1-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-Source-1-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-Source-2-24	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MPL-02	E581.VH+F1	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) Dup-B	E358-L	06-Aug-2024	10-Aug-2024	3 days	3 days	✓	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MPL-02	E358-L	06-Aug-2024	10-Aug-2024	3 days	4 days	✖ EHTL	10-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E358-L	06-Aug-2024	10-Aug-2024	3 days	8 days	✖ EHTL	10-Aug-2024	24 days	0 days	✔
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) Dup-B	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✔	10-Aug-2024	28 days	4 days	✔
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✔	10-Aug-2024	28 days	4 days	✔



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MPL-02	E355-L	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	10-Aug-2024	28 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Dup-B	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MPL-02	E290	06-Aug-2024	10-Aug-2024	14 days	4 days	✓	11-Aug-2024	14 days	5 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Seawater										
HDPE Dup-B	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Seawater										
HDPE MPL-02	E100S	06-Aug-2024	10-Aug-2024	28 days	4 days	✓	11-Aug-2024	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE Dup-B	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	87 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	114 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	119 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MPL-02	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	93 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	120 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	93 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	121 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	94 hrs	✗ EHTR-FM	11-Aug-2024	0.25 hrs	121 hrs	✗ EHTR-FM



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	94 hrs	✖ EHTR-FM	11-Aug-2024	0.25 hrs	121 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	06-Aug-2024	10-Aug-2024	0.25 hrs	94 hrs	✖ EHTR-FM	11-Aug-2024	0.25 hrs	122 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Dup-B	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✔





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MPL-02	E162S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Dup-B	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MPL-02	E160S	06-Aug-2024	----	----	----		13-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE Dup-B	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	6 days	✗ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✗ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✗ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✗ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✗ EHTL



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MPL-02	E121	06-Aug-2024	----	----	----		13-Aug-2024	3 days	7 days	✖ EHTL
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	06-Aug-2024	15-Aug-2024	14 days	10 days	✓	16-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) Dup-B	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MPL-02	E641A	06-Aug-2024	15-Aug-2024	14 days	9 days	✓	15-Aug-2024	40 days	0 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) Dup-B	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP05-ENE-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP05-North-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP05-Source-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP05-WNW-1-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP06-ENE-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP06-North-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP06-Source-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP06-WNW-2-24	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MPL-02	E508S	06-Aug-2024	15-Aug-2024	28 days	9 days	✓	15-Aug-2024	28 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) Dup-B	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-ENE-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-North-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-Source-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP06-WNW-2-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MPL-02	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-ENE-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-North-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-WNW-1-24	E466S	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	12-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) Dup-B	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-ENE-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-North-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-WNW-1-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-ENE-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-North-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-Source-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP06-WNW-2-24	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MPL-02	E468S.NaSi	06-Aug-2024	12-Aug-2024	180 days	6 days	✓	13-Aug-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) Dup-B	E611A	06-Aug-2024	13-Aug-2024	14 days	7 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓



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 Work Order : VA24B9990  
 Client : WSP Canada Inc.  
 Project : CA0026317.6821/86000/03



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MPL-02	E611A	06-Aug-2024	13-Aug-2024	14 days	8 days	✓	14-Aug-2024	14 days	8 days	✓

**Legend & Qualifier Definitions**

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended  
 EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.  
 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 specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
Analytical Methods			QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1588551	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1588550	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✔
pH by Meter	E108	1588552	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1593586	1	16	6.2	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✔
Turbidity by Nephelometry	E121	1593175	1	19	5.2	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1588551	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1596724	2	19	10.5	5.0	✔
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1596726	2	9	22.2	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1588550	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	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
<b>Laboratory Control Samples (LCS) - Continued</b>							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	2	10	20.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1596725	2	21	9.5	5.0	✔
pH by Meter	E108	1588552	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1593586	1	16	6.2	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1593605	1	18	5.5	5.0	✔
Turbidity by Nephelometry	E121	1593175	1	19	5.2	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✔
<b>Method Blanks (MB)</b>							
Alkalinity Species by Titration	E290	1588551	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1596724	2	19	10.5	5.0	✔
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1596726	2	9	22.2	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1588550	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	2	10	20.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1596725	2	21	9.5	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1593586	1	16	6.2	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	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
<b>Method Blanks (MB) - Continued</b>							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1593605	1	18	5.5	5.0	✔
Turbidity by Nephelometry	E121	1593175	1	19	5.2	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	1	20	5.0	5.0	✔
<b>Matrix Spikes (MS)</b>							
Ammonia by Fluorescence	E298	1588937	1	10	10.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1588553	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1594405	1	20	5.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1588554	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1597712	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1590581	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1588934	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1590566	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1588555	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1588556	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1588557	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1588558	1	10	10.0	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1588936	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1588938	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1597341	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1590614	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1588935	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1588939	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1590607	1	10	10.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1594404	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 Seawater	E100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	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 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L  ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290  ALS Environmental - Vancouver	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 - Vancouver	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 in Seawater by Fluorescence	E318S  ALS Environmental - Vancouver	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)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO <sub>2</sub> . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L  ALS Environmental - Vancouver	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 CO <sub>2</sub> . 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).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S  ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	<p>Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	<p>Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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 (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355  ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421  ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO <sub>3</sub> .
Dissolved Metals Seawater Filtration	EP421S  ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509  ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581  ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601  ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: VA24B9990	Page	: 1 of 23
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 09-Aug-2024 08:30
PO	: ----	Date Analysis Commenced	: 10-Aug-2024
C-O-C number	: ----	Issue Date	: 16-Aug-2024 12:55
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative 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
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Vancouver Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Vancouver Metals, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Vancouver Organics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia



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## 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

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

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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: 1588550)											
VA24B9990-003	MP05-ENE-1-24	Conductivity	----	E100S	2.0	µS/cm	12100	12200	1.07%	20%	----
Physical Tests (QC Lot: 1588551)											
VA24B9990-003	MP05-ENE-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	84.7	85.0	0.354%	20%	----
Physical Tests (QC Lot: 1588552)											
VA24B9990-003	MP05-ENE-1-24	pH	----	E108	0.10	pH units	8.10	8.09	0.124%	4%	----
Physical Tests (QC Lot: 1593175)											
VA24B9925-006	Anonymous	Turbidity	----	E121	0.10	NTU	1.66	1.48	12.1%	15%	----
Physical Tests (QC Lot: 1593586)											
VA24B9990-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	80	mg/L	7990	7920	0.830%	20%	----
Anions and Nutrients (QC Lot: 1588553)											
VA24B9990-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	13.2	13.2	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588554)											
VA24B9990-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	3680	3680	0.164%	20%	----
Anions and Nutrients (QC Lot: 1588555)											
VA24B9990-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	<0.20	0.20	0.00009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588556)											
VA24B9990-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	0.011	0.011	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588557)											
VA24B9990-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588558)											
VA24B9990-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	507	514	1.35%	20%	----
Anions and Nutrients (QC Lot: 1588936)											
VA24B9990-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0053	0.0062	0.0009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588937)											
VA24B9990-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588938)											
VA24B9990-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1588939)											
VA24B9990-003	MP05-ENE-1-24	Phosphorus, total	7723-14-0	E372S	0.0020	mg/L	0.0058	0.0061	0.0003	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1588934)											



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: 1588934) - continued											
VA24B9990-001	MP05-Source-1-24	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.31	1.07	0.24	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1588935)											
VA24B9990-003	MP05-ENE-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.21	1.27	0.06	Diff <2x LOR	----
Total Metals (QC Lot: 1590607)											
VA24B9990-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	1120	1120	0.485%	20%	----
Total Metals (QC Lot: 1590614)											
VA24B9990-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0117	0.0100	0.0017	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00058	0.00050	0.00008	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0043	0.0043	0.00003	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	0.47	0.48	0.006	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	63.6	63.2	0.763%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00606	0.00601	0.781%	20%	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	<0.010	0.010	0.0002	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.020	<0.020	0.0003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	159	156	1.80%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00077	0.00075	0.00002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00126	0.00120	4.82%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	43.7	43.4	0.700%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0127	0.0126	0.00007	Diff <2x LOR	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

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 Work Order : VA24B9990  
 Client : WSP Canada Inc.  
 Project : CA0026317.6821/86000/03



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1590614) - continued											
VA24B9990-001	MP05-Source-1-24	Strontium, total	7440-24-6	E466S	0.010	mg/L	0.836	0.827	1.07%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	98.0	97.7	0.254%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00133	0.00126	5.14%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1597341)											
VA24B9990-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1590566)											
VA24B9990-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	1040	1060	1.90%	20%	----
Dissolved Metals (QC Lot: 1590581)											
VA24B9990-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00075	0.00067	0.00008	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0042	0.0041	0.00010	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	0.46	0.46	0.0004	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	61.2	60.0	1.90%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	0.00115	0.00109	0.00006	Diff <2x LOR	----
		Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1590581) - continued											
VA24B9990-001	MP05-Source-1-24	Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	150	148	1.46%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00058	0.00054	0.00004	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00119	0.00116	2.24%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	43.0	41.4	3.79%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0124	0.0119	0.0005	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	0.817	0.786	3.93%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	101	99.0	2.26%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00135	0.00123	9.15%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1597712)											
VA24B9990-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1594405)											
VA24B9772-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	0.51	<0.50	0.010	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	6.52	6.48	0.628%	30%	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	2.16	2.21	0.06	Diff <2x LOR	----



Sub-Matrix: <b>Water</b>					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1594405) - continued											
VA24B9772-001	Anonymous	Xylene, o-	95-47-6	E611A	0.30	µg/L	0.49	0.50	0.005	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1594404)											
VA24B9772-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----





## Method Blank (MB) Report

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

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Physical Tests (QCLot: 1588550)</b>						
Conductivity	----	E100S	2	µS/cm	<2.0	----
<b>Physical Tests (QCLot: 1588551)</b>						
Alkalinity, total (as CaCO <sub>3</sub> )	----	E290	1	mg/L	<1.0	----
<b>Physical Tests (QCLot: 1593175)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Physical Tests (QCLot: 1593586)</b>						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
<b>Physical Tests (QCLot: 1593605)</b>						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
<b>Anions and Nutrients (QCLot: 1588553)</b>						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
<b>Anions and Nutrients (QCLot: 1588554)</b>						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
<b>Anions and Nutrients (QCLot: 1588555)</b>						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
<b>Anions and Nutrients (QCLot: 1588556)</b>						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1588557)</b>						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1588558)</b>						
Sulfate (as SO <sub>4</sub> )	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
<b>Anions and Nutrients (QCLot: 1588936)</b>						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
<b>Anions and Nutrients (QCLot: 1588937)</b>						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
<b>Anions and Nutrients (QCLot: 1588938)</b>						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
<b>Anions and Nutrients (QCLot: 1588939)</b>						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0020	----
<b>Organic / Inorganic Carbon (QCLot: 1588934)</b>						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
<b>Organic / Inorganic Carbon (QCLot: 1588935)</b>						



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1588935) - continued						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1596430)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1590607)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1590614)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Total Metals (QCLot: 1590614) - continued</b>						
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
<b>Total Metals (QCLot: 1597341)</b>						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
<b>Dissolved Metals (QCLot: 1590566)</b>						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
<b>Dissolved Metals (QCLot: 1590581)</b>						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Dissolved Metals (QCLot: 1590581) - continued</b>						
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
<b>Dissolved Metals (QCLot: 1597712)</b>						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
<b>Volatile Organic Compounds (QCLot: 1594405)</b>						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
<b>Hydrocarbons (QCLot: 1594404)</b>						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Hydrocarbons (QCLot: 1594404) - continued</b>						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
<b>Hydrocarbons (QCLot: 1596724)</b>						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1596726)</b>						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1598871)</b>						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1598873)</b>						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
<b>Polycyclic Aromatic Hydrocarbons (QCLot: 1596725)</b>						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725) - continued						
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1598872)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----



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: 1588550)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	100	80.0	120	----
Physical Tests (QCLot: 1588551)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1588552)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1593175)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.5	85.0	115	----
Physical Tests (QCLot: 1593586)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1593605)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	88.0	85.0	115	----
Anions and Nutrients (QCLot: 1588553)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1588554)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1588555)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	99.9	90.0	110	----
Anions and Nutrients (QCLot: 1588556)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1588557)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	96.9	90.0	110	----
Anions and Nutrients (QCLot: 1588558)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1588936)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	98.2	80.0	120	----
Anions and Nutrients (QCLot: 1588937)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	106	85.0	115	----
Anions and Nutrients (QCLot: 1588938)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	95.2	75.0	125	----
Anions and Nutrients (QCLot: 1588939)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	99.5	80.0	120	----



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: 1588934)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	109	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1588935)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1596430)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	----
Total Metals (QCLot: 1590607)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	106	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	101	80.0	120	----
Total Metals (QCLot: 1590614)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	96.1	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	99.5	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	98.2	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	93.7	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	98.2	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	87.8	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	93.8	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	97.3	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	97.0	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	96.4	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	95.8	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	99.2	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	98.5	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	90.0	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	96.2	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	95.3	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	98.0	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	97.7	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	95.3	80.0	120	----





Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1590614) - continued									
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	98.4	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	88.9	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	96.1	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	99.1	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	97.6	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	95.4	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	99.7	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	93.5	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.1	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	98.7	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	99.9	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	98.6	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	97.8	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	95.4	80.0	120	----
Total Metals (QCLot: 1597341)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.6	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	105	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Dissolved Metals (QCLot: 1590581)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	98.5	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	111	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	94.0	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	99.8	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	88.8	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	110	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	94.9	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	106	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	98.8	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	99.5	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	106	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	101	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1590581) - continued									
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	93.1	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	97.7	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	111	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	98.7	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	98.7	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	108	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	96.3	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	99.8	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	109	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	110	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	109	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	103	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	106	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	99.6	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	109	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	99.2	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	99.5	80.0	120	----
Volatile Organic Compounds (QCLot: 1594405)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	105	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	110	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	105	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	109	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	112	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	106	70.0	130	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1594404)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	86.0	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	78.6	70.0	130	----
Hydrocarbons (QCLot: 1596724)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	97.4	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	104	70.0	130	----
Hydrocarbons (QCLot: 1596726)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	108	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	115	70.0	130	----
Hydrocarbons (QCLot: 1598871)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	112	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	108	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	114	70.0	130	----
Hydrocarbons (QCLot: 1598873)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	102	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	108	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	122	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	120	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	125	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	123	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	127	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	126	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	128	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	122	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	115	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	119	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	107	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	121	60.0	130	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1596725) - continued									
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	122	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	111	60.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1598872)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	99.2	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	94.1	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	110	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	98.4	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	88.9	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	95.6	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	84.9	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	103	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	103	60.0	130	----



Matrix Spike (MS) Report

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

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 1588553)										
VA24B9990-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	46.7 mg/L	50 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1588554)										
VA24B9990-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	9430 mg/L	10000 mg/L	94.3	75.0	125	----
Anions and Nutrients (QCLot: 1588555)										
VA24B9990-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	9.33 mg/L	10 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1588556)										
VA24B9990-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.17 mg/L	7.5 mg/L	95.6	75.0	125	----
Anions and Nutrients (QCLot: 1588557)										
VA24B9990-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.66 mg/L	5 mg/L	93.2	75.0	125	----
Anions and Nutrients (QCLot: 1588558)										
VA24B9990-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	933 mg/L	1000 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 1588936)										
VA24B9990-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0470 mg/L	0.05 mg/L	94.0	70.0	130	----
Anions and Nutrients (QCLot: 1588937)										
VA24B9990-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.107 mg/L	0.1 mg/L	107	75.0	125	----
Anions and Nutrients (QCLot: 1588938)										
VA24B9990-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.58 mg/L	2.5 mg/L	103	70.0	130	----
Anions and Nutrients (QCLot: 1588939)										
VA24B9990-004	MP05-WNW-1-24	Phosphorus, total	7723-14-0	E372S	0.0467 mg/L	0.05 mg/L	93.5	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1588934)										
VA24B9990-002	MP05-North-1-24	Carbon, dissolved organic [DOC]	----	E358-L	5.30 mg/L	5 mg/L	106	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1588935)										
VA24B9990-004	MP05-WNW-1-24	Carbon, total organic [TOC]	----	E355-L	5.48 mg/L	5 mg/L	110	70.0	130	----
Total Metals (QCLot: 1590607)										
VA24B9990-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	495 mg/L	500 mg/L	98.9	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1590614)										
VA24B9990-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.86 mg/L	4 mg/L	96.6	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.376 mg/L	0.4 mg/L	94.1	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.385 mg/L	0.4 mg/L	96.4	70.0	130	----
		Barium, total	7440-39-3	E466S	0.383 mg/L	0.4 mg/L	95.8	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Total Metals (QCLot: 1590614) - continued										
VA24B9990-002	MP05-North-1-24	Beryllium, total	7440-41-7	E466S	0.783 mg/L	0.8 mg/L	97.9	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.181 mg/L	0.2 mg/L	90.6	70.0	130	----
		Boron, total	7440-42-8	E466S	1.77 mg/L	2 mg/L	88.6	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0781 mg/L	0.08 mg/L	97.6	70.0	130	----
		Calcium, total	7440-70-2	E466S	70.0 mg/L	80 mg/L	87.4	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.196 mg/L	0.2 mg/L	98.2	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.792 mg/L	0.8 mg/L	99.0	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Copper, total	7440-50-8	E466S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0534 mg/L	0.05 mg/L	107	70.0	130	----
		Iron, total	7439-89-6	E466S	39.5 mg/L	40 mg/L	98.8	70.0	130	----
		Lead, total	7439-92-1	E466S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Lithium, total	7439-93-2	E466S	1.88 mg/L	2 mg/L	94.0	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.393 mg/L	0.4 mg/L	98.2	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.403 mg/L	0.4 mg/L	101	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.776 mg/L	0.8 mg/L	97.0	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	188 mg/L	200 mg/L	93.8	70.0	130	----
		Potassium, total	7440-09-7	E466S	74.0 mg/L	80 mg/L	92.5	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0531 mg/L	0.05 mg/L	106	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.396 mg/L	0.4 mg/L	99.0	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.796 mg/L	0.8 mg/L	99.5	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0708 mg/L	0.08 mg/L	88.5	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	358 mg/L	400 mg/L	89.4	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.791 mg/L	0.8 mg/L	98.9	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0730 mg/L	0.08 mg/L	91.3	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.322 mg/L	0.4 mg/L	80.6	70.0	130	----
		Tin, total	7440-31-5	E466S	0.386 mg/L	0.4 mg/L	96.6	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.707 mg/L	0.8 mg/L	88.3	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.363 mg/L	0.4 mg/L	90.6	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0771 mg/L	0.08 mg/L	96.4	70.0	130	----
		Vanadium, total	7440-62-2	E466S	2.01 mg/L	2 mg/L	101	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0519 mg/L	0.05 mg/L	104	70.0	130	----
		Zinc, total	7440-66-6	E466S	8.03 mg/L	8 mg/L	100	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.679 mg/L	0.8 mg/L	84.9	70.0	130	----
Total Metals (QCLot: 1597341)										
VA24B9990-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000963 mg/L	0 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1590566)										
VA24B9990-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	496 mg/L	500 mg/L	99.1	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1590581)										
VA24B9990-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.64 mg/L	4 mg/L	91.1	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Dissolved Metals (QCLot: 1590581) - continued										
VA24B9990-002	MP05-North-1-24	Antimony, dissolved	7440-36-0	E465S	0.392 mg/L	0.4 mg/L	97.9	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.395 mg/L	0.4 mg/L	98.8	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.779 mg/L	0.8 mg/L	97.4	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.187 mg/L	0.2 mg/L	93.4	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	1.77 mg/L	2 mg/L	88.5	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0784 mg/L	0.08 mg/L	98.1	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.203 mg/L	0.2 mg/L	102	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.761 mg/L	0.8 mg/L	95.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.360 mg/L	0.4 mg/L	90.1	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0548 mg/L	0.05 mg/L	110	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	37.7 mg/L	40 mg/L	94.3	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	1.84 mg/L	2 mg/L	91.8	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.366 mg/L	0.4 mg/L	91.5	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.386 mg/L	0.4 mg/L	96.4	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.744 mg/L	0.8 mg/L	93.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	195 mg/L	200 mg/L	97.7	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	75.4 mg/L	80 mg/L	94.3	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0557 mg/L	0.05 mg/L	111	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.829 mg/L	0.8 mg/L	104	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0711 mg/L	0.08 mg/L	88.9	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	386 mg/L	400 mg/L	96.6	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.792 mg/L	0.8 mg/L	99.0	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0756 mg/L	0.08 mg/L	94.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.364 mg/L	0.4 mg/L	91.1	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.393 mg/L	0.4 mg/L	98.4	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.749 mg/L	0.8 mg/L	93.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0790 mg/L	0.08 mg/L	98.8	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.93 mg/L	2 mg/L	96.6	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0552 mg/L	0.05 mg/L	110	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.62 mg/L	8 mg/L	95.2	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.736 mg/L	0.8 mg/L	92.0	70.0	130	----
Dissolved Metals (QCLot: 1597712)										
VA24B9990-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000982 mg/L	0 mg/L	98.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1594405)										
VA24B9969-001	Anonymous	Benzene	71-43-2	E611A	99.4 µg/L	100 µg/L	99.4	60.0	140	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1594405) - continued										
VA24B9969-001	Anonymous	Ethylbenzene	100-41-4	E611A	106 µg/L	100 µg/L	106	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	60.0	140	----
		Styrene	100-42-5	E611A	101 µg/L	100 µg/L	101	60.0	140	----
		Toluene	108-88-3	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	217 µg/L	200 µg/L	108	60.0	140	----
		Xylene, o-	95-47-6	E611A	103 µg/L	100 µg/L	103	60.0	140	----
Hydrocarbons (QCLot: 1594404)										
VA24B9772-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5020 µg/L	6310 µg/L	79.5	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	4590 µg/L	6310 µg/L	72.7	60.0	140	----





## Page 1 of 1

WQ #2

Rcvd jc 9Aug2024 830 am

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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 -

## CERTIFICATE OF ANALYSIS

Work Order	: VA24C0615	Page	: 1 of 16
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 15-Aug-2024 08:25
PO	: ----	Date Analysis Commenced	: 18-Aug-2024
C-O-C number	: ----	Issue Date	: 23-Aug-2024 12:33
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

## Signatories

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

Signatories	Position	Laboratory Department
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Russell Zhang	Analyst	Metals, Burnaby, British Columbia
Sam Silveira	Analyst	Metals, Burnaby, British Columbia



## General Comments

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

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

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

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

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

Unit	Description
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

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

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

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

## Qualifiers

Qualifier	Description
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	107	107	107	107	107
Conductivity	----	E100S/VA	2.0	µS/cm	44100	44200	44100	44800	45000
pH	----	E108/VA	0.10	pH units	8.04	8.05	8.04	8.05	8.05
Salinity	----	EC100S/VA	1.0	psu	29.2	29.3	29.2	29.7	29.9
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	42900	39400	39700	37000	44600
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	2.2	2.4	2.4	<2.0
Turbidity	----	E121/VA	0.10	NTU	0.38	0.44	0.28	0.19	0.24
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	5650	5380	5560	5520	4900
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	5790	5280	5440	5590	5530
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0074	0.0053	0.0057	0.0089	0.0092
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	56.0	55.7	55.7	56.7	57.5
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	16800	16600	16600	16900	17200
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.70	0.74	0.75	0.76	0.76
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.105	0.110	0.100	0.099	0.099
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	0.016	0.024	0.011	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0220	0.0246	0.0227	0.0229	0.0236
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0205	0.0284	0.0263	0.0225	0.0224
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	2220	2250	2250	2300	2310
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	0.94	1.05	0.87	1.14	0.73
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.76	0.97	0.93	0.80	0.79
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0061	0.0106	<0.0050	0.0050	<0.0050
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00392	0.00360	0.00386	0.00383	0.00398



Analytical Results

Sub-Matrix: Seawater  
(Matrix: Water)

					Client sample ID	MP05-Source-1	MP05-North-1-2	MP05-ENE-1-24	MP05-WNW-1-2	MP06-Source-2
						-24	4		4	-24
					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005	
					Result	Result	Result	Result	Result	
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0080	0.0080	0.0079	0.0082	0.0081	
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	3.98	3.86	3.99	4.14	4.05	
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000022	<0.000020	0.000034	0.000023	0.000033	
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	405	384	398	407	399	
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000061	0.000058	0.000058	0.000061	0.000055	
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	<0.00050	0.00054	0.00271	0.00092	0.00057	
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	0.014	
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.156	0.145	0.147	0.154	0.152	
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1160	1050	1080	1110	1100	
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00086	0.00094	0.00085	0.00069	0.00085	
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00915	0.00860	0.00848	0.00940	0.00886	
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	349	338	341	353	351	
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0957	0.0907	0.0896	0.0945	0.0934	
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	0.00052	0.00074	0.00081	
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	9010	9180	8890	9160	9270	
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	6.30	5.98	6.02	6.31	6.25	



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
					Result	Result	Result	Result	Result
Total Metals									
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	852	780	779	820	817
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00300	0.00285	0.00291	0.00296	0.00299
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00105	0.00099	0.00096	0.00102	0.00100
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.0081
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00358	0.00372	0.00382	0.00358	0.00352
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0082	0.0081	0.0078	0.0081	0.0080
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	3.70	3.72	3.76	3.88	3.49
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000026	0.000025	0.000024	0.000031	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	384	392	379	395	352
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000058	0.000057	0.000056	0.000057	0.000074
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00112
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00058 <sup>DTC</sup>
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.152	0.144	0.148	0.150	0.132



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1	MP05-North-1-2	MP05-ENE-1-24	MP05-WNW-1-2	MP06-Source-2
(Matrix: Water)						-24	4		4	-24
Client sampling date / time						12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1140	1070	1120	1100	976	
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00073	0.00070	0.00070	0.00060	0.00164	<sup>DTC</sup>
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00958	0.00914	0.00885	0.00941	0.00818	
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	334	340	334	342	304	
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0964	0.0938	0.0927	0.0953	0.0847	
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	0.00065	0.00065	0.00052	0.00068	
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	9100	9170	9140	9080	7770	
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	6.39	6.33	6.19	6.38	5.67	
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	856	815	815	815	727	
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00309	0.00300	0.00292	0.00319	0.00277	
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00104	0.00097	0.00104	0.00101	0.00090	
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	<0.0010	0.0010	<0.0010	<0.0010	0.0074	<sup>DTC</sup>
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
(Matrix: Water)					Client sampling date / time	12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Dissolved metals filtration location	---	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	---	---	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	---	---	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Hydrocarbons										
EPH (C10-C19)	---	E601A/VA	250	µg/L		<250	<250	---	---	<250
EPH (C19-C32)	---	E601A/VA	250	µg/L		<250	<250	---	---	<250
F2 (C10-C16)	---	E601/VA	100	µg/L		<100	<100	---	---	<100
F3 (C16-C34)	---	E601/VA	250	µg/L		<250	<250	---	---	<250
F4 (C34-C50)	---	E601/VA	250	µg/L		<250	<250	---	---	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	---	---	<400
TEH (C16-C50)	---	E601/VA	400	µg/L		<400	<400	---	---	<400
VHw (C6-C10)	---	E581.VH+F1/ VA	100	µg/L		<100	<100	---	---	<100
F1-BTEX	---	EC580/VA	100	µg/L		<100	<100	---	---	<100
HEPHw	---	EC600A/VA	250	µg/L		<250	<250	---	---	<250
LEPHw	---	EC600A/VA	250	µg/L		<250	<250	---	---	<250
VPHw	---	EC580A/VA	100	µg/L		<100	<100	---	---	<100
F1 (C6-C10)	---	E581.VH+F1/ VA	100	µg/L		<100	<100	---	---	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		84.2	80.9	---	---	78.8
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		83.7	80.7	---	---	77.8
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%		108	106	---	---	118





Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
(Matrix: Water)										
Client sampling date / time					12-Aug-2024 10:15	12-Aug-2024 09:55	12-Aug-2024 10:05	12-Aug-2024 10:25	12-Aug-2024 10:35	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-001	VA24C0615-002	VA24C0615-003	VA24C0615-004	VA24C0615-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	98.8	97.9	----	----	98.0	
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	101	101	----	----	101	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	<0.015	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	<0.020	----	----	<0.020	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	94.0	89.3	----	----	92.0	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	103	95.5	----	----	95.5	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	102	95.9	----	----	95.7	

Page : 9 of 16  
Work Order : VA24C0615  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03

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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.



Analytical Results

Sub-Matrix: Seawater					Client sample ID		MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-C	----
(Matrix: Water)							4		4		
					Client sampling date / time		12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	-----		
					Result	Result	Result	Result	-----		
Physical Tests											
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	108	109	110	107	----		
Conductivity	----	E100S/VA	2.0	µS/cm	45400	45700	45700	43900	----		
pH	----	E108/VA	0.10	pH units	8.05	8.05	8.05	8.05	----		
Salinity	----	EC100S/VA	1.0	psu	30.2	30.4	30.4	29.1	----		
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	43800	44300	44900	43600	----		
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	<2.0	7.2	<2.0	----		
Turbidity	----	E121/VA	0.10	NTU	0.25	0.23	0.19	0.31	----		
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	5620	5320	5470	5340	----		
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	5480	5650	5490	5460	----		
Anions and Nutrients											
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	0.0080	----		
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	58.3	57.8	57.9	55.9	----		
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	17300	17100	17000	16600	----		
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.80	0.80	0.81	0.77	----		
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.073	0.089	0.094	0.102	----		
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	0.069	<0.010	<0.010	----		
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----		
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0239	0.0235	0.0239	0.0227	----		
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0224	0.0226	0.0229	0.0224	----		
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	2340	2330	2340	2260	----		
Organic / Inorganic Carbon											
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	0.89	0.76	0.96	0.83	----		
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.83	0.78	0.81	0.78	----		
Total Metals											
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	<0.0050	0.0074	<0.0050	0.0054	----		
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----		
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00390	0.00404	0.00421	0.00406	----		
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0078	0.0083	0.0082	0.0083	----		



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	Dup-C	----
Client sampling date / time					12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	-----
					Result	Result	Result	Result	----
Total Metals									
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	4.07	4.14	4.11	4.09	----
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000022	0.000038	0.000035	0.000027	----
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	398	416	402	404	----
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000056	0.000055	0.000051	0.000057	----
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	0.00583	0.00169	<0.00050	0.00129	----
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.152	0.152	0.151	0.153	----
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1090	1120	1090	1080	----
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00050	0.00049	0.00049	0.00088	----
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00884	0.00889	0.00920	0.00882	----
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	----
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	346	359	353	355	----
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0948	0.0951	0.0955	0.0952	----
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	0.00064	0.00067	<0.00050	0.00051	----
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	----
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	9360	9360	9210	9050	----
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	6.18	6.27	6.32	6.25	----
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	802	825	829	824	----



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

Sub-Matrix: Seawater (Matrix: Water)					Client sample ID	MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	Dup-C	----
Client sampling date / time						12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	-----	
					Result	Result	Result	Result	----	
Total Metals										
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	----	
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	----	
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00284	0.00311	0.00303	0.00308	----	
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00100	0.00105	0.00103	0.00100	----	
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	----	
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	----	
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00406	0.00394	0.00371	0.00392	----	
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0079	0.0078	0.0077	0.0080	----	
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	4.00	3.81	3.87	3.80	----	
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000034	0.000024	0.000025	0.000032	----	
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	404	384	395	391	----	
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000056	<0.000050	0.000060	0.000061	----	
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----	
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----	
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.152	0.144	0.147	0.147	----	
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1120	1060	1090	1060	----	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-C	----
(Matrix: Water)						4		4		
Client sampling date / time						12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	-----	
					Result	Result	Result	Result	----	
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00038	0.00040	0.00037	0.00070	----	
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----	
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00949	0.00908	0.00907	0.00891	----	
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	----	
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	348	335	344	339	----	
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0973	0.0921	0.0941	0.0933	----	
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	0.00068	0.00070	0.00061	0.00064	----	
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	----	
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----	
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	9560	9310	9370	8660	----	
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	6.47	6.17	6.30	6.25	----	
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	817	818	798	798	----	
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	----	
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	----	
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00302	0.00292	0.00302	0.00305	----	
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00104	0.00097	0.00097	0.00101	----	
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	0.0014	<0.0010	0.0011	<0.0010	----	
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----	
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	----	
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	----	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-C	----
(Matrix: Water)						4		4		
Client sampling date / time						12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	-----	
					Result	Result	Result	Result	----	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Styrene	100-42-5	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	----	<0.40	----	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	----	<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	----	<250	----	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L	----	<250	----	----	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L	----	<100	----	----	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L	----	<250	----	----	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L	----	<250	----	----	----	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L	----	<400	----	----	----	----
TEH (C16-C50)	----	E601/VA	400	µg/L	----	<400	----	----	----	----
VHw (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	----	<100	----	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L	----	<100	----	----	----	----
HEPHw	----	EC600A/VA	250	µg/L	----	<250	----	----	----	----
LEPHw	----	EC600A/VA	250	µg/L	----	<250	----	----	----	----
VPHw	----	EC580A/VA	100	µg/L	----	<100	----	----	----	----
F1 (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	----	<100	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	----	78.2	----	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	80.5	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%	----	86.9	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	95.4	----	----	----	----



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-C	----
(Matrix: Water)						4		4		
Client sampling date / time						12-Aug-2024 10:45	12-Aug-2024 11:10	12-Aug-2024 10:55	12-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C0615-006	VA24C0615-007	VA24C0615-008	VA24C0615-009	-----	
					Result	Result	Result	Result	----	
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	100	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	----	<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	----	<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	----	<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	----	<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	----	<0.020	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L	----	<0.050	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	----	95.2	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	----	101	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	----	101	----	----	----	----

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.





## QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: <b>VA24C0615</b>	Page	: 1 of 37
Client	: <b>WSP Canada Inc.</b>	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 15-Aug-2024 08:25
PO	: ----	Issue Date	: 23-Aug-2024 12:33
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

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***

- No 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 Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Dup-C	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	20-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	20-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E298	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	21-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE Dup-C	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-North-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-North-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Dup-C	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-North-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE Dup-C	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.F-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE Dup-C	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	5 days	✗ EHTL	18-Aug-2024	3 days	5 days	✗ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-ENE-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	3 days	6 days	✗ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-North-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	3 days	6 days	✗ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-Source-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	3 days	6 days	✗ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-WNW-1-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	3 days	6 days	✗ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-ENE-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	3 days	6 days	✗ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-North-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	3 days	6 days	✗ EHTL





Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE Dup-C	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	5 days	✖ EHTL	18-Aug-2024	3 days	5 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.NO2-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	3 days	6 days	✖ EHTL
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE Dup-C	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓



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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.S04-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.S04-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) Dup-C	E375-T	12-Aug-2024	18-Aug-2024	3 days	5 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	22-Aug-2024	28 days	4 days	✓



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				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	22-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) Dup-C	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	19-Aug-2024	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Dup-C	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-North-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E372S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-ENE-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-North-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-Source-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-WNW-1-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-ENE-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-North-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-Source-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-WNW-2-24	E509S	12-Aug-2024	22-Aug-2024	28 days	10 days	✓	22-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) Dup-C	E509S	12-Aug-2024	22-Aug-2024	28 days	9 days	✓	22-Aug-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) Dup-C	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) Dup-C	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓





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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E469S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601A	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601	12-Aug-2024	21-Aug-2024	14 days	9 days	✓	21-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-North-1-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-Source-1-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-Source-2-24	E581.VH+F1	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) Dup-C	E358-L	12-Aug-2024	18-Aug-2024	3 days	5 days	✗ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✗ EHTL	18-Aug-2024	28 days	0 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	12-Aug-2024	18-Aug-2024	3 days	6 days	✖ EHTL	18-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) Dup-C	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Dup-C	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	18-Aug-2024	14 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE Dup-C	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	12-Aug-2024	18-Aug-2024	28 days	6 days	✓	18-Aug-2024	28 days	6 days	✓
Physical Tests : pH by Meter										
HDPE Dup-C	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	140 hrs	✗ EHTR-FM	18-Aug-2024	0.25 hrs	143 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	144 hrs	✗ EHTR-FM	18-Aug-2024	0.25 hrs	146 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	144 hrs	✗ EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	✗ EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	✗ EHTR-FM



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	* EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	* EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	* EHTR-FM	18-Aug-2024	0.25 hrs	147 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	* EHTR-FM	18-Aug-2024	0.25 hrs	148 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	12-Aug-2024	18-Aug-2024	0.25 hrs	145 hrs	* EHTR-FM	18-Aug-2024	0.25 hrs	148 hrs	* EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Dup-C	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	12-Aug-2024	----	----	----		19-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Dup-C	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	12-Aug-2024	----	----	----		21-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE Dup-C	E121	12-Aug-2024	----	----	----		20-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	12-Aug-2024	----	----	----		19-Aug-2024	3 days	7 days	✖ EHTL
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✔	21-Aug-2024	40 days	0 days	✔
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✔	21-Aug-2024	40 days	0 days	✔
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✔	21-Aug-2024	40 days	0 days	✔
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	12-Aug-2024	21-Aug-2024	14 days	9 days	✔	21-Aug-2024	40 days	0 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) Dup-C	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-ENE-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-North-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-Source-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-WNW-1-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-ENE-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-North-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	12-Aug-2024	21-Aug-2024	28 days	9 days	✓	21-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) Dup-C	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	21-Aug-2024	180 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) Dup-C	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	12-Aug-2024	20-Aug-2024	180 days	8 days	✓	22-Aug-2024	180 days	10 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	12-Aug-2024	18-Aug-2024	14 days	6 days	✓	19-Aug-2024	14 days	7 days	✓

**Legend & Qualifier Definitions**

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended  
 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).



## 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 specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1602717	1	9	11.1	5.0	✔
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✔
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✔
Conductivity in Seawater	E100S	1602716	1	17	5.8	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✔
pH by Meter	E108	1602718	1	17	5.8	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1604452	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✔
Turbidity by Nephelometry	E121	1604576	2	40	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1602717	1	9	11.1	5.0	✔
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1607062	1	9	11.1	5.0	✔
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✔
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1607064	1	8	12.5	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✔
Conductivity in Seawater	E100S	1602716	1	17	5.8	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	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
<b>Laboratory Control Samples (LCS) - Continued</b>							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1607063	1	13	7.6	5.0	✔
pH by Meter	E108	1602718	1	17	5.8	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1604452	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1604441	1	9	11.1	5.0	✔
Turbidity by Nephelometry	E121	1604576	2	40	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✔
<b>Method Blanks (MB)</b>							
Alkalinity Species by Titration	E290	1602717	1	9	11.1	5.0	✔
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1607062	1	9	11.1	5.0	✔
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✔
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1607064	1	8	12.5	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✔
Conductivity in Seawater	E100S	1602716	1	17	5.8	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1607063	1	13	7.6	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1604452	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	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
<b>Method Blanks (MB) - Continued</b>							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1604441	1	9	11.1	5.0	✔
Turbidity by Nephelometry	E121	1604576	2	40	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	5.0	✔
<b>Matrix Spikes (MS)</b>							
Ammonia by Fluorescence	E298	1602747	1	20	5.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1602719	1	9	11.1	5.0	✔
BTEX by Headspace GC-MS	E611A	1602864	1	8	12.5	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1602720	1	9	11.1	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1609571	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1604968	1	9	11.1	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1602744	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1604967	1	9	11.1	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1602721	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1602722	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1602723	1	9	11.1	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1602724	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1602746	1	9	11.1	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1602748	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1608138	1	9	11.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1604910	1	9	11.1	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1602745	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1602749	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1604909	1	9	11.1	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1602862	1	11	9.0	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 Seawater	E100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	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 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.S04-L  ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290  ALS Environmental - Vancouver	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 - Vancouver	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 in Seawater by Fluorescence	E318S  ALS Environmental - Vancouver	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)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO <sub>2</sub> . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L  ALS Environmental - Vancouver	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 CO <sub>2</sub> . 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).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S  ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	<p>Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	<p>Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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 (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO <sub>3</sub> .
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: <b>VA24C0615</b>	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 15-Aug-2024 08:25
PO	: ----	Date Analysis Commenced	: 18-Aug-2024
C-O-C number	: ----	Issue Date	: 23-Aug-2024 12:34
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative 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
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
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Robin Weeks	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Russell Zhang	Analyst	Vancouver Metals, Burnaby, British Columbia
Sam Silveira	Analyst	Vancouver Metals, Burnaby, British Columbia



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## 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

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

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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: 1602716)											
VA24C0615-003	MP05-ENE-1-24	Conductivity	----	E100S	2.0	µS/cm	44100	44100	0.00%	20%	----
Physical Tests (QC Lot: 1602717)											
VA24C0615-003	MP05-ENE-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	107	107	0.00%	20%	----
Physical Tests (QC Lot: 1602718)											
VA24C0615-003	MP05-ENE-1-24	pH	----	E108	0.10	pH units	8.04	8.04	0.00%	4%	----
Physical Tests (QC Lot: 1604452)											
VA24C0615-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	800	mg/L	42900	40900	4.78%	20%	----
Physical Tests (QC Lot: 1604576)											
KS2403266-006	Anonymous	Turbidity	----	E121	0.10	NTU	2.37	2.57	8.10%	15%	----
Physical Tests (QC Lot: 1605151)											
FJ2402399-001	Anonymous	Turbidity	----	E121	0.10	NTU	0.20	0.22	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602719)											
VA24C0615-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	56.0	55.2	1.36%	20%	----
Anions and Nutrients (QC Lot: 1602720)											
VA24C0615-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	16800	16400	2.29%	20%	----
Anions and Nutrients (QC Lot: 1602721)											
VA24C0615-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.70	0.73	0.03	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602722)											
VA24C0615-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	0.016	<0.010	0.006	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602723)											
VA24C0615-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602724)											
VA24C0615-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	2220	2230	0.473%	20%	----
Anions and Nutrients (QC Lot: 1602746)											
VA24C0615-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0040	mg/L	0.0205	0.0207	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602747)											
VA24C0615-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0074	0.0074	0.00004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602748)											
VA24C0615-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	0.105	0.098	0.007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1602749)											



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 1602749) - continued											
VA24C0615-001	MP05-Source-1-24	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0220	0.0227	0.0007	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1602744)											
VA24C0839-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	0.69	0.70	0.010	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1602745)											
VA24C0615-001	MP05-Source-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.76	0.66	0.10	Diff <2x LOR	----
Total Metals (QC Lot: 1604909)											
VA24C0615-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	9010	9180	1.84%	20%	----
Total Metals (QC Lot: 1604910)											
VA24C0615-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0061	0.0059	0.0002	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00392	0.00388	0.00004	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0080	0.0081	0.00008	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	3.98	4.11	3.36%	20%	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000022	0.000021	0.000001	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	405	394	2.78%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000061	0.000064	0.000002	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.156	0.154	0.002	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	1160	1090	6.56%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00086	0.00085	0.00001	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00915	0.00904	1.14%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	349	344	1.52%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0957	0.0930	2.82%	20%	----

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 Work Order : VA24C0615  
 Client : WSP Canada Inc.  
 Project : CA0026317.6821/86000/03



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1604910) - continued											
VA24C0615-001	MP05-Source-1-24	Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E466S	0.010	mg/L	6.30	6.23	1.07%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	852	796	6.83%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00300	0.00309	2.88%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00105	0.00097	0.00008	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1608138)											
VA24C0615-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1604967)											
VA24C0615-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	9100	9110	0.138%	20%	----
Dissolved Metals (QC Lot: 1604968)											
VA24C0615-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00358	0.00341	0.00017	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0082	0.0076	0.0006	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	3.70	3.76	1.48%	20%	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000026	0.000026	0.00000001	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	384	380	0.935%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000058	0.000058	0.0000008	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1604968) - continued											
VA24C0615-001	MP05-Source-1-24	Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.152	0.148	0.004	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	1140	1090	4.62%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00073	0.00065	0.00008	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00958	0.00884	8.11%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	334	324	2.98%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0964	0.0906	6.19%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	0.00059	0.00009	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	6.39	6.11	4.41%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	856	778	9.48%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00309	0.00296	4.01%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00104	0.00098	0.00005	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1609571)											
VA24C0615-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1602864)											
VA24C0615-001	MP05-Source-1-24	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1602864) - continued											
VA24C0615-001	MP05-Source-1-24	Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1602862)											
KS2403233-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----



## Method Blank (MB) Report

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

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Physical Tests (QCLot: 1602716)</b>						
Conductivity	----	E100S	2	µS/cm	<2.0	----
<b>Physical Tests (QCLot: 1602717)</b>						
Alkalinity, total (as CaCO <sub>3</sub> )	----	E290	1	mg/L	1.0	----
<b>Physical Tests (QCLot: 1604441)</b>						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
<b>Physical Tests (QCLot: 1604452)</b>						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
<b>Physical Tests (QCLot: 1604576)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Physical Tests (QCLot: 1605151)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Anions and Nutrients (QCLot: 1602719)</b>						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
<b>Anions and Nutrients (QCLot: 1602720)</b>						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
<b>Anions and Nutrients (QCLot: 1602721)</b>						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
<b>Anions and Nutrients (QCLot: 1602722)</b>						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1602723)</b>						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1602724)</b>						
Sulfate (as SO <sub>4</sub> )	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
<b>Anions and Nutrients (QCLot: 1602746)</b>						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0040	----
<b>Anions and Nutrients (QCLot: 1602747)</b>						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
<b>Anions and Nutrients (QCLot: 1602748)</b>						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
<b>Anions and Nutrients (QCLot: 1602749)</b>						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0040	----
<b>Organic / Inorganic Carbon (QCLot: 1602744)</b>						



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1602744) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1602745)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1604909)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1604910)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Total Metals (QCLot: 1604910) - continued</b>						
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
<b>Total Metals (QCLot: 1608138)</b>						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
<b>Dissolved Metals (QCLot: 1604967)</b>						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
<b>Dissolved Metals (QCLot: 1604968)</b>						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----





Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Dissolved Metals (QCLot: 1604968) - continued</b>						
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
<b>Dissolved Metals (QCLot: 1609571)</b>						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
<b>Volatile Organic Compounds (QCLot: 1602864)</b>						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
<b>Hydrocarbons (QCLot: 1602862)</b>						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Hydrocarbons (QCLot: 1602862) - continued</b>						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
<b>Hydrocarbons (QCLot: 1607062)</b>						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1607064)</b>						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
<b>Polycyclic Aromatic Hydrocarbons (QCLot: 1607063)</b>						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----



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: 1602716)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	97.3	80.0	120	----
Physical Tests (QCLot: 1602717)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1602718)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1604441)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1604452)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	110	85.0	115	----
Physical Tests (QCLot: 1604576)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1605151)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Anions and Nutrients (QCLot: 1602719)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1602720)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1602721)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	98.0	90.0	110	----
Anions and Nutrients (QCLot: 1602722)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1602723)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1602724)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1602746)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	90.5	80.0	120	----
Anions and Nutrients (QCLot: 1602747)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	90.1	85.0	115	----
Anions and Nutrients (QCLot: 1602748)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	99.4	75.0	125	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1602749)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	92.8	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1602744)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1602745)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Metals (QCLot: 1604909)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	105	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	100	80.0	120	----
Total Metals (QCLot: 1604910)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	95.1	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	100	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	98.6	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	97.8	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	104	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	100	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	96.0	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	93.5	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	92.7	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	96.9	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	99.4	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	100.0	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	96.1	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	109	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	94.3	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	94.2	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	95.3	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	100	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	98.9	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	95.6	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1604910) - continued									
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	95.1	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	93.2	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	98.1	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	94.3	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.5	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	93.7	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	95.8	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	93.8	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	92.3	80.0	120	----
Total Metals (QCLot: 1608138)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.4	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	99.2	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Dissolved Metals (QCLot: 1604968)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	94.2	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	104	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	98.7	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	97.9	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	99.3	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	103	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	94.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	93.4	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	91.0	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	97.4	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	96.8	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1604968) - continued									
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	98.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	108	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	94.7	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	93.8	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	94.7	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	98.0	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	95.4	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	99.1	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	94.1	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	94.1	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	108	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	100	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	98.1	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	101	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	92.9	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	98.9	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	93.1	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	96.3	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	99.2	80.0	120	----
Volatile Organic Compounds (QCLot: 1602864)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	92.2	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	97.0	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	95.1	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	95.8	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	96.6	70.0	130	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1602862)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	93.2	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	85.1	70.0	130	----
Hydrocarbons (QCLot: 1607062)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	105	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	110	70.0	130	----
Hydrocarbons (QCLot: 1607064)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	114	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	107	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	114	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1607063)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	105	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	108	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	128	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	123	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	96.8	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	98.2	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	111	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	103	60.0	130	----



Matrix Spike (MS) Report

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

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 1602719)										
VA24C0615-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1602720)										
VA24C0615-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1602721)										
VA24C0615-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	10.3 mg/L	10 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1602722)										
VA24C0615-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.49 mg/L	7.5 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 1602723)										
VA24C0615-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.75 mg/L	5 mg/L	95.0	75.0	125	----
Anions and Nutrients (QCLot: 1602724)										
VA24C0615-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1602746)										
VA24C0615-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0773 mg/L	0.1 mg/L	77.3	70.0	130	----
Anions and Nutrients (QCLot: 1602747)										
VA24C0615-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1602748)										
VA24C0615-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.80 mg/L	2.5 mg/L	112	70.0	130	----
Anions and Nutrients (QCLot: 1602749)										
VA24C0615-002	MP05-North-1-24	Phosphorus, total	7723-14-0	E372S	0.0866 mg/L	0.1 mg/L	86.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1602744)										
VA24C0839-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.93 mg/L	5 mg/L	98.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1602745)										
VA24C0615-002	MP05-North-1-24	Carbon, total organic [TOC]	----	E355-L	4.96 mg/L	5 mg/L	99.2	70.0	130	----
Total Metals (QCLot: 1604909)										
VA24C0615-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	508 mg/L	500 mg/L	102	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1604910)										
VA24C0615-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.61 mg/L	4 mg/L	90.2	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E466S	0.388 mg/L	0.4 mg/L	97.0	70.0	130	----





Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Total Metals (QCLot: 1604910) - continued										
VA24C0615-002	MP05-North-1-24	Beryllium, total	7440-41-7	E466S	0.744 mg/L	0.8 mg/L	93.0	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.176 mg/L	0.2 mg/L	87.9	70.0	130	----
		Boron, total	7440-42-8	E466S	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0782 mg/L	0.08 mg/L	97.7	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.193 mg/L	0.2 mg/L	96.5	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.765 mg/L	0.8 mg/L	95.6	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.358 mg/L	0.4 mg/L	89.4	70.0	130	----
		Copper, total	7440-50-8	E466S	0.342 mg/L	0.4 mg/L	85.5	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0535 mg/L	0.05 mg/L	107	70.0	130	----
		Iron, total	7439-89-6	E466S	38.4 mg/L	40 mg/L	96.0	70.0	130	----
		Lead, total	7439-92-1	E466S	0.370 mg/L	0.4 mg/L	92.6	70.0	130	----
		Lithium, total	7439-93-2	E466S	1.88 mg/L	2 mg/L	94.1	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.378 mg/L	0.4 mg/L	94.6	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.393 mg/L	0.4 mg/L	98.3	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.688 mg/L	0.8 mg/L	86.0	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	204 mg/L	200 mg/L	102	70.0	130	----
		Potassium, total	7440-09-7	E466S	ND mg/L	----	ND	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0489 mg/L	0.05 mg/L	97.8	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.397 mg/L	0.4 mg/L	99.3	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.842 mg/L	0.8 mg/L	105	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0726 mg/L	0.08 mg/L	90.7	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.764 mg/L	0.8 mg/L	95.6	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0738 mg/L	0.08 mg/L	92.3	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.368 mg/L	0.4 mg/L	92.1	70.0	130	----
		Tin, total	7440-31-5	E466S	0.400 mg/L	0.4 mg/L	100.0	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.372 mg/L	0.4 mg/L	92.9	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0830 mg/L	0.08 mg/L	104	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.89 mg/L	2 mg/L	94.5	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0499 mg/L	0.05 mg/L	99.8	70.0	130	----
		Zinc, total	7440-66-6	E466S	7.07 mg/L	8 mg/L	88.4	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.710 mg/L	0.8 mg/L	88.8	70.0	130	----
Total Metals (QCLot: 1608138)										
VA24C0615-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000922 mg/L	0 mg/L	92.2	70.0	130	----
Dissolved Metals (QCLot: 1604967)										
VA24C0615-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	486 mg/L	500 mg/L	97.3	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1604968)										
VA24C0615-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.65 mg/L	4 mg/L	91.3	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1604968) - continued										
VA24C0615-002	MP05-North-1-24	Antimony, dissolved	7440-36-0	E465S	0.371 mg/L	0.4 mg/L	92.7	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.413 mg/L	0.4 mg/L	103	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.390 mg/L	0.4 mg/L	97.4	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.776 mg/L	0.8 mg/L	97.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.178 mg/L	0.2 mg/L	89.1	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0793 mg/L	0.08 mg/L	99.2	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.195 mg/L	0.2 mg/L	97.5	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.784 mg/L	0.8 mg/L	98.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.363 mg/L	0.4 mg/L	90.7	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.344 mg/L	0.4 mg/L	86.1	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0528 mg/L	0.05 mg/L	106	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	38.7 mg/L	40 mg/L	96.7	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.372 mg/L	0.4 mg/L	93.0	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	1.95 mg/L	2 mg/L	97.6	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.385 mg/L	0.4 mg/L	96.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.406 mg/L	0.4 mg/L	101	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.710 mg/L	0.8 mg/L	88.7	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	210 mg/L	200 mg/L	105	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	ND mg/L	----	ND	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0492 mg/L	0.05 mg/L	98.4	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.870 mg/L	0.8 mg/L	109	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0721 mg/L	0.08 mg/L	90.1	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.765 mg/L	0.8 mg/L	95.6	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0740 mg/L	0.08 mg/L	92.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.384 mg/L	0.4 mg/L	96.1	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.400 mg/L	0.4 mg/L	100.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.778 mg/L	0.8 mg/L	97.2	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.395 mg/L	0.4 mg/L	98.7	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0867 mg/L	0.08 mg/L	108	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.90 mg/L	2 mg/L	95.1	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0517 mg/L	0.05 mg/L	103	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.16 mg/L	8 mg/L	89.5	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.729 mg/L	0.8 mg/L	91.1	70.0	130	----
Dissolved Metals (QCLot: 1609571)										
VA24C0615-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000973 mg/L	0 mg/L	97.3	70.0	130	----
Volatile Organic Compounds (QCLot: 1602864)										
VA24C0615-001	MP05-Source-1-24	Benzene	71-43-2	E611A	105 µg/L	100 µg/L	105	60.0	140	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1602864) - continued										
VA24C0615-001	MP05-Source-1-24	Ethylbenzene	100-41-4	E611A	103 µg/L	100 µg/L	103	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	108 µg/L	100 µg/L	108	60.0	140	----
		Styrene	100-42-5	E611A	103 µg/L	100 µg/L	103	60.0	140	----
		Toluene	108-88-3	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	214 µg/L	200 µg/L	107	60.0	140	----
		Xylene, o-	95-47-6	E611A	107 µg/L	100 µg/L	107	60.0	140	----
Hydrocarbons (QCLot: 1602862)										
KS2403233-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4940 µg/L	6310 µg/L	78.2	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	4440 µg/L	6310 µg/L	70.4	60.0	140	----



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# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 21

Page 1 of 1

## Report To

Contact and company name below will appear on the final report

Company: WSP Canada Inc.

Contact: Elaine Irving/Connor Pettem

Phone: 1-604-297-2030/1-604-296-4200

Company address below will appear on the final report

Street: 840 Howe Street, 10th Floor

City/Province: Vancouver, BC

Postal Code: V6Z 2M1

Invoice To: Same as Report To ☒ YES ☐ NO

Copy of Invoice with Report ☐ YES ☒ NO

Company:

Contact:

## Project Information

ALS Account # / Quote #:

Job #: GOLD100-011

PO / AFE: CA0026317.6821/86000/03

LSD:

## Reports / Recipients

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

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

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

Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: elaine.irving@wsp.com

Email 2: connor.pettem@wsp.com

Email 3: trish.tomliens@wsp.com

## Invoice Recipients

Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax:

Email 2:

## Oil and Gas Required Fields (client use)

AFE/Cost Center:

Major/Minor Code:

Requisitioner:

Location:

ALS Contact: Amber Springer

Sampler: TT/MR/DV

PO#

Routing Code:

## Turnaround Time (TAT) Requested

☒ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, S

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact

## Analysis Request

NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below													
	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	Dissolved Metals	Total Metals	Dissolved Hg	Total Hg	Nutrients (including total phosphorus)	Petroleum hydrocarbons (MTBE)	Petroleum hydrocarbons (BTEX, F1)	Hydrocarbons (LEPH/HEPH)	PAH, F2-F4		
10	R	R	R	R	R	R	R	R	R	R	R	R		
10	R	R	R	R	R	R	R	R	R	R	R	R		
6	R	R	R	R	R	R	R	R	R	R	R	R		
6	R	R	R	R	R	R	R	R	R	R	R	R		
10	R	R	R	R	R	R	R	R	R	R	R	R		
6	R	R	R	R	R	R	R	R	R	R	R	R		
6	R	R	R	R	R	R	R	R	R	R	R	R		
10	R	R	R	R	R	R	R	R	R	R	R	R		
6	R	R	R	R	R	R	R	R	R	R	R	R		

ALS Lab Work Order # (ALS use only): 0615

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type
	MP05-Source-1-24	12-Aug-24	10:15	Seawater
	MP05-North-1-24		10:15	Seawater
	MP05-ENE-1-24		10:05	Seawater
	MP05-WNW-1-24		10:25	Seawater
	MP06-Source-2-24		10:35	Seawater
	MP06-North-2-24		10:45	Seawater
	MP06-ENE-2-24		11:10	Seawater
	MP06-WNW-2-24		10:55	Seawater
	DUP-C			

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

## Drinking Water (DW) Samples<sup>1</sup> (client use)

Are samples taken from a Regulated DW System?

☐ YES ☒ NO

Are samples for human consumption/ use?

☐ YES ☒ NO

## SHIPMENT RELEASE (client use)

Released by:

Date:

13 Aug 2024

Time:

11:00

Received by:

## INITIAL SHIPMENT RECEPTION (ALS use only)

Date:

Time:

Received by:

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

as specified on the back page of the

## SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☒ ICE PACKS ☐ FROZEN

Submission Comments Identified on Sample Receipt Notification: ☐ COOLING INITIATED

Cooler Custody Seals Intact: ☐ YES ☒ N/A Sample Custody Seals Intact: ☐ YES ☒ NO

INITIAL COOLER TEMPERATURES °C

FINAL COOLER TEMPERATURES °C

Rcvd jc 15Aug2024

825a m

8,10 °C ice pk

Environment  
Vancouver  
Work Order  
VA24



Telephone: +1 604 253 4168

SAMPLES ON HOLD  
EXTENDED STORAGE REQUIRED  
SUSPECTED HAZARD (see)

16 2025 FROM



www.alsglobal.com

## Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page 1 of 1

Canada Toll-Free: 1-800-668-9878

Environmental Division  
Vancouver  
Work Order Reference  
**VA24C0615**



Telephone: +1 604 263 4188

Report To	Contact and company name below will appear on the final report		Reports / Recipients	Turnaround Time (TAT) Requested
Company:	WSP Canada Inc.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)	<input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	Eline Irving/Connor Pettem		Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
Phone:	1-604-297-2030/1-604-296-4200		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked	<input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
Company address below will appear on the final report			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	<input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
Street:	840 Howe Street, 10th Floor		Email 1 or Fax: eline.iring@wsp.com	<input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
City/Province:	Vancouver, BC		Email 2: connor.pettem@wsp.com	<input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge
Postal Code:	V6Z 2M1		Email 3: trish.tomliens@wsp.com	Additional fees may apply to rush requests on weekends, s
Invoice To	Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Date and Time Required for all E&P TATs:	
Copy of Invoice with Report <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			For all tests with rush TATs requested, please conta	

Invoice To	Invoice Recipients
Company:	Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX
Contact:	Email 1 or Fax
	Email 2

Project Information	Oil and Gas Required Fields (client use)
ALS Account # / Quote #:	AFE/Cost Center:
Job #:	Major/Minor Code:
PO / AFE:	Routing Code:
LSD:	Requisitioner:
	Location:

ALS Lab Work Order # (ALS use only):	ALS Contact: Amber Springer	Sampler: TT/MR/DV
--------------------------------------	-----------------------------	-------------------

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	General (alkalinity, turbidity, cond.)	Anions, TOC, DOC, Hard., Salinity	pH, TSS, TDS, Ammonia, TKN	Dissolved Metals	Total Metals	Dissolved Hg	Total Hg	Nutrients (including total phosphorus)	Petroleum hydrocarbons (MTBE)	Petroleum hydrocarbons (BTEX,F1)	Hydrocarbons (LEPH/HEPH)	PAH, F2-F4	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MP05-Source-1-24	12-Aug-24	10:15	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-North-1-24		10:15	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP05-ENE-1-24		10:05	Seawater	6	R	R	R	R	R	R	R	R							
	MP05-WNW-1-24		10:25	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-Source-2-24		10:35	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	MP06-North-2-24		10:45	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-ENE-2-24		11:10	Seawater	6	R	R	R	R	R	R	R	R							
	MP06-WNW-2-24		10:55	Seawater	10	R	R	R	R	R	R	R	R	R	R	R	R			
	DUP-C			Seawater	6	R	R	R	R	R	R	R	R							

Drinking Water (DW) Samples <sup>1</sup> (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)	SAMPLE RECEIPT DETAILS (ALS use only)
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	GOLD100-011	Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED
Are samples for human consumption/ use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Refer to quote for all analyses.	Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		Cooler Custody Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A
		INITIAL COOLER TEMPERATURES °C
		FINAL COOLER TEMPERATURES °C

SHIPMENT RELEASE (client use)	INITIAL SHIPMENT RECEPTION (ALS use only)
Released by: Patricia Smith	Received by:
Date: 13 Aug 2024	Date:
Time: 11:00	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION  
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 form.  
1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Rcvd jc 15 Aug 2024 825a m

8,10 °C ice pk

10 2020 FRONT

CERTIFICATE OF ANALYSIS

Work Order	: YL2401213	Page	: 1 of 16
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 19-Aug-2024 10:44
PO	:	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: ----	Issue Date	: 28-Aug-2024 13:42
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	Position	Laboratory Department
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia



## General Comments

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

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

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

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

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

Unit	Description
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

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

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

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



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	101	98.3	98.2	98.5	90.0
Conductivity	----	E100S/VA	2.0	µS/cm	34300	30900	30900	35700	16600
pH	----	E108/VA	0.10	pH units	8.05	8.06	8.06	8.04	8.09
Salinity	----	EC100S/VA	1.0	psu	22.3	19.9	19.9	23.3	10.1
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	26900	24100	21900	27600	11600
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	3.2	3.5	<2.0	3.4	<2.0
Turbidity	----	E121/VA	0.10	NTU	0.27	0.48	0.41	0.76	0.42
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	4210	3830	3860	4520	1970
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	4470	3750	3770	4250	1900
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.0052
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	40.4	36.0	36.1	42.7	17.9
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	12400	11000	11000	12900	5570
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.55	0.74	0.54	0.60	0.31
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.075	0.084	0.102	0.090	0.080
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	0.015	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0182	0.0154	0.0155	0.0176	0.0086
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0170	0.0151	0.0147	0.0168	0.0103
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	1700	1510	1510	1770	768
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	0.92	0.94	1.15	0.92	1.08
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.92	0.89	0.92	0.92	1.02
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0061	0.0087	0.0091	0.0136	0.0069
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00262	0.00263	0.00239	0.00296	0.00162





Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
					Result	Result	Result	Result	Result
Total Metals									
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0073	0.0070	0.0071	0.0082	0.0053
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	2.83	2.60	2.54	2.96	1.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000024	<0.000020	<0.000020	0.000027	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	294	257	258	295	138
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	0.000056	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	0.00063	0.00070	0.00078
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	0.013	0.012	0.024	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.126	0.112	0.110	0.130	0.054
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	908	755	759	853	377
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00071	0.00077	0.00077	0.00118	0.00054
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00678	0.00567	0.00583	0.00712	0.00294
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	261	228	230	270	114
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0708	0.0606	0.0596	0.0719	0.0308
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	6730	6300	6030	6950	2990
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	4.76	4.03	3.97	4.86	2.04



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
					Result	Result	Result	Result	Result
Total Metals									
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	625	540	528	611	262
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00243	0.00216	0.00220	0.00227	0.00159
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00080	0.00069	0.00071	0.00082	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00285	0.00262	0.00242	0.00304	0.00130
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0070	0.0068	0.0070	0.0084	0.0051
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	2.88	2.58	2.69	3.19	1.43
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000027	0.000022	0.000022	0.000023	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	279	255	255	298	134
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	<0.000050	0.000052	<0.000050	0.000058	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.119	0.106	0.106	0.128	0.054



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	853	775	782	916	397
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00053	0.00053	0.00055	0.00075	0.00037
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00606	0.00549	0.00541	0.00653	0.00282
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	255	228	229	270	112
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0625	0.0562	0.0556	0.0668	0.0277
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	6090	5530	5540	6620	2710
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	4.23	3.76	3.74	4.52	1.87
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	693	606	590	712	298
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00242	0.00224	0.00218	0.00223	0.00158
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00082	0.00071	0.00069	0.00086	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	0.0012	<0.0010	<0.0010	0.0019	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1	MP05-North-1-2	MP05-ENE-1-24	MP05-WNW-1-2	MP06-Source-2
(Matrix: Water)						-24	4		4	-24
Client sampling date / time						15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
Analyte	CAS Number	Method/Lab	LOR	Unit		YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Dissolved metals filtration location	---	EP421/VA	-	-		Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Styrene	100-42-5	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Toluene	108-88-3	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		<0.40	<0.40	---	---	<0.40
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		<0.30	<0.30	---	---	<0.30
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		<0.50	<0.50	---	---	<0.50
Hydrocarbons										
EPH (C10-C19)	---	E601A/VA	250	µg/L		<250	<250	---	---	<250
EPH (C19-C32)	---	E601A/VA	250	µg/L		<250	<250	---	---	<250
F2 (C10-C16)	---	E601/VA	100	µg/L		<100	<100	---	---	<100
F3 (C16-C34)	---	E601/VA	250	µg/L		<250	<250	---	---	<250
F4 (C34-C50)	---	E601/VA	250	µg/L		<250	<250	---	---	<250
TEH (C10-C50)	n/a	E601/VA	400	µg/L		<400	<400	---	---	<400
TEH (C16-C50)	---	E601/VA	400	µg/L		<400	<400	---	---	<400
VHw (C6-C10)	---	E581.VH+F1/ VA	100	µg/L		<100	<100	---	---	<100
F1-BTEX	---	EC580/VA	100	µg/L		<100	<100	---	---	<100
HEPHw	---	EC600A/VA	250	µg/L		<250	<250	---	---	<250
LEPHw	---	EC600A/VA	250	µg/L		<250	<250	---	---	<250
VPHw	---	EC580A/VA	100	µg/L		<100	<100	---	---	<100
F1 (C6-C10)	---	E581.VH+F1/ VA	100	µg/L		<100	<100	---	---	<100
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		82.2	85.7	---	---	84.9
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		87.1	85.5	---	---	86.0
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%		110	108	---	---	118



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
(Matrix: Water)					Client sampling date / time	15-Aug-2024 08:41	15-Aug-2024 08:55	15-Aug-2024 08:51	15-Aug-2024 08:35	15-Aug-2024 07:46
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-001	YL2401213-002	YL2401213-003	YL2401213-004	YL2401213-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	84.8	83.4	----	----	84.8	
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	101	101	----	----	100	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	<0.015	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	<0.020	----	----	<0.020	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	79.0	83.7	----	----	85.4	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	87.9	92.3	----	----	94.8	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	93.0	96.1	----	----	97.8	

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Work Order : YL2401213  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03

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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.



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-D	----
(Matrix: Water)						4		4		
Client sampling date / time					15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	-----	
					Result	Result	Result	Result	----	
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	109	108	108	108	----	
Conductivity	----	E100S/VA	2.0	µS/cm	46200	45800	45700	45100	----	
pH	----	E108/VA	0.10	pH units	8.03	8.04	8.04	8.04	----	
Salinity	----	EC100S/VA	1.0	psu	31.0	30.8	30.7	30.2	----	
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	36800	36600	36500	37000	----	
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	4.7	<2.0	5.0	<2.0	----	
Turbidity	----	E121/VA	0.10	NTU	0.25	0.20	0.18	0.20	----	
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	5880	5780	5870	5830	----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	5480	5180	5140	5100	----	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0094	<0.0050	0.0059	----	
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	56.8	56.0	56.0	56.5	----	
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	17100	16800	16900	16900	----	
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.91	1.01	0.99	1.00	----	
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.103	0.100	0.096	0.108	----	
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----	
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----	
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0250	0.0253	0.0251	0.0264	----	
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0247	0.0247	0.0245	0.0248	----	
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	2360	2320	2330	2320	----	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.01	0.88	1.00	0.85	----	
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.95	1.08	0.86	1.03	----	
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0056	0.0122	<0.0050	0.0099	----	
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00383	0.00357	0.00357	0.00355	----	
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0082	0.0084	0.0083	0.0083	----	



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	DUP-D	----
Client sampling date / time					15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	-----
					Result	Result	Result	Result	----
Total Metals									
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	3.77	3.79	3.70	3.73	----
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000036	0.000041	0.000030	0.000030	----
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	382	375	375	377	----
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000060	0.000053	<0.000050	<0.000050	----
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	0.00057	0.00252	<0.00050	0.00272	----
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	----
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.172	0.173	0.169	0.168	----
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1100	1030	1020	1010	----
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00054	0.00064	0.00048	0.00062	----
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00916	0.00894	0.00871	0.00905	----
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	----
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	351	340	341	343	----
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0936	0.0934	0.0924	0.0931	----
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	----
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	9210	9260	9390	9320	----
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	6.31	6.29	6.06	6.21	----
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	781	773	743	742	----





Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-D	----
(Matrix: Water)						4		4		
Client sampling date / time						15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	-----	
					Result	Result	Result	Result	----	
Total Metals										
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050		----
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		----
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050		----
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		----
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00264	0.00269	0.00269	0.00270		----
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00106	0.00106	0.00100	0.00105		----
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030		----
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	0.0058	<0.0050	0.0056		----
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		----
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00352	0.00344	0.00374	0.00336		----
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0083	0.0082	0.0078	0.0083		----
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	4.13	4.14	4.16	4.25		----
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000026	0.000034	0.000025	0.000031		----
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	391	386	389	389		----
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000073	0.000070	0.000070	0.000066		----
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	0.00056	<0.00050	<0.00050		----
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050		----
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010		----
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010		----
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.168	0.170	0.167	0.171		----
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1190	1170	1190	1180		----



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-D	----
(Matrix: Water)						4		4		
Client sampling date / time						15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	-----	
					Result	Result	Result	Result	----	
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00043	0.00043	0.00042	0.00041	----	
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	----	
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00902	0.00866	0.00855	0.00848	----	
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	----	
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	366	361	365	365	----	
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0919	0.0893	0.0872	0.0868	----	
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	----	
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	----	
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	8590	8570	8380	8720	----	
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	6.18	5.96	5.89	5.91	----	
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	921	916	909	913	----	
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	----	
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	----	
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	----	
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00273	0.00275	0.00271	0.00275	----	
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00116	0.00114	0.00108	0.00107	----	
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	0.0013	0.0027	0.0020	0.0023	----	
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	----	
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	----	
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	----	
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	----	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-D	----
(Matrix: Water)						4		4		
Client sampling date / time						15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	-----	
					Result	Result	Result	Result	----	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	----	<0.50	----	<0.50	----	
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	----	<0.50	----	<0.50	----	
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	----	<0.50	----	<0.50	----	
Styrene	100-42-5	E611A/VA	0.50	µg/L	----	<0.50	----	<0.50	----	
Toluene	108-88-3	E611A/VA	0.50	µg/L	----	<0.50	----	<0.50	----	
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	----	<0.40	----	<0.40	----	
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	----	<0.30	----	<0.30	----	
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	----	<0.50	----	<0.50	----	
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	----	<250	----	<250	----	
EPH (C19-C32)	----	E601A/VA	250	µg/L	----	<250	----	<250	----	
F2 (C10-C16)	----	E601/VA	100	µg/L	----	<100	----	<100	----	
F3 (C16-C34)	----	E601/VA	250	µg/L	----	<250	----	<250	----	
F4 (C34-C50)	----	E601/VA	250	µg/L	----	<250	----	<250	----	
TEH (C10-C50)	n/a	E601/VA	400	µg/L	----	<400	----	<400	----	
TEH (C16-C50)	----	E601/VA	400	µg/L	----	<400	----	<400	----	
VHw (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	----	<100	----	<100	----	
F1-BTEX	----	EC580/VA	100	µg/L	----	<100	----	<100	----	
HEPHw	----	EC600A/VA	250	µg/L	----	<250	----	<250	----	
LEPHw	----	EC600A/VA	250	µg/L	----	<250	----	<250	----	
VPHw	----	EC580A/VA	100	µg/L	----	<100	----	<100	----	
F1 (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	----	<100	----	<100	----	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	----	93.6	----	88.7	----	
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	93.4	----	89.4	----	
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%	----	110	----	110	----	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	84.5	----	83.5	----	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-D	----
(Matrix: Water)						4		4		
Client sampling date / time						15-Aug-2024 08:18	15-Aug-2024 07:55	15-Aug-2024 08:26	15-Aug-2024 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2401213-006	YL2401213-007	YL2401213-008	YL2401213-009	-----	
					Result	Result	Result	Result	----	
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	100	----	101	----	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Acridine	260-94-6	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	----	<0.0050	----	<0.0050	----	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	----	<0.015	----	<0.015	----	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	----	<0.0050	----	<0.0050	----	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Fluorene	86-73-7	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	----	<0.050	----	<0.050	----	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	----	<0.020	----	<0.020	----	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	----	<0.010	----	<0.010	----	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	----	<0.050	----	<0.050	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	----	86.9	----	85.2	----	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	----	96.0	----	96.1	----	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	----	99.4	----	96.8	----	

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.



## QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2401213	Page	: 1 of 38
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 19-Aug-2024 10:44
PO	:	Issue Date	: 28-Aug-2024 19:56
C-O-C number	: ----		
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

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***

- No 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	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-D	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E298	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	24-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE DUP-D	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-North-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-North-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE DUP-D	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-North-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-ENE-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-North-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE DUP-D	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis				
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)											
HDPE MP06-Source-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)											
HDPE MP06-WNW-2-24	E235S.F-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE DUP-D	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE MP05-ENE-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE MP05-North-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE MP05-Source-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE MP05-WNW-1-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE MP06-ENE-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)											
HDPE MP06-North-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✗ EHTR	25-Aug-2024	3 days	10 days	✗ EHTR	



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-Source-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE DUP-D	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.NO2-L	15-Aug-2024	24-Aug-2024	3 days	9 days	✖ EHTR	25-Aug-2024	3 days	10 days	✖ EHTR
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE DUP-D	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.S04-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.S04-L	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) DUP-D	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✗ EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✗ EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✗ EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
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Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✗ EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
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Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✗ EHTR	26-Aug-2024	28 days	4 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	26-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) DUP-D	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	23-Aug-2024	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-D	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
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Amber glass total (sulfuric acid) MP06-North-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓



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Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E372S	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	26-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-D	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-ENE-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-North-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-Source-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-WNW-1-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-ENE-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-North-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-Source-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-WNW-2-24	E509S	15-Aug-2024	27-Aug-2024	28 days	12 days	✓	27-Aug-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) DUP-D	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) DUP-D	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E469S.NaSi	15-Aug-2024	25-Aug-2024	180 days	10 days	✓	27-Aug-2024	180 days	12 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-D	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	24-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-D	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) DUP-D	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-North-1-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-Source-1-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-Source-2-24	E581.VH+F1	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) DUP-D	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	15-Aug-2024	22-Aug-2024	3 days	7 days	✖ EHTR	22-Aug-2024	28 days	0 days	✔
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-D	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✔	22-Aug-2024	28 days	8 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	15-Aug-2024	22-Aug-2024	28 days	8 days	✓	22-Aug-2024	28 days	8 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-D	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓





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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	15-Aug-2024	24-Aug-2024	14 days	9 days	✓	25-Aug-2024	14 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE DUP-D	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	15-Aug-2024	24-Aug-2024	28 days	9 days	✓	25-Aug-2024	28 days	10 days	✓
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	✖ EHTR-FM	25-Aug-2024	0.25 hrs	246 hrs	✖ EHTR-FM



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	246 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-D	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	222 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	15-Aug-2024	24-Aug-2024	0.25 hrs	223 hrs	* EHTR-FM	25-Aug-2024	0.25 hrs	247 hrs	* EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE DUP-D	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE DUP-D	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	15-Aug-2024	----	----	----		22-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-D	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	15-Aug-2024	----	----	----		22-Aug-2024	3 days	7 days	✖ EHTR
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-D	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	25-Aug-2024	40 days	2 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) DUP-D	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-ENE-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-North-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-Source-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-WNW-1-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-ENE-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-North-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	15-Aug-2024	26-Aug-2024	28 days	11 days	✓	26-Aug-2024	28 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) DUP-D	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	27-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) DUP-D	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	15-Aug-2024	26-Aug-2024	180 days	11 days	✓	28-Aug-2024	180 days	13 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP-D	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	15-Aug-2024	23-Aug-2024	14 days	8 days	✓	23-Aug-2024	14 days	8 days	✓

[Legend & Qualifier Definitions](#)

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Work Order : YL2401213  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03

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EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

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

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 specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1614872	1	16	6.2	5.0	✔
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✔
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✔
Conductivity in Seawater	E100S	1614871	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✔
pH by Meter	E108	1614873	1	16	6.2	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1611515	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✔
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1614872	1	16	6.2	5.0	✔
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1611882	1	17	5.8	5.0	✔
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✔
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1611884	1	5	20.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✔
Conductivity in Seawater	E100S	1614871	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	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
<b>Laboratory Control Samples (LCS) - Continued</b>							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1611881	1	19	5.2	5.0	✔
pH by Meter	E108	1614873	1	16	6.2	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1611515	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1611508	1	9	11.1	5.0	✔
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✔
<b>Method Blanks (MB)</b>							
Alkalinity Species by Titration	E290	1614872	1	16	6.2	5.0	✔
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1611882	1	17	5.8	5.0	✔
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✔
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1611884	1	5	20.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✔
Conductivity in Seawater	E100S	1614871	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1611881	1	19	5.2	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1611515	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	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
<b>Method Blanks (MB) - Continued</b>							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1611508	1	9	11.1	5.0	✔
Turbidity by Nephelometry	E121	1611569	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	5.0	✔
<b>Matrix Spikes (MS)</b>							
Ammonia by Fluorescence	E298	1611607	1	20	5.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1614874	1	16	6.2	5.0	✔
BTEX by Headspace GC-MS	E611A	1612153	1	20	5.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1614875	1	16	6.2	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1618990	1	9	11.1	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1612358	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1611604	1	20	5.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1612354	1	20	5.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1614880	1	9	11.1	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1614881	1	9	11.1	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1614882	1	9	11.1	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1614883	1	9	11.1	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1611606	1	9	11.1	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1611608	1	20	5.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1616186	2	28	7.1	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1612250	1	20	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1611605	1	20	5.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1611609	1	20	5.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1612254	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1612154	1	19	5.2	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 Seawater	E100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	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 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.S04-L  ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290  ALS Environmental - Vancouver	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 - Vancouver	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 in Seawater by Fluorescence	E318S  ALS Environmental - Vancouver	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)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO <sub>2</sub> . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L  ALS Environmental - Vancouver	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 CO <sub>2</sub> . 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).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S  ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.





Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	<p>Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	<p>Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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 (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355  ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421  ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO <sub>3</sub> .
Dissolved Metals Seawater Filtration	EP421S  ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509  ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581  ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601  ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: YL2401213	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Yellowknife
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: ----	Telephone	: +1 867 873 5593
Project	: CA0026317.6821/86000/03	Date Samples Received	: 19-Aug-2024 10:44
PO	:	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: ----	Issue Date	: 28-Aug-2024 13:50
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 9		
No. of samples analysed	: 9		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative 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
Anshim Anshim	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
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Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Vancouver Metals, Burnaby, British Columbia



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## 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

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

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Page : 3 of 21  
 Work Order : YL2401213  
 Client : WSP Canada Inc.  
 Project : CA0026317.6821/86000/03



## 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: <b>Water</b>					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
<b>Physical Tests (QC Lot: 1611515)</b>											
YL2401213-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	400	mg/L	26900	27400	1.91%	20%	----
<b>Physical Tests (QC Lot: 1611569)</b>											
VA24C1270-002	Anonymous	Turbidity	----	E121	0.10	NTU	0.34	0.32	0.01	Diff <2x LOR	----
<b>Physical Tests (QC Lot: 1614871)</b>											
VA24C1605-002	Anonymous	Conductivity	----	E100S	2.0	µS/cm	2750	2760	0.363%	20%	----
<b>Physical Tests (QC Lot: 1614872)</b>											
VA24C1605-002	Anonymous	Alkalinity, total (as CaCO <sub>3</sub> )	----	E290	1.0	mg/L	10.7	10.0	6.83%	20%	----
<b>Physical Tests (QC Lot: 1614873)</b>											
VA24C1605-002	Anonymous	pH	----	E108	0.10	pH units	7.23	7.23	0.00%	4%	----
<b>Anions and Nutrients (QC Lot: 1611606)</b>											
YL2401213-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0170	0.0170	0.00006	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1611607)</b>											
VA24C0839-012	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0054	0.0057	0.0003	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1611608)</b>											
VA24C0839-012	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318S	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1611609)</b>											
VA24C0839-012	Anonymous	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0626	0.0630	0.573%	20%	----
<b>Anions and Nutrients (QC Lot: 1614874)</b>											
VA24C1605-002	Anonymous	Bromide	24959-67-9	E235S.Br	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1614875)</b>											
VA24C1605-002	Anonymous	Chloride	16887-00-6	E235S.Cl	50	mg/L	815	809	0.709%	20%	----
<b>Anions and Nutrients (QC Lot: 1614880)</b>											
YL2401213-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.55	0.78	0.23	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1614881)</b>											
YL2401213-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	0.015	0.015	0.0004	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1614882)</b>											
YL2401213-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
<b>Anions and Nutrients (QC Lot: 1614883)</b>											
YL2401213-001	MP05-Source-1-24	Sulfate (as SO <sub>4</sub> )	14808-79-8	E235S.SO4-L	3.0	mg/L	1700	1700	0.0484%	20%	----
<b>Organic / Inorganic Carbon (QC Lot: 1611604)</b>											



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: 1611604) - continued											
VA24C0839-012	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.44	1.65	0.21	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1611605)											
VA24C0839-012	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.84	0.79	0.05	Diff <2x LOR	----
Total Metals (QC Lot: 1612250)											
VA24C1337-001	Anonymous	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0156	0.0145	0.0011	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00340	0.00356	0.00016	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0105	0.0110	4.61%	20%	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	3.48	3.82	9.26%	20%	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000078	0.000091	0.000013	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	355	370	3.97%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000064	0.000069	0.000004	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00051	<0.00050	0.00001	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	0.017	0.017	0.0006	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.158	0.169	0.011	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	1130	1090	3.51%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00334	0.00339	1.32%	20%	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00890	0.00907	1.94%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	0.092	0.091	0.0007	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	331	342	3.22%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0902	0.0911	0.944%	20%	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E466S	0.010	mg/L	6.16	6.21	0.902%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	774	784	1.32%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1612250) - continued											
VA24C1337-001	Anonymous	Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00264	0.00270	2.28%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00118	0.00121	0.00003	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1612254)											
VA24C1337-001	Anonymous	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	1.7	1.6	0.2	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	8940	9180	2.62%	20%	----
Total Metals (QC Lot: 1616186)											
VA24C1337-001	Anonymous	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1616188)											
YL2401213-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1612354)											
VA24C1337-001	Anonymous	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	1.6	1.3	0.3	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	8500	8580	0.900%	20%	----
Dissolved Metals (QC Lot: 1612358)											
VA24C1337-001	Anonymous	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00338	0.00359	0.00021	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0109	0.0109	0.377%	20%	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	3.72	4.10	9.49%	20%	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000089	0.000066	0.000023	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	377	390	3.36%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000081	0.000072	0.000009	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----





Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1612358) - continued											
VA24C1337-001	Anonymous	Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.152	0.163	0.010	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	1140	1180	2.57%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00243	0.00234	3.94%	20%	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00833	0.00844	1.34%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	0.090	0.089	0.0005	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	346	359	3.61%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0851	0.0841	1.21%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	5.84	5.65	3.36%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	889	900	1.13%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00279	0.00272	2.63%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00131	0.00130	0.00001	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	0.0017	0.0014	0.0002	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1618990)											
YL2401213-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1612153)											
VA24C0680-001	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1612153) - continued											
VA24C0680-001	Anonymous	Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1612154)											
VA24C0761-007	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----



## Method Blank (MB) Report

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

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Physical Tests (QCLot: 1611508)</b>						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
<b>Physical Tests (QCLot: 1611515)</b>						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
<b>Physical Tests (QCLot: 1611569)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Physical Tests (QCLot: 1614871)</b>						
Conductivity	----	E100S	2	µS/cm	<2.0	----
<b>Physical Tests (QCLot: 1614872)</b>						
Alkalinity, total (as CaCO <sub>3</sub> )	----	E290	1	mg/L	<1.0	----
<b>Anions and Nutrients (QCLot: 1611606)</b>						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
<b>Anions and Nutrients (QCLot: 1611607)</b>						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
<b>Anions and Nutrients (QCLot: 1611608)</b>						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
<b>Anions and Nutrients (QCLot: 1611609)</b>						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0040	----
<b>Anions and Nutrients (QCLot: 1614874)</b>						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
<b>Anions and Nutrients (QCLot: 1614875)</b>						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
<b>Anions and Nutrients (QCLot: 1614880)</b>						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
<b>Anions and Nutrients (QCLot: 1614881)</b>						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1614882)</b>						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1614883)</b>						
Sulfate (as SO <sub>4</sub> )	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
<b>Organic / Inorganic Carbon (QCLot: 1611604)</b>						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
<b>Organic / Inorganic Carbon (QCLot: 1611605)</b>						



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Organic / Inorganic Carbon (QCLot: 1611605) - continued</b>						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
<b>Total Metals (QCLot: 1612250)</b>						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Total Metals (QCLot: 1612250) - continued</b>						
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
<b>Total Metals (QCLot: 1612254)</b>						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
<b>Total Metals (QCLot: 1616186)</b>						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
<b>Total Metals (QCLot: 1616188)</b>						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
<b>Dissolved Metals (QCLot: 1612354)</b>						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
<b>Dissolved Metals (QCLot: 1612358)</b>						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Dissolved Metals (QCLot: 1612358) - continued</b>						
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
<b>Dissolved Metals (QCLot: 1618990)</b>						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
<b>Volatile Organic Compounds (QCLot: 1612153)</b>						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
<b>Hydrocarbons (QCLot: 1611882)</b>						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Hydrocarbons (QCLot: 1611882) - continued</b>						
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1611884)</b>						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1612154)</b>						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
<b>Polycyclic Aromatic Hydrocarbons (QCLot: 1611881)</b>						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----



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 (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1611508)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	91.7	85.0	115	----
Physical Tests (QCLot: 1611515)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	108	85.0	115	----
Physical Tests (QCLot: 1611569)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1614871)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	100	80.0	120	----
Physical Tests (QCLot: 1614872)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	102	85.0	115	----
Physical Tests (QCLot: 1614873)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Anions and Nutrients (QCLot: 1611606)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	94.0	80.0	120	----
Anions and Nutrients (QCLot: 1611607)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	94.3	85.0	115	----
Anions and Nutrients (QCLot: 1611608)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	96.7	75.0	125	----
Anions and Nutrients (QCLot: 1611609)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	93.3	80.0	120	----
Anions and Nutrients (QCLot: 1614874)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	99.6	85.0	115	----
Anions and Nutrients (QCLot: 1614875)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1614880)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1614881)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1614882)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	104	90.0	110	----
Anions and Nutrients (QCLot: 1614883)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	103	90.0	110	----





Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1611604)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1611605)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Total Metals (QCLot: 1612250)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	93.6	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	103	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	103	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	97.5	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	98.7	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	91.6	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	98.8	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	100	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	93.7	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	90.0	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	93.5	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	98.8	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	92.9	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	98.8	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	98.2	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	111	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	93.0	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	93.6	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	93.8	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	101	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	100	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	92.1	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	101	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	97.6	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	91.5	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	103	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1612250) - continued									
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	98.8	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	99.5	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	97.7	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.7	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	92.4	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	97.7	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	91.4	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	96.1	80.0	120	----
Total Metals (QCLot: 1612254)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	106	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	104	80.0	120	----
Total Metals (QCLot: 1616186)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	99.2	80.0	120	----
Total Metals (QCLot: 1616188)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.6	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	102	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	95.5	80.0	120	----
Dissolved Metals (QCLot: 1612358)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	92.2	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	109	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	102	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	105	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	108	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	103	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	94.7	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	97.0	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	93.4	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	94.0	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	99.4	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	94.3	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1612358) - continued									
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	98.4	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	104	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	112	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	92.9	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	89.2	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	95.2	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	106	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	101	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	91.7	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	104	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	91.5	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	90.0	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	109	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	96.0	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	102	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	99.2	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	97.4	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	93.7	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	95.6	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	95.0	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	93.5	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	93.1	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	93.8	80.0	120	----
Volatile Organic Compounds (QCLot: 1612153)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	94.7	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	97.1	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	100	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	98.2	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	100	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	101	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	97.6	70.0	130	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1611882)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	110	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	116	70.0	130	----
Hydrocarbons (QCLot: 1611884)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	122	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	117	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	125	70.0	130	----
Hydrocarbons (QCLot: 1612154)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	12600 µg/L	80.8	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	12600 µg/L	82.9	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1611881)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	99.2	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	99.6	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	106	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	100	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	96.2	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	105	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	108	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	100	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	99.6	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	92.3	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	93.3	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	104	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	111	60.0	130	----



Matrix Spike (MS) Report

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

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method						
Anions and Nutrients (QCLot: 1611606)										
YL2401213-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0468 mg/L	0.05 mg/L	93.5	70.0	130	----
Anions and Nutrients (QCLot: 1611607)										
VA24C0839-013	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0962 mg/L	0.1 mg/L	96.2	75.0	125	----
Anions and Nutrients (QCLot: 1611608)										
VA24C0839-013	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318S	3.02 mg/L	2.5 mg/L	121	70.0	130	----
Anions and Nutrients (QCLot: 1611609)										
VA24C0839-013	Anonymous	Phosphorus, total	7723-14-0	E372S	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1614874)										
VA24C1684-001	Anonymous	Bromide	24959-67-9	E235S.Br	49.4 mg/L	50 mg/L	98.9	75.0	125	----
Anions and Nutrients (QCLot: 1614875)										
VA24C1684-001	Anonymous	Chloride	16887-00-6	E235S.Cl	9860 mg/L	10000 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 1614880)										
YL2401213-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	9.78 mg/L	10 mg/L	97.8	75.0	125	----
Anions and Nutrients (QCLot: 1614881)										
YL2401213-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.32 mg/L	7.5 mg/L	97.6	75.0	125	----
Anions and Nutrients (QCLot: 1614882)										
YL2401213-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	5.10 mg/L	5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1614883)										
YL2401213-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1611604)										
VA24C0839-013	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.48 mg/L	5 mg/L	110	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1611605)										
VA24C0839-013	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.58 mg/L	5 mg/L	112	70.0	130	----
Total Metals (QCLot: 1612250)										
VA24C1337-002	Anonymous	Aluminum, total	7429-90-5	E466S	3.02 mg/L	4 mg/L	75.5	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.391 mg/L	0.4 mg/L	97.7	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Barium, total	7440-39-3	E466S	0.394 mg/L	0.4 mg/L	98.4	70.0	130	----
		Beryllium, total	7440-41-7	E466S	0.704 mg/L	0.8 mg/L	88.0	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.185 mg/L	0.2 mg/L	92.6	70.0	130	----
		Boron, total	7440-42-8	E466S	1.81 mg/L	2 mg/L	90.7	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0774 mg/L	0.08 mg/L	96.8	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1612250) - continued										
VA24C1337-002	Anonymous	Calcium, total	7440-70-2	E466S	75.9 mg/L	80 mg/L	94.9	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.198 mg/L	0.2 mg/L	99.0	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.719 mg/L	0.8 mg/L	89.9	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.341 mg/L	0.4 mg/L	85.2	70.0	130	----
		Copper, total	7440-50-8	E466S	0.350 mg/L	0.4 mg/L	87.4	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0492 mg/L	0.05 mg/L	98.3	70.0	130	----
		Iron, total	7439-89-6	E466S	34.6 mg/L	40 mg/L	86.5	70.0	130	----
		Lead, total	7439-92-1	E466S	0.367 mg/L	0.4 mg/L	91.7	70.0	130	----
		Lithium, total	7439-93-2	E466S	1.97 mg/L	2 mg/L	98.3	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.350 mg/L	0.4 mg/L	87.4	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.359 mg/L	0.4 mg/L	89.8	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.693 mg/L	0.8 mg/L	86.6	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	189 mg/L	200 mg/L	94.6	70.0	130	----
		Potassium, total	7440-09-7	E466S	78.9 mg/L	80 mg/L	98.7	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0508 mg/L	0.05 mg/L	102	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.352 mg/L	0.4 mg/L	88.1	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.794 mg/L	0.8 mg/L	99.2	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0753 mg/L	0.08 mg/L	94.2	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	374 mg/L	400 mg/L	93.4	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.768 mg/L	0.8 mg/L	96.0	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0735 mg/L	0.08 mg/L	91.8	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.355 mg/L	0.4 mg/L	88.8	70.0	130	----
		Tin, total	7440-31-5	E466S	0.388 mg/L	0.4 mg/L	96.9	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.767 mg/L	0.8 mg/L	95.9	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.358 mg/L	0.4 mg/L	89.4	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0780 mg/L	0.08 mg/L	97.5	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.80 mg/L	2 mg/L	90.3	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0493 mg/L	0.05 mg/L	98.6	70.0	130	----
		Zinc, total	7440-66-6	E466S	6.92 mg/L	8 mg/L	86.5	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.732 mg/L	0.8 mg/L	91.5	70.0	130	----
Total Metals (QCLot: 1612254)										
VA24C1337-002	Anonymous	Silicon, total	7440-21-3	E468S.NaSi	482 mg/L	500 mg/L	96.4	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1616186)										
VA24C1337-002	Anonymous	Mercury, total	7439-97-6	E508S	0.000102 mg/L	0 mg/L	102	70.0	130	----
Total Metals (QCLot: 1616188)										
YL2401213-003	MP05-ENE-1-24	Mercury, total	7439-97-6	E508S	0.000101 mg/L	0 mg/L	101	70.0	130	----
Dissolved Metals (QCLot: 1612354)										
VA24C1337-002	Anonymous	Silicon, dissolved	7440-21-3	E469S.NaSi	484 mg/L	500 mg/L	96.8	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1612358)										
VA24C1337-002	Anonymous	Aluminum, dissolved	7429-90-5	E465S	3.63 mg/L	4 mg/L	90.8	70.0	130	----
		Antimony, dissolved	7440-36-0	E465S	0.400 mg/L	0.4 mg/L	100.0	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.405 mg/L	0.4 mg/L	101	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.403 mg/L	0.4 mg/L	101	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.850 mg/L	0.8 mg/L	106	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.177 mg/L	0.2 mg/L	88.7	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	2.00 mg/L	2 mg/L	100.0	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0778 mg/L	0.08 mg/L	97.2	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.207 mg/L	0.2 mg/L	103	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.764 mg/L	0.8 mg/L	95.5	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.355 mg/L	0.4 mg/L	88.7	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0504 mg/L	0.05 mg/L	101	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	36.4 mg/L	40 mg/L	90.9	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.362 mg/L	0.4 mg/L	90.5	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	2.06 mg/L	2 mg/L	103	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.361 mg/L	0.4 mg/L	90.3	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.717 mg/L	0.8 mg/L	89.6	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	207 mg/L	200 mg/L	104	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	80.6 mg/L	80 mg/L	101	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0511 mg/L	0.05 mg/L	102	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.364 mg/L	0.4 mg/L	91.0	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.830 mg/L	0.8 mg/L	104	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0728 mg/L	0.08 mg/L	91.0	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	417 mg/L	400 mg/L	104	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.768 mg/L	0.8 mg/L	95.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0716 mg/L	0.08 mg/L	89.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.380 mg/L	0.4 mg/L	95.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.762 mg/L	0.8 mg/L	95.3	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.380 mg/L	0.4 mg/L	95.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0787 mg/L	0.08 mg/L	98.4	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.93 mg/L	2 mg/L	96.4	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0489 mg/L	0.05 mg/L	97.8	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.23 mg/L	8 mg/L	90.4	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.732 mg/L	0.8 mg/L	91.5	70.0	130	----
Dissolved Metals (QCLot: 1618990)										
YL2401213-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000917 mg/L	0 mg/L	91.7	70.0	130	----
Volatile Organic Compounds (QCLot: 1612153)										



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1612153) - continued										
VA24C0680-001	Anonymous	Benzene	71-43-2	E611A	98.1 µg/L	100 µg/L	98.1	60.0	140	----
		Ethylbenzene	100-41-4	E611A	95.3 µg/L	100 µg/L	95.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Styrene	100-42-5	E611A	98.5 µg/L	100 µg/L	98.5	60.0	140	----
		Toluene	108-88-3	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	208 µg/L	200 µg/L	104	60.0	140	----
		Xylene, o-	95-47-6	E611A	97.5 µg/L	100 µg/L	97.5	60.0	140	----
Hydrocarbons (QCLot: 1612154)										
VA24C0761-008	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5880 µg/L	6310 µg/L	93.2	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5910 µg/L	6310 µg/L	93.6	60.0	140	----





## CERTIFICATE OF ANALYSIS

Work Order	: VA24C1760	Page	: 1 of 16
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 27-Aug-2024
C-O-C number	: ----	Issue Date	: 03-Sep-2024 17:42
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

## Signatories

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

Signatories	Position	Laboratory Department
Alex Thornton	Analyst	Metals, Burnaby, British Columbia
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Metals, Burnaby, British Columbia



## General Comments

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

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

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

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

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

Unit	Description
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

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

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

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

## Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	103	103	103	103	103
Conductivity	----	E100S/VA	2.0	µS/cm	40900	40000	40900	40300	40600
pH	----	E108/VA	0.10	pH units	7.96	7.97	7.97	7.95	7.97
Salinity	----	EC100S/VA	1.0	psu	27.3	26.7	27.3	26.9	27.1
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	29300	29700	30400	30300	30500
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	<2.0	2.7	2.6	2.5
Turbidity	----	E121/VA	0.10	NTU	0.30	0.37	0.28	0.41	0.40
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	5090	4530	4840	4670	4790
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	5000	4790	4780	4780	4710
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0064	0.0072	<0.0050	<0.0050	0.0051
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	52.5	54.0	50.9	53.2	50.7
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	15100	15500	14700	15400	14600
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.85	0.90	0.92	0.92	0.90
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.126	0.112	0.068	0.064	0.072
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0192	0.0198	0.0201	0.0189	0.0204
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0188	0.0188	0.0198	0.0185	0.0192
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	1960	2050	2080	2050	2060
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.08	0.94	1.00	0.92	0.99
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	1.01	1.11	0.98	1.04	1.00
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0122	0.0114	0.0123	0.0137	0.0122
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00313	0.00357	0.00344	0.00320	0.00338





Analytical Results

Sub-Matrix: Seawater  
(Matrix: Water)

					Client sample ID	MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time						18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005	
					Result	Result	Result	Result	Result	
Total Metals										
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0083	0.0084	0.0086	0.0082	0.0080	
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	3.43	3.56	3.65	3.70	3.55	
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000026	0.000020	0.000030	0.000035	0.000024	
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	355	360	351	353	354	
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000059	0.000058	0.000064	0.000077	0.000058	
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	<0.00050	0.00139	<0.00050	<0.00050	<0.00050	
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	0.019	0.016	0.018	0.023	0.019	
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.149	0.156	0.158	0.157	0.156	
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1000	946	947	947	930	
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00113	0.00103	0.00104	0.00114	0.00111	
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00846	0.00808	0.00782	0.00776	0.00779	
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	285	287	280	281	285	
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0851	0.0846	0.0827	0.0796	0.0802	
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	8380	7760	7780	7730	7770	
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	5.69	5.64	5.49	5.31	5.36	



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
					Result	Result	Result	Result	Result
Total Metals									
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	745	754	714	749	707
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00289	0.00281	0.00283	0.00279	0.00350
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00094	0.00095	0.00088	0.00086	0.00092
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00333	0.00349	0.00349	0.00364	0.00353
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0089	0.0082	0.0080	0.0083	0.0081
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	3.50	3.55	3.58	3.52	3.60
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000024	0.000022	0.000025	0.000021	0.000028
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	358	334	346	345	350
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000062	0.000055	0.000058	0.000056	0.000060
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.157	0.155	0.153	0.152	0.160



Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
					Result	Result	Result	Result	Result
Dissolved Metals									
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1020	898	966	926	951
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00083	0.00065	0.00066	0.00064	0.00071
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00866	0.00783	0.00765	0.00834	0.00831
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00063
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	291	273	281	275	284
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0885	0.0814	0.0815	0.0830	0.0851
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	8340	7540	7770	7680	7800
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	5.88	5.45	5.41	5.57	5.74
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	754	713	731	757	717
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00296	0.00273	0.00268	0.00285	0.00345
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00093	0.00082	0.00086	0.00088	0.00088
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1	MP05-North-1-2	MP05-ENE-1-24	MP05-WNW-1-2	MP06-Source-2
(Matrix: Water)						-24	4		4	-24
Client sampling date / time						18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Dissolved metals filtration location	---	EP421/VA	-	-	Field	Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Styrene	100-42-5	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Toluene	108-88-3	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	<0.40	<0.40	---	---	<0.40	
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	<0.30	<0.30	---	---	<0.30	
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	<0.50	<0.50	---	---	<0.50	
Hydrocarbons										
EPH (C10-C19)	---	E601A/VA	250	µg/L	<250	<250	---	---	<250	
EPH (C19-C32)	---	E601A/VA	250	µg/L	<250	<250	---	---	<250	
F2 (C10-C16)	---	E601/VA	100	µg/L	<100	<100	---	---	<100	
F3 (C16-C34)	---	E601/VA	250	µg/L	<250	<250	---	---	<250	
F4 (C34-C50)	---	E601/VA	250	µg/L	<250	<250	---	---	<250	
TEH (C10-C50)	n/a	E601/VA	400	µg/L	<400	<400	---	---	<400	
TEH (C16-C50)	---	E601/VA	400	µg/L	<400	<400	---	---	<400	
VHw (C6-C10)	---	E581.VH+F1/ VA	100	µg/L	<100	<100	---	---	<100	
F1-BTEX	---	EC580/VA	100	µg/L	<100	<100	---	---	<100	
HEPHw	---	EC600A/VA	250	µg/L	<250	<250	---	---	<250	
LEPHw	---	EC600A/VA	250	µg/L	<250	<250	---	---	<250	
VPHw	---	EC580A/VA	100	µg/L	<100	<100	---	---	<100	
F1 (C6-C10)	---	E581.VH+F1/ VA	100	µg/L	<100	<100	---	---	<100	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	97.4	91.7	---	---	98.9	
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	91.3	91.1	---	---	94.5	
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%	111	108	---	---	106	





Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					18-Aug-2024 15:16	18-Aug-2024 15:25	18-Aug-2024 15:21	18-Aug-2024 15:09	18-Aug-2024 14:43
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-001	VA24C1760-002	VA24C1760-003	VA24C1760-004	VA24C1760-005
					Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	83.9	84.6	----	----	87.8
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	99.4	99.2	----	----	100
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates									
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	85.2	82.6	----	----	84.8
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	127	125	----	----	130
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	123	121	----	----	123

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Work Order : VA24C1760  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03

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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.



Analytical Results

Sub-Matrix: Seawater					Client sample ID		MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-E	MLP-03
(Matrix: Water)					4				4		
Client sampling date / time					18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00	18-Aug-2024 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010		
					Result	Result	Result	Result	Result		
Physical Tests											
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	105	105	104	104	<1.0		
Conductivity	----	E100S/VA	2.0	µS/cm	44700	43400	40600	40500	<2.0		
pH	----	E108/VA	0.10	pH units	7.98	7.98	7.98	7.94	5.49		
Salinity	----	EC100S/VA	1.0	psu	30.2	29.2	27.1	27.0	<1.0		
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	32900	31900	30300	31100	<10		
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	<2.0	2.6	<2.0	<2.0		
Turbidity	----	E121/VA	0.10	NTU	0.29	0.26	0.32	0.33	<0.10		
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	5140	5080	4780	4820	<1.00		
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	5290	5110	4680	4670	<1.00		
Anions and Nutrients											
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0071	<0.0050	<0.0050	<0.0050	0.0052		
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	59.8	54.4	49.6	50.0	<5.0		
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	17300	15800	14300	14500	<50		
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.97	0.91	0.91	0.84	<0.20		
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.073	0.071	<0.050	0.076	0.051		
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010		
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010		
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0229	0.0219	0.0188	0.0191	0.0040		
Phosphorus, total dissolved	7723-14-0	E375-T/VA	0.0020	mg/L	0.0225	0.0220	0.0190	0.0203	<0.0020		
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	2270	2090	2040	1940	<3.0		
Organic / Inorganic Carbon											
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.09	0.93	0.97	1.19	<0.50		
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.92	0.94	0.97	1.11	<0.50		
Total Metals											
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0125	0.0122	0.0121	0.0142	<0.0050		
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00378	0.00380	0.00347	0.00325	<0.00040		
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0080	0.0080	0.0083	0.0082	<0.0010		



Analytical Results

Sub-Matrix: Seawater  
(Matrix: Water)

					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-E	MLP-03
						4		4		
					Client sampling date / time	18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010	
					Result	Result	Result	Result	Result	
Total Metals										
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	3.86	3.85	3.57	3.53	<0.30	<0.30
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000033	0.000033	0.000028	0.000031	<0.000020	<0.000020
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	386	381	347	350	<1.0	<1.0
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000065	0.000063	0.000058	0.000062	<0.000050	<0.000050
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	0.00062	<0.00050	<0.00050
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	0.017	0.016	0.017	0.019	<0.010	<0.010
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.178	0.173	0.156	0.154	<0.020	<0.020
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1050	1010	925	921	<1.0	<1.0
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00083	0.00085	0.00097	0.00099	<0.00020	<0.00020
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00906	0.00906	0.00783	0.00777	<0.00010	<0.00010
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	316	308	280	277	<1.0	<1.0
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0944	0.0912	0.0815	0.0824	<0.0050	<0.0050
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	8580	8310	7500	7560	<2.5	<2.5
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	6.33	6.05	5.42	5.47	<0.010	<0.010
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	790	778	702	685	<5.0	<5.0



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP06-North-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	Dup-E	MLP-03
Client sampling date / time					18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010
					Result	Result	Result	Result	Result
Total Metals									
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00302	0.00285	0.00279	0.00277	<0.000050
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00099	0.00097	0.00083	0.00090	<0.00050
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00405	0.00378	0.00354	0.00397	<0.00040
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0078	0.0079	0.0082	0.0086	<0.0010
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	3.73	3.76	3.51	3.60	<0.30
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000028	0.000027	0.000021	0.000026	<0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	375	371	351	359	<1.0
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000059	0.000060	0.000053	0.000054	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.170	0.169	0.159	0.157	<0.020
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1020	1010	948	954	<1.0



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-E	MLP-03
(Matrix: Water)						4		4		
Client sampling date / time						18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00048	0.00049	0.00063	0.00068	<0.00010	
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>	<0.0000100 <sup>DLM</sup>	<0.0000050	
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00862	0.00874	0.00792	0.00822	<0.00010	
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	299	297	283	282	<1.0	
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0898	0.0892	0.0834	0.0871	<0.0050	
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	8270	8050	7530	7790	<2.5	
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	5.97	6.09	5.54	5.81	<0.010	
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	790	770	711	743	<5.0	
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00299	0.00288	0.00270	0.00287	<0.000050	
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00093	0.00096	0.00087	0.00088	<0.00050	
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-E	MLP-03
(Matrix: Water)						4		4		
Client sampling date / time						18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Styrene	100-42-5	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	----	<0.40	----	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	----	<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	----	<250	----	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L	----	<250	----	----	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L	----	<100	----	----	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L	----	310	----	----	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L	----	530	----	----	----	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L	----	840	----	----	----	----
TEH (C16-C50)	----	E601/VA	400	µg/L	----	840	----	----	----	----
VHw (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	----	<100	----	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L	----	<100	----	----	----	----
HEPHw	----	EC600A/VA	250	µg/L	----	<250	----	----	----	----
LEPHw	----	EC600A/VA	250	µg/L	----	<250	----	----	----	----
VPHw	----	EC580A/VA	100	µg/L	----	<100	----	----	----	----
F1 (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	----	<100	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	----	94.9	----	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	----	92.6	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%	----	106	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	----	87.2	----	----	----	----



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-North-2-2	MP06-ENE-2-24	MP06-WNW-2-2	Dup-E	MLP-03
(Matrix: Water)						4		4		
Client sampling date / time					18-Aug-2024 14:50	18-Aug-2024 14:55	18-Aug-2024 15:02	18-Aug-2024 00:00	18-Aug-2024 00:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24C1760-006	VA24C1760-007	VA24C1760-008	VA24C1760-009	VA24C1760-010	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	----	100	----	----	----	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Acridine	260-94-6	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	----	<0.0050	----	----	----	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	----	<0.015	----	----	----	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	----	<0.0050	----	----	----	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Fluorene	86-73-7	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	----	<0.050	----	----	----	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	----	<0.020	----	----	----	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	----	<0.050	----	----	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	----	88.1	----	----	----	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	----	129	----	----	----	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	----	123	----	----	----	

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.





## QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: <b>VA24C1760</b>	Page	: 1 of 40
Client	: <b>WSP Canada Inc.</b>	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Issue Date	: 03-Sep-2024 17:42
C-O-C number	: ----		
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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***

- No 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 Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MLP-03	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) Dup-E	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
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Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E298	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE Dup-E	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MLP-03	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
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Anions and Nutrients : Bromide in Seawater by IC										
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Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE Dup-E	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MLP-03	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
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Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

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				Rec	Actual			Rec	Actual	
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HDPE MP06-Source-2-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE Dup-E	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MLP-03	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
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Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.F-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE Dup-E	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✗ EHTR	27-Aug-2024	3 days	8 days	✗ EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-ENE-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✗ EHTR	27-Aug-2024	3 days	8 days	✗ EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-North-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✗ EHTR	27-Aug-2024	3 days	8 days	✗ EHTR





Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-Source-1-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
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HDPE MP06-WNW-2-24	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MLP-03	E235S.NO3-T	18-Aug-2024	27-Aug-2024	3 days	9 days	✖ EHTR	27-Aug-2024	3 days	9 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE Dup-E	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	3 days	8 days	✖ EHTR
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MLP-03	E235S.NO2-L	18-Aug-2024	27-Aug-2024	3 days	9 days	✖ EHTR	27-Aug-2024	3 days	9 days	✖ EHTR
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE Dup-E	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✔	27-Aug-2024	28 days	9 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MLP-03	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-North-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP05-WNW-1-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-ENE-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-North-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-Source-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MP06-WNW-2-24	E235S.SO4-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) Dup-E	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E375-T	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass dissolved (lab preserved) MLP-03	E375-T	18-Aug-2024	27-Aug-2024	3 days	9 days	✖ EHTR	29-Aug-2024	28 days	2 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) Dup-E	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-North-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MLP-03	E318S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	28-Aug-2024	28 days	11 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) Dup-E	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-North-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-North-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	10 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MLP-03	E372S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	29-Aug-2024	28 days	11 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
HDPE dissolved (nitric acid) MLP-03	E509S	18-Aug-2024	03-Sep-2024	0 hrs	396 hrs	✖ UCP	03-Sep-2024	0 hrs	396 hrs	✖ UCP
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) Dup-E	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-ENE-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-North-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-Source-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-WNW-1-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-ENE-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-North-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-Source-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-WNW-2-24	E509S	18-Aug-2024	01-Sep-2024	28 days	14 days	✓	01-Sep-2024	28 days	14 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) Dup-E	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓





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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MLP-03	E465S	18-Aug-2024	29-Aug-2024	180 days	12 days	✓	29-Aug-2024	180 days	12 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) Dup-E	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-Source-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓



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Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-North-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MLP-03	E469S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	12 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-North-1-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-Source-1-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-Source-2-24	E581.VH+F1	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) Dup-E	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-North-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-Source-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-WNW-1-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-ENE-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-North-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-Source-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP06-WNW-2-24	E358-L	18-Aug-2024	27-Aug-2024	3 days	8 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MLP-03	E358-L	18-Aug-2024	27-Aug-2024	3 days	9 days	✖ EHTR	27-Aug-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) Dup-E	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MLP-03	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-North-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-North-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MLP-03	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	10 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE Dup-E	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-North-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	18-Aug-2024	27-Aug-2024	14 days	9 days	✓	27-Aug-2024	14 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MLP-03	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	10 days	✓
Physical Tests : Conductivity in Seawater										
HDPE Dup-E	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-North-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	18-Aug-2024	27-Aug-2024	28 days	9 days	✓	27-Aug-2024	28 days	9 days	✓
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	207 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	207 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	207 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE Dup-E	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	✗ EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	✗ EHTR-FM





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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	✖ EHTR-FM	27-Aug-2024	0.25 hrs	213 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	✖ EHTR-FM	27-Aug-2024	0.25 hrs	214 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-North-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	✖ EHTR-FM	27-Aug-2024	0.25 hrs	214 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	208 hrs	✖ EHTR-FM	27-Aug-2024	0.25 hrs	214 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MLP-03	E108	18-Aug-2024	27-Aug-2024	0.25 hrs	223 hrs	✖ EHTR-FM	27-Aug-2024	0.25 hrs	228 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE Dup-E	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT



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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MLP-03	E162S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE Dup-E	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT



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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-North-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	8 days	✖ EHT
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MLP-03	E160S	18-Aug-2024	----	----	----		27-Aug-2024	7 days	9 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE Dup-E	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-North-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	8 days	✖ EHTR
Physical Tests : Turbidity by Nephelometry										
HDPE MLP-03	E121	18-Aug-2024	----	----	----		27-Aug-2024	3 days	9 days	✖ EHTR
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	18-Aug-2024	28-Aug-2024	14 days	10 days	✓	29-Aug-2024	40 days	1 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) Dup-E	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-ENE-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-North-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-Source-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-WNW-1-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-ENE-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-North-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	18-Aug-2024	30-Aug-2024	28 days	12 days	✓	30-Aug-2024	28 days	12 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MLP-03	E508S	18-Aug-2024	30-Aug-2024	28 days	13 days	✓	30-Aug-2024	28 days	13 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) Dup-E	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MLP-03	E466S	18-Aug-2024	29-Aug-2024	180 days	12 days	✓	29-Aug-2024	180 days	12 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) Dup-E	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-Source-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-North-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	11 days	✓	29-Aug-2024	180 days	11 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MLP-03	E468S.NaSi	18-Aug-2024	29-Aug-2024	180 days	12 days	✓	29-Aug-2024	180 days	12 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓



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 Work Order : VA24C1760  
 Client : WSP Canada Inc.  
 Project : CA0026317.6821/86000/03



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
				Volatile Organic Compounds : BTEX by Headspace GC-MS						
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	18-Aug-2024	29-Aug-2024	14 days	10 days	✓	29-Aug-2024	14 days	11 days	✓

#### 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.

EHT: Exceeded ALS recommended hold time prior to analysis.

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

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.



## 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 specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1617700	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✓
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1617699	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	2	10	20.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✓
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✓
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✓
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✓
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✓
pH by Meter	E108	1617701	1	10	10.0	5.0	✓
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✓
TDS by Gravimetry (Seawater)	E162S	1618856	2	21	9.5	5.0	✓
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✓
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✓
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✓
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✓
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✓
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✓
Turbidity by Nephelometry	E121	1618258	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1617700	1	10	10.0	5.0	✓
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1620638	1	14	7.1	5.0	✓
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✓
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	1620640	1	4	25.0	5.0	✓
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✓
Conductivity in Seawater	E100S	1617699	1	10	10.0	5.0	✓
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	2	10	20.0	5.0	✓
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	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
<b>Laboratory Control Samples (LCS) - Continued</b>							
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1620637	1	15	6.6	5.0	✔
pH by Meter	E108	1617701	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1618856	2	21	9.5	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1618844	2	21	9.5	5.0	✔
Turbidity by Nephelometry	E121	1618258	1	14	7.1	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✔
<b>Method Blanks (MB)</b>							
Alkalinity Species by Titration	E290	1617700	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1620638	1	14	7.1	5.0	✔
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1620640	1	4	25.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1617699	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	2	10	20.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1620637	1	15	6.6	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1618856	2	21	9.5	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	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
<b>Method Blanks (MB) - Continued</b>							
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1618844	2	21	9.5	5.0	✔
Turbidity by Nephelometry	E121	1618258	1	14	7.1	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	5.0	✔
<b>Matrix Spikes (MS)</b>							
Ammonia by Fluorescence	E298	1617539	1	10	10.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1617702	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1622540	1	20	5.0	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1617703	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1628650	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1619541	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1617536	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1619540	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1617704	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1617705	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1617706	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1617707	1	10	10.0	5.0	✔
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T	1617538	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1617540	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1626537	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1619592	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1617537	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1617541	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1619583	1	10	10.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1622541	1	10	10.0	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 Seawater	E100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	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 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L  ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290  ALS Environmental - Vancouver	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 - Vancouver	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 in Seawater by Fluorescence	E318S  ALS Environmental - Vancouver	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)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO <sub>2</sub> . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L  ALS Environmental - Vancouver	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 CO <sub>2</sub> . 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).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Dissolved Phosphorus by Colourimetry (0.002 mg/L)	E375-T  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Dissolved Phosphorus is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S  ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Seawater by Triple Quad ICPMS	E466S ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	<p>Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	<p>Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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 (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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.
Salinity in Water (calculation)	EC100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S ALS Environmental - Vancouver	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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Digestion for Dissolved Phosphorus in water	EP375 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are filtered through a 0.45 micron membrane filter and then heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO <sub>3</sub> .
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: <b>VA24C1760</b>	Page	: 1 of 22
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Adrienne Ducharme	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 22-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 27-Aug-2024
C-O-C number	: ----	Issue Date	: 03-Sep-2024 17:42
Sampler	: ----		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative 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
Alex Thornton	Analyst	Vancouver Metals, Burnaby, British Columbia
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Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia
Wingyee Cheng	Analyst- General	Vancouver Metals, Burnaby, British Columbia



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## 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

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

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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: 1617699)											
VA24C1760-001	MP05-Source-1-24	Conductivity	----	E100S	2.0	µS/cm	40900	40900	0.00%	20%	----
Physical Tests (QC Lot: 1617700)											
VA24C1760-001	MP05-Source-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	103	103	0.194%	20%	----
Physical Tests (QC Lot: 1617701)											
VA24C1760-001	MP05-Source-1-24	pH	----	E108	0.10	pH units	7.96	7.97	0.126%	4%	----
Physical Tests (QC Lot: 1618258)											
VA24C1611-008	Anonymous	Turbidity	----	E121	0.10	NTU	1.74	1.96	11.9%	15%	----
Physical Tests (QC Lot: 1618856)											
VA24C1101-001	Anonymous	Solids, total dissolved [TDS]	----	E162S	10	mg/L	32900	32400	1.44%	20%	----
Physical Tests (QC Lot: 1618858)											
VA24C1760-010	MLP-03	Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	<10	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617538)											
VA24C1760-001	MP05-Source-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0020	mg/L	0.0188	0.0190	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617539)											
VA24C1760-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0064	0.0057	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617540)											
VA24C1760-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	0.126	0.129	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617541)											
VA24C1760-001	MP05-Source-1-24	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0192	0.0198	0.0007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617702)											
VA24C1760-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	52.5	53.5	1.86%	20%	----
Anions and Nutrients (QC Lot: 1617703)											
VA24C1760-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	15100	15400	2.20%	20%	----
Anions and Nutrients (QC Lot: 1617704)											
VA24C1760-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.85	0.88	0.03	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617705)											
VA24C1760-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617706)											
VA24C1760-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1617707)											



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 1617707) - continued											
VA24C1760-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	1960	1990	1.65%	20%	----
Organic / Inorganic Carbon (QC Lot: 1617536)											
VA24C1760-001	MP05-Source-1-24	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.08	0.94	0.14	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1617537)											
VA24C1760-001	MP05-Source-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.01	0.93	0.08	Diff <2x LOR	----
Total Metals (QC Lot: 1619583)											
VA24C1760-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	8380	8320	0.628%	20%	----
Total Metals (QC Lot: 1619592)											
VA24C1760-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0122	0.0132	0.0009	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00313	0.00333	0.00020	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0083	0.0085	0.0002	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	3.43	3.73	8.43%	20%	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	0.000026	0.000032	0.000006	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	355	360	1.39%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000059	0.000066	0.000006	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	0.019	0.019	0.0003	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.149	0.164	0.015	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	1000	998	0.297%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00113	0.00112	0.000002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00846	0.00823	2.78%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	285	296	3.84%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0851	0.0861	1.20%	20%	----

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 Work Order : VA24C1760  
 Client : WSP Canada Inc.  
 Project : CA0026317.6821/86000/03



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1619592) - continued											
VA24C1760-001	MP05-Source-1-24	Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, total	7440-24-6	E466S	0.010	mg/L	5.69	5.69	0.0582%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	745	755	1.40%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00289	0.00291	0.541%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00094	0.00093	0.00001	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1626537)											
VA24C1760-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1619540)											
VA24C1760-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	8340	7830	6.39%	20%	----
Dissolved Metals (QC Lot: 1619541)											
VA24C1760-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00333	0.00324	0.00009	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0089	0.0081	0.0008	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	3.50	3.44	1.90%	20%	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	0.000024	<0.000020	0.000004	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	358	346	3.38%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	0.000062	0.000054	0.000007	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1619541) - continued											
VA24C1760-001	MP05-Source-1-24	Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.157	0.148	0.009	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	1020	959	6.19%	20%	----
		Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00083	0.00077	0.00006	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00866	0.00796	8.42%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	291	275	5.71%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0885	0.0826	6.91%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	5.88	5.43	7.82%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	754	741	1.72%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00296	0.00269	9.58%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00093	0.00085	0.00008	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1628650)											
VA24C1760-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1630275)											
VA24C1760-010	MLP-03	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1622540)											
VA24C1017-021	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1622540) - continued											
VA24C1017-021	Anonymous	Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1622541)											
VA24C1110-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----





## Method Blank (MB) Report

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

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Physical Tests (QCLot: 1617699)</b>						
Conductivity	----	E100S	2	µS/cm	<2.0	----
<b>Physical Tests (QCLot: 1617700)</b>						
Alkalinity, total (as CaCO <sub>3</sub> )	----	E290	1	mg/L	<1.0	----
<b>Physical Tests (QCLot: 1618258)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Physical Tests (QCLot: 1618844)</b>						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
<b>Physical Tests (QCLot: 1618845)</b>						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
<b>Physical Tests (QCLot: 1618856)</b>						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
<b>Physical Tests (QCLot: 1618858)</b>						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
<b>Anions and Nutrients (QCLot: 1617538)</b>						
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	<0.0020	----
<b>Anions and Nutrients (QCLot: 1617539)</b>						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
<b>Anions and Nutrients (QCLot: 1617540)</b>						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
<b>Anions and Nutrients (QCLot: 1617541)</b>						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0040	----
<b>Anions and Nutrients (QCLot: 1617702)</b>						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
<b>Anions and Nutrients (QCLot: 1617703)</b>						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
<b>Anions and Nutrients (QCLot: 1617704)</b>						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
<b>Anions and Nutrients (QCLot: 1617705)</b>						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1617706)</b>						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1617707)</b>						



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 1617707) - continued						
Sulfate (as SO4)	14808-79-8	E235S.S04-L	3	mg/L	<3.0	----
Organic / Inorganic Carbon (QCLot: 1617536)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1617537)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1619583)						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
Total Metals (QCLot: 1619592)						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Total Metals (QCLot: 1619592) - continued</b>						
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
<b>Total Metals (QCLot: 1626537)</b>						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
<b>Dissolved Metals (QCLot: 1619540)</b>						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
<b>Dissolved Metals (QCLot: 1619541)</b>						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Dissolved Metals (QCLot: 1619541) - continued</b>						
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
<b>Dissolved Metals (QCLot: 1628650)</b>						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
<b>Dissolved Metals (QCLot: 1630275)</b>						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
<b>Volatile Organic Compounds (QCLot: 1622540)</b>						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Volatile Organic Compounds (QCLot: 1622540) - continued</b>						
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
<b>Hydrocarbons (QCLot: 1620638)</b>						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1620640)</b>						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1622541)</b>						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
<b>Polycyclic Aromatic Hydrocarbons (QCLot: 1620637)</b>						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----





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: 1617699)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	98.5	80.0	120	----
Physical Tests (QCLot: 1617700)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	98.8	85.0	115	----
Physical Tests (QCLot: 1617701)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1618258)									
Turbidity	----	E121	0.1	NTU	200 NTU	97.0	85.0	115	----
Physical Tests (QCLot: 1618844)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	98.0	85.0	115	----
Physical Tests (QCLot: 1618845)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	98.7	85.0	115	----
Physical Tests (QCLot: 1618856)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	111	85.0	115	----
Physical Tests (QCLot: 1618858)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	111	85.0	115	----
Anions and Nutrients (QCLot: 1617538)									
Phosphorus, total dissolved	7723-14-0	E375-T	0.002	mg/L	0.05 mg/L	94.8	80.0	120	----
Anions and Nutrients (QCLot: 1617539)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1617540)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	111	75.0	125	----
Anions and Nutrients (QCLot: 1617541)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	99.1	80.0	120	----
Anions and Nutrients (QCLot: 1617702)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1617703)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617704)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617705)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	101	90.0	110	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1617706)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1617707)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	102	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1617536)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	97.2	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1617537)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	99.1	80.0	120	----
Total Metals (QCLot: 1619583)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	103	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Total Metals (QCLot: 1619592)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	96.4	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	99.2	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	98.1	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	99.3	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	96.8	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	104	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	103	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	94.6	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	92.1	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	93.9	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	100.0	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	95.5	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	98.6	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	104	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	94.2	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	96.2	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	94.1	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	101	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	92.2	80.0	120	----





Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1619592) - continued									
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	95.9	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	99.9	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	95.2	80.0	120	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	93.2	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	96.4	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	99.7	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	103	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	91.5	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	97.7	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	103	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	92.6	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	95.6	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	93.4	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	89.1	80.0	120	----
Total Metals (QCLot: 1626537)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	97.0	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	107	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	106	80.0	120	----
Dissolved Metals (QCLot: 1619541)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	97.8	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	106	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	98.6	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	103	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	95.5	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	105	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	100	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	107	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	99.9	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	97.0	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	96.8	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1619541) - continued									
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	98.2	80.0	120	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	103	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	104	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	96.6	80.0	120	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	99.4	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	97.8	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	96.9	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	98.5	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	104	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	95.8	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	99.3	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	109	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	97.4	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	101	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	96.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	98.8	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	96.6	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	98.7	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	99.1	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	93.3	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	94.2	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	107	80.0	120	----
Volatile Organic Compounds (QCLot: 1622540)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	91.7	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	103	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	93.7	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	101	70.0	130	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1622540) - continued									
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	107	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	94.8	70.0	130	----
Hydrocarbons (QCLot: 1620638)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	92.8	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	95.6	70.0	130	----
Hydrocarbons (QCLot: 1620640)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	104	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	99.4	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	106	70.0	130	----
Hydrocarbons (QCLot: 1622541)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	102	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	98.9	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1620637)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	65.1	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	102	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	118	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	118	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	99.1	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	99.6	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	111	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	73.9	60.0	130	----



Matrix Spike (MS) Report

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

Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1617538)										
VA24C1760-002	MP05-North-1-24	Phosphorus, total dissolved	7723-14-0	E375-T	0.0459 mg/L	0.05 mg/L	91.9	70.0	130	----
Anions and Nutrients (QCLot: 1617539)										
VA24C1760-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.101 mg/L	0.1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1617540)										
VA24C1760-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.32 mg/L	2.5 mg/L	92.6	70.0	130	----
Anions and Nutrients (QCLot: 1617541)										
VA24C1760-002	MP05-North-1-24	Phosphorus, total	7723-14-0	E372S	0.0898 mg/L	0.1 mg/L	89.8	70.0	130	----
Anions and Nutrients (QCLot: 1617702)										
VA24C1760-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1617703)										
VA24C1760-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1617704)										
VA24C1760-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	9.85 mg/L	10 mg/L	98.5	75.0	125	----
Anions and Nutrients (QCLot: 1617705)										
VA24C1760-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.07 mg/L	7.5 mg/L	94.3	75.0	125	----
Anions and Nutrients (QCLot: 1617706)										
VA24C1760-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.82 mg/L	5 mg/L	96.4	75.0	125	----
Anions and Nutrients (QCLot: 1617707)										
VA24C1760-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1617536)										
VA24C1760-002	MP05-North-1-24	Carbon, dissolved organic [DOC]	----	E358-L	5.00 mg/L	5 mg/L	100	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1617537)										
VA24C1760-002	MP05-North-1-24	Carbon, total organic [TOC]	----	E355-L	4.87 mg/L	5 mg/L	97.4	70.0	130	----
Total Metals (QCLot: 1619583)										
VA24C1760-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	186 mg/L	200 mg/L	93.0	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1619592)										
VA24C1760-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.45 mg/L	4 mg/L	86.2	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.388 mg/L	0.4 mg/L	96.9	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.401 mg/L	0.4 mg/L	100	70.0	130	----
		Barium, total	7440-39-3	E466S	0.392 mg/L	0.4 mg/L	97.9	70.0	130	----



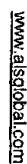
Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Total Metals (QCLot: 1619592) - continued										
VA24C1760-002	MP05-North-1-24	Beryllium, total	7440-41-7	E466S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.182 mg/L	0.2 mg/L	91.1	70.0	130	----
		Boron, total	7440-42-8	E466S	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E466S	0.0782 mg/L	0.08 mg/L	97.8	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.732 mg/L	0.8 mg/L	91.4	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.336 mg/L	0.4 mg/L	83.9	70.0	130	----
		Copper, total	7440-50-8	E466S	0.323 mg/L	0.4 mg/L	80.7	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0549 mg/L	0.05 mg/L	110	70.0	130	----
		Iron, total	7439-89-6	E466S	34.5 mg/L	40 mg/L	86.2	70.0	130	----
		Lead, total	7439-92-1	E466S	0.371 mg/L	0.4 mg/L	92.8	70.0	130	----
		Lithium, total	7439-93-2	E466S	2.30 mg/L	2 mg/L	115	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.355 mg/L	0.4 mg/L	88.8	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.378 mg/L	0.4 mg/L	94.4	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.654 mg/L	0.8 mg/L	81.7	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	206 mg/L	200 mg/L	103	70.0	130	----
		Potassium, total	7440-09-7	E466S	ND mg/L	----	ND	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0507 mg/L	0.05 mg/L	101	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.368 mg/L	0.4 mg/L	92.1	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.860 mg/L	0.8 mg/L	108	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0744 mg/L	0.08 mg/L	92.9	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.776 mg/L	0.8 mg/L	97.0	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0738 mg/L	0.08 mg/L	92.2	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.342 mg/L	0.4 mg/L	85.4	70.0	130	----
		Tin, total	7440-31-5	E466S	0.396 mg/L	0.4 mg/L	98.9	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.760 mg/L	0.8 mg/L	95.0	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.372 mg/L	0.4 mg/L	93.0	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0853 mg/L	0.08 mg/L	106	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.73 mg/L	2 mg/L	86.4	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0483 mg/L	0.05 mg/L	96.7	70.0	130	----
		Zinc, total	7440-66-6	E466S	6.69 mg/L	8 mg/L	83.7	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.695 mg/L	0.8 mg/L	86.9	70.0	130	----
Total Metals (QCLot: 1626537)										
VA24C1760-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000966 mg/L	0 mg/L	96.6	70.0	130	----
Dissolved Metals (QCLot: 1619540)										
VA24C1760-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	187 mg/L	200 mg/L	93.6	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1619541)										
VA24C1760-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.58 mg/L	4 mg/L	89.6	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Dissolved Metals (QCLot: 1619541) - continued										
VA24C1760-002	MP05-North-1-24	Antimony, dissolved	7440-36-0	E465S	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.410 mg/L	0.4 mg/L	102	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.391 mg/L	0.4 mg/L	97.8	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.735 mg/L	0.8 mg/L	91.9	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.185 mg/L	0.2 mg/L	92.5	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E465S	0.0783 mg/L	0.08 mg/L	97.8	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.204 mg/L	0.2 mg/L	102	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.802 mg/L	0.8 mg/L	100	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.368 mg/L	0.4 mg/L	92.0	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.350 mg/L	0.4 mg/L	87.5	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0543 mg/L	0.05 mg/L	109	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	37.5 mg/L	40 mg/L	93.8	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	2.18 mg/L	2 mg/L	109	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.381 mg/L	0.4 mg/L	95.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.411 mg/L	0.4 mg/L	103	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.705 mg/L	0.8 mg/L	88.2	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	205 mg/L	200 mg/L	103	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	ND mg/L	----	ND	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0501 mg/L	0.05 mg/L	100	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.402 mg/L	0.4 mg/L	100	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.865 mg/L	0.8 mg/L	108	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0721 mg/L	0.08 mg/L	90.1	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.751 mg/L	0.8 mg/L	93.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0728 mg/L	0.08 mg/L	91.0	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.329 mg/L	0.4 mg/L	82.2	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.766 mg/L	0.8 mg/L	95.7	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.377 mg/L	0.4 mg/L	94.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0855 mg/L	0.08 mg/L	107	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.86 mg/L	2 mg/L	93.0	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0501 mg/L	0.05 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	7.29 mg/L	8 mg/L	91.1	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.693 mg/L	0.8 mg/L	86.6	70.0	130	----
Dissolved Metals (QCLot: 1628650)										
VA24C1760-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.000210 mg/L	0 mg/L	105	70.0	130	----
Volatile Organic Compounds (QCLot: 1622540)										
VA24C1017-022	Anonymous	Benzene	71-43-2	E611A	96.5 µg/L	100 µg/L	96.5	60.0	140	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1622540) - continued										
VA24C1017-022	Anonymous	Ethylbenzene	100-41-4	E611A	90.3 µg/L	100 µg/L	90.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	105 µg/L	100 µg/L	105	60.0	140	----
		Styrene	100-42-5	E611A	92.5 µg/L	100 µg/L	92.5	60.0	140	----
		Toluene	108-88-3	E611A	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	222 µg/L	200 µg/L	111	60.0	140	----
		Xylene, o-	95-47-6	E611A	99.6 µg/L	100 µg/L	99.6	60.0	140	----
Hydrocarbons (QCLot: 1622541)										
VA24C1269-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5670 µg/L	6310 µg/L	89.8	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5510 µg/L	6310 µg/L	87.3	60.0	140	----

[illegible]



## CERTIFICATE OF ANALYSIS

Work Order	: VA24B9271	Page	: 1 of 15
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 02-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 03-Aug-2024
C-O-C number	: ----	Issue Date	: 12-Aug-2024 17:06
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

## Signatories

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

Signatories	Position	Laboratory Department
Anshim Anshim	Lab Assistant	Metals, Burnaby, British Columbia
Christopher Li	Analyst	Metals, Burnaby, British Columbia
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Marianne Jensen	Analyst- General	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Sam Silveira	Analyst	Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia



## General Comments

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

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

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

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

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

Unit	Description
-	no units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
psu	practical salinity units

<: less than.

>: greater than.

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

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

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

## Workorder Comments

Sample MP05-ENE-1-24 : EPH bottles and VOC vials not received at laboratory, but requested on Chain of Custody / analytical request form; subsample cannot be obtained from other containers to meet request. The requested analysis cannot be performed.

Sample MP05-North-1-24:- Extra EPH bottles and VOC vials received.Containers put on hold.Please contact ALS PM if you want to add analysis.

## Qualifiers

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic interference due to co-elution.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DLQ	Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.

Page : 3 of 15  
Work Order : VA24B9271  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03



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RRV                      *Reported result verified by repeat analysis.*

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Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
					Result	Result	Result	Result	Result
Physical Tests									
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	93.9	92.5	93.1	94.6	94.4
Conductivity	----	E100S/VA	2.0	µS/cm	34300	34600	35200	34400	34800
pH	----	E108/VA	0.10	pH units	8.00	8.00	8.00	8.01	8.01
Salinity	----	EC100S/VA	1.0	psu	22.2	22.5	22.9	22.3	22.6
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	26900	26900	27900	26700	27000
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	2.1	2.6	5.3	2.5	3.8
Turbidity	----	E121/VA	0.10	NTU	0.71	0.39	0.96	0.35	0.32
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	4160	3890	4340	4170	4240
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	4330	4230	4500	4310	4540
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	<0.0050	0.0112	0.0060	<0.0050
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	40.3	41.4	42.3	41.5	41.6
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	11800	12300	12500	12300	12300
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.52	0.54	0.57	0.55	0.56
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.076	0.087	0.080	0.073	0.080
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0174	0.0155	0.0185	0.0159	0.0159
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	1660	1670	1720	1660	1680
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.14	0.94	<0.50	0.89	1.02
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.89	0.82	0.85	1.09	0.86
Total Metals									
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	0.0089	0.0076	0.0141	0.0077	0.0127
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00266	0.00306	0.00306	0.00292	0.00323
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0075	0.0074	0.0076	0.0077	0.0079
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
					Result	Result	Result	Result	Result
Total Metals									
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	2.75	3.12	3.21	3.27	3.27
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	<0.000020	0.000030	0.000027	<0.000020	0.000022
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	283	292	298	288	296
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000050	0.000054	0.000061	0.000052	0.000056
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	0.00958	<0.00050	0.00563	0.00328	0.0201
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	0.013	<0.010	0.022	0.010	0.018
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	0.00010
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.115	0.121	0.128	0.128	0.127
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	879	850	911	873	923
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00076	0.00072	0.00098	0.00076	0.00095
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00638	0.00659	0.00686	0.00664	0.00677
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	254	253	264	254	266
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0656	0.0657	0.0689	0.0675	0.0681
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	6640	6600	6740	6710	6660
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	4.39	4.42	4.66	4.55	4.63
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	572	593	606	591	596
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050



Analytical Results

Sub-Matrix: Seawater

Client sample ID

(Matrix: Water)

					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
					Result	Result	Result	Result	Result
Total Metals									
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00230	0.00214	0.00226	0.00228	0.00231
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00074	0.00076	0.00085	0.00081	0.00078
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00282	0.00300	0.00308	0.00308	0.00297
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0074	0.0073	0.0073	0.0074	0.0076
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	2.69	3.01	2.98	3.07	3.08
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	<0.000020	0.000024	<0.000020	0.000022	0.000020
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	279	274	289	281	286
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	0.00104
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.108	0.113	0.120	0.117	0.120
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	842	778	880	843	856
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00054	0.00043	0.00048	0.00046	0.00060
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00648	0.00601	0.00640	0.00624	0.00624



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
(Matrix: Water)										
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	242	232	255	246	251	
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0649	0.0606	0.0632	0.0619	0.0621	
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	7020	6970	6890	6820	6990	
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	4.43	4.06	4.27	4.20	4.24	
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	586	548	614	585	577	
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00222	0.00213	0.00227	0.00219	0.00223	
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00078	0.00071	0.00073	0.00071	0.00075	
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	0.0012	<0.0010	<0.0010	<0.0010	0.0011	
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	<0.50	<0.50	----	----	<0.50	
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	<0.50	<0.50	----	----	<0.50	
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	<0.50	<0.50	----	----	<0.50	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP05-Source-1-24	MP05-North-1-24	MP05-ENE-1-24	MP05-WNW-1-24	MP06-Source-2-24
(Matrix: Water)										
					Client sampling date / time	30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds [Fuels]										
Styrene	100-42-5	E611A/VA	0.50	µg/L	<0.50	<0.50	----	----	<0.50	
Toluene	108-88-3	E611A/VA	0.50	µg/L	<0.50	<0.50	----	----	<0.50	
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	<0.40	<0.40	----	----	<0.40	
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	<0.30	<0.30	----	----	<0.30	
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	<0.50	<0.50	----	----	<0.50	
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	<250	<250	----	----	<250	
EPH (C19-C32)	----	E601A/VA	250	µg/L	<250	<250	----	----	<250	
F2 (C10-C16)	----	E601/VA	100	µg/L	<100	<100	----	----	<100	
F3 (C16-C34)	----	E601/VA	250	µg/L	<250	<250	----	----	<250	
F4 (C34-C50)	----	E601/VA	250	µg/L	<250	<250	----	----	<250	
TEH (C10-C50)	n/a	E601/VA	400	µg/L	<400	<400	----	----	<400	
TEH (C16-C50)	----	E601/VA	400	µg/L	<400	<400	----	----	<400	
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L	<100	<100	----	----	<100	
F1-BTEX	----	EC580/VA	100	µg/L	<100	<100	----	----	<100	
HEPHw	----	EC600A/VA	250	µg/L	<250	<250	----	----	<250	
LEPHw	----	EC600A/VA	250	µg/L	<250	<250	----	----	<250	
VPHw	----	EC580A/VA	100	µg/L	<100	<100	----	----	<100	
F1 (C6-C10)	----	E581.VH+F1/VA	100	µg/L	<100	<100	----	----	<100	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	84.5	78.4	----	----	85.2	
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	83.5	83.3	----	----	83.7	
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	76.8	108	----	----	111	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	91.9	93.6	----	----	93.3	
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	100	101	----	----	100	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010	





Analytical Results

Sub-Matrix: Seawater					Client sample ID				
(Matrix: Water)					MP05-Source-1 -24	MP05-North-1-2 4	MP05-ENE-1-24	MP05-WNW-1-2 4	MP06-Source-2 -24
Client sampling date / time					30-Jul-2024 14:35	30-Jul-2024 15:05	30-Jul-2024 14:55	30-Jul-2024 15:45	30-Jul-2024 13:31
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-001	VA24B9271-002	VA24B9271-003	VA24B9271-004	VA24B9271-005
					Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons									
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	<0.015
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	<0.0050
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	<0.020	----	----	<0.020
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	<0.010
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.050	----	----	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates									
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	90.7	98.8	----	----	98.2
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	92.4	103	----	----	104
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	94.3	105	----	----	105

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.



Analytical Results

Sub-Matrix: Seawater (Matrix: Water)					Client sample ID	MP06-north-2-2 4	MP06-ENE-2-24	MP06-WNW-2-2 4	DUP-A	MLP-01
Client sampling date / time					30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010	
					Result	Result	Result	Result	Result	
Physical Tests										
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L	109	94.1	109	109	<1.0	
Conductivity	----	E100S/VA	2.0	µS/cm	44200	35500	44200	44300	<2.0	
pH	----	E108/VA	0.10	pH units	8.02	8.01	8.02	8.02	5.44	
Salinity	----	EC100S/VA	1.0	psu	29.5	23.1	29.5	29.6	<1.0	
Solids, total dissolved [TDS]	----	E162S/VA	10	mg/L	34300	26800	34200	34400	<10	
Solids, total suspended [TSS]	----	E160S/VA	2.0	mg/L	<2.0	5.0	<2.0	<2.0	<2.0	
Turbidity	----	E121/VA	0.10	NTU	0.16	0.36	<0.10	0.14	<0.10	
Hardness (as CaCO3), dissolved	----	EC100/VA	0.50	mg/L	5390	4160	5270	5260	<1.00	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.50	mg/L	5510	4330	5530	5610	<1.00	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0088	<0.0050	0.0086	0.0097	<0.0050	
Bromide	24959-67-9	E235S.Br/VA	5.0	mg/L	55.0	42.1	55.4	55.6	<5.0	
Chloride	16887-00-6	E235S.Cl/VA	50	mg/L	16000	12600	16200	16200	<50	
Fluoride	16984-48-8	E235S.F-L/VA	0.20	mg/L	0.68	0.57	0.68	0.71	<0.20	
Kjeldahl nitrogen, total [TKN]	----	E318S/VA	0.050	mg/L	0.091	0.084	0.084	0.098	<0.050	
Nitrate (as N)	14797-55-8	E235S.NO3-T/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	0.012 <sup>RRV</sup>	
Nitrite (as N)	14797-65-0	E235S.NO2-L/ VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
Phosphorus, total	7723-14-0	E372S/VA	0.0020	mg/L	0.0224	0.0161	0.0216	0.0216	<0.0040 <sup>DLM</sup>	
Sulfate (as SO4)	14808-79-8	E235S.SO4-L/ VA	3.0	mg/L	2180	1720	2190	2190	<3.0	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.02	0.85	0.95	0.96	<0.50	
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	0.95	0.88	0.91	0.91	<0.50	
Total Metals										
Aluminum, total	7429-90-5	E466S/VA	0.0050	mg/L	<0.0050	0.0125	<0.0050	<0.0050	<0.0050	
Antimony, total	7440-36-0	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Arsenic, total	7440-38-2	E466S/VA	0.00040	mg/L	0.00355	0.00308	0.00374	0.00374	<0.00040	
Barium, total	7440-39-3	E466S/VA	0.0010	mg/L	0.0080	0.0078	0.0082	0.0078	<0.0010	
Beryllium, total	7440-41-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	



Analytical Results

Sub-Matrix: Seawater  
(Matrix: Water)

					Client sample ID	MP06-north-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-A	MLP-01
						4		4		
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010	
					Result	Result	Result	Result	Result	
Total Metals										
Bismuth, total	7440-69-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total	7440-42-8	E466S/VA	0.30	mg/L	4.10	3.26	4.23	4.15	<0.30	
Cadmium, total	7440-43-9	E466S/VA	0.000020	mg/L	0.000023	0.000026	0.000032	0.000034	<0.000020	
Calcium, total	7440-70-2	E466S/VA	1.0	mg/L	375	294	384	384	<1.0	
Cesium, total	7440-46-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Chromium, total	7440-47-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, total	7440-48-4	E466S/VA	0.000050	mg/L	0.000050	<0.000050	0.000055	0.000054	<0.000050	
Copper, total	7440-50-8	E466S/VA	0.00050	mg/L	<0.00050	0.00422	0.00597	0.00548	<0.00050	
Gallium, total	7440-55-3	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Iron, total	7439-89-6	E466S/VA	0.010	mg/L	<0.010	0.010	<0.010	<0.010	<0.010	
Lead, total	7439-92-1	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Lithium, total	7439-93-2	E466S/VA	0.020	mg/L	0.163	0.123	0.162	0.157	<0.020	
Magnesium, total	7439-95-4	E466S/VA	1.0	mg/L	1110	874	1110	1130	<1.0	
Manganese, total	7439-96-5	E466S/VA	0.00020	mg/L	0.00058	0.00071	0.00060	0.00054	<0.00020	
Mercury, total	7439-97-6	E508S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, total	7439-98-7	E466S/VA	0.00010	mg/L	0.00837	0.00652	0.00886	0.00854	<0.00010	
Nickel, total	7440-02-0	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Phosphorus, total	7723-14-0	E466S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	
Potassium, total	7440-09-7	E466S/VA	1.0	mg/L	334	257	338	340	<1.0	
Rhenium, total	7440-15-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Rubidium, total	7440-17-7	E466S/VA	0.0050	mg/L	0.0864	0.0673	0.0925	0.0893	<0.0050	
Selenium, total	7782-49-2	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Silicon, total	7440-21-3	E468S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver, total	7440-22-4	E466S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Sodium, total	7440-23-5	E468S.NaSi/V A	2.5	mg/L	8630	6780	8310	8710	<2.5	
Strontium, total	7440-24-6	E466S/VA	0.010	mg/L	5.86	4.55	6.29	6.00	<0.010	
Sulfur, total	7704-34-9	E466S/VA	5.0	mg/L	768	596	772	740	<5.0	
Tellurium, total	13494-80-9	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Thallium, total	7440-28-0	E466S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-north-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-A	MLP-01
(Matrix: Water)						4		4		
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010	
					Result	Result	Result	Result	Result	
Total Metals										
Thorium, total	7440-29-1	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Tin, total	7440-31-5	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Titanium, total	7440-32-6	E466S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Tungsten, total	7440-33-7	E466S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Uranium, total	7440-61-1	E466S/VA	0.000050	mg/L	0.00265	0.00222	0.00295	0.00276	<0.000050	
Vanadium, total	7440-62-2	E466S/VA	0.00050	mg/L	0.00103	0.00079	0.00111	0.00104	<0.00050	
Yttrium, total	7440-65-5	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Zinc, total	7440-66-6	E466S/VA	0.0030	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	
Zirconium, total	7440-67-7	E466S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Antimony, dissolved	7440-36-0	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Arsenic, dissolved	7440-38-2	E465S/VA	0.00040	mg/L	0.00353	0.00322	0.00359	0.00348	<0.00040	
Barium, dissolved	7440-39-3	E465S/VA	0.0010	mg/L	0.0082	0.0075	0.0081	0.0082	<0.0010	
Beryllium, dissolved	7440-41-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Bismuth, dissolved	7440-69-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Boron, dissolved	7440-42-8	E465S/VA	0.30	mg/L	4.13	3.22	4.02	4.10	<0.30	
Cadmium, dissolved	7440-43-9	E465S/VA	0.000020	mg/L	0.000024	0.000030	0.000032	<0.000020	<0.000020	
Calcium, dissolved	7440-70-2	E465S/VA	1.0	mg/L	377	292	364	373	<1.0	
Cesium, dissolved	7440-46-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Chromium, dissolved	7440-47-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Cobalt, dissolved	7440-48-4	E465S/VA	0.000050	mg/L	0.000051	<0.000050	0.000056	0.000053	<0.000050	
Copper, dissolved	7440-50-8	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	0.00054	0.00061	<0.00050	
Gallium, dissolved	7440-55-3	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Iron, dissolved	7439-89-6	E465S/VA	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
Lead, dissolved	7439-92-1	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Lithium, dissolved	7439-93-2	E465S/VA	0.020	mg/L	0.155	0.119	0.152	0.152	<0.020	
Magnesium, dissolved	7439-95-4	E465S/VA	1.0	mg/L	1080	832	1060	1050	<1.0	
Manganese, dissolved	7439-96-5	E465S/VA	0.00010	mg/L	0.00042	0.00043	0.00041	0.00040	<0.00010	
Mercury, dissolved	7439-97-6	E509S/VA	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum, dissolved	7439-98-7	E465S/VA	0.00010	mg/L	0.00836	0.00613	0.00814	0.00853	<0.00010	



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-north-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-A	MLP-01
(Matrix: Water)					4			4		
Client sampling date / time					30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Nickel, dissolved	7440-02-0	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus, dissolved	7723-14-0	E465S/VA	0.050	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Potassium, dissolved	7440-09-7	E465S/VA	1.0	mg/L	327	248	326	326	<1.0	<1.0
Rhenium, dissolved	7440-15-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Rubidium, dissolved	7440-17-7	E465S/VA	0.0050	mg/L	0.0841	0.0619	0.0812	0.0826	<0.0050	<0.0050
Selenium, dissolved	7782-49-2	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon, dissolved	7440-21-3	E469S.NaSi/V A	1.0	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver, dissolved	7440-22-4	E465S/VA	0.00010	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium, dissolved	7440-23-5	E469S.NaSi/V A	2.5	mg/L	8820	7050	8960	9070	<2.5	<2.5
Strontium, dissolved	7440-24-6	E465S/VA	0.010	mg/L	5.68	4.20	5.52	5.55	<0.010	<0.010
Sulfur, dissolved	7704-34-9	E465S/VA	5.0	mg/L	782	592	759	770	<5.0	<5.0
Tellurium, dissolved	13494-80-9	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium, dissolved	7440-28-0	E465S/VA	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Thorium, dissolved	7440-29-1	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tin, dissolved	7440-31-5	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Titanium, dissolved	7440-32-6	E465S/VA	0.0050	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Tungsten, dissolved	7440-33-7	E465S/VA	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Uranium, dissolved	7440-61-1	E465S/VA	0.000050	mg/L	0.00274	0.00216	0.00271	0.00269	<0.000050	<0.000050
Vanadium, dissolved	7440-62-2	E465S/VA	0.00050	mg/L	0.00101	0.00075	0.00097	0.00098	<0.00050	<0.00050
Yttrium, dissolved	7440-65-5	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E465S/VA	0.0010	mg/L	<0.0010	0.0015	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium, dissolved	7440-67-7	E465S/VA	0.00050	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421S/VA	-	-	Field	Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/VA	-	-	Field	Field	Field	Field	Field	Field
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	----	<0.50	----	----	----	----



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-north-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-A	MLP-01
(Matrix: Water)						4		4		
Client sampling date / time						30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds [Fuels]										
Styrene	100-42-5	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L		----	<0.40	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L		----	<0.30	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L		----	<0.50	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		----	<250	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		----	<250	----	----	----
F2 (C10-C16)	----	E601/VA	100	µg/L		----	<100	----	----	----
F3 (C16-C34)	----	E601/VA	250	µg/L		----	<250	----	----	----
F4 (C34-C50)	----	E601/VA	250	µg/L		----	<250	----	----	----
TEH (C10-C50)	n/a	E601/VA	400	µg/L		----	<400	----	----	----
TEH (C16-C50)	----	E601/VA	400	µg/L		----	<400	----	----	----
VHw (C6-C10)	----	E581.VH+F1/ VA	100	µg/L		----	<100	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L		----	<100	----	----	----
HEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
LEPHw	----	EC600A/VA	250	µg/L		----	<250	----	----	----
VPHw	----	EC580A/VA	100	µg/L		----	<100	----	----	----
F1 (C6-C10)	----	E581.VH+F1/ VA	100	µg/L		----	<100	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		----	81.2	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%		----	85.7	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%		----	112	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%		----	94.1	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%		----	100	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		----	<0.010	----	----	----



Analytical Results

Sub-Matrix: Seawater					Client sample ID	MP06-north-2-2	MP06-ENE-2-24	MP06-WNW-2-2	DUP-A	MLP-01
(Matrix: Water)						4		4		
					Client sampling date / time	30-Jul-2024 16:40	30-Jul-2024 17:10	30-Jul-2024 17:45	30-Jul-2024 00:00	30-Jul-2024 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B9271-006	VA24B9271-007	VA24B9271-008	VA24B9271-009	VA24B9271-010	
					Result	Result	Result	Result	Result	
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Acridine	260-94-6	E641A/VA	0.010	µg/L	----	<0.020 <sup>DLCI</sup>	----	----	----	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	----	<0.020 <sup>DLO</sup>	----	----	----	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	----	<0.0050	----	----	----	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	----	<0.015	----	----	----	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	----	<0.0050	----	----	----	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Fluorene	86-73-7	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	----	0.046	----	----	----	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	----	0.058	----	----	----	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	----	<0.050	----	----	----	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	----	0.036	----	----	----	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	----	<0.010	----	----	----	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	----	<0.050	----	----	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	----	97.1	----	----	----	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	----	106	----	----	----	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	----	106	----	----	----	

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.

## QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: <b>VA24B9271</b>	Page	: 1 of 39
Client	: <b>WSP Canada Inc.</b>	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 02-Aug-2024 08:35
PO	: ----	Issue Date	: 12-Aug-2024 17:04
C-O-C number	: ----		
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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***

- No 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 Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP-A	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MLP-01	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
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Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
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Amber glass total (sulfuric acid) MP06-north-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
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Amber glass total (sulfuric acid) MP06-WNW-2-24	E298	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE DUP-A	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MLP-01	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

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				Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Seawater by IC										
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Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-north-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-Source-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Br	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE DUP-A	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MLP-01	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-ENE-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-Source-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP05-WNW-1-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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Anions and Nutrients : Chloride in Seawater by IC										
HDPE MP06-WNW-2-24	E235S.Cl	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE DUP-A	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MLP-01	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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HDPE MP05-ENE-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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HDPE MP05-North-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
HDPE MP05-Source-1-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
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Anions and Nutrients : Fluoride in Seawater by IC (Low Level)										
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HDPE MP06-WNW-2-24	E235S.F-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE DUP-A	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MLP-01	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-ENE-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP05-North-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
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HDPE MP05-Source-1-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
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HDPE MP06-Source-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✖ EHTL
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-ENE-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Nitrate in Seawater by IC (Trace Level)										
HDPE MP06-WNW-2-24	E235S.NO3-T	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE DUP-A	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MLP-01	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Seawater by IC (Low Level)										
HDPE MP05-ENE-1-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	3 days	✓
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HDPE MP06-WNW-2-24	E235S.NO2-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	03-Aug-2024	3 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE DUP-A	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
HDPE MLP-01	E235S.SO4-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Anions and Nutrients : Sulfate in Seawater by IC (Low Level)										
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Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) DUP-A	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MLP-01	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-North-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-Source-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP05-WNW-1-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-ENE-2-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-north-2-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-Source-2-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen in Seawater by Fluorescence										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E318S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	08-Aug-2024	28 days	9 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) DUP-A	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MLP-01	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
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Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-Source-2-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E372S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	05-Aug-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) DUP-A	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MLP-01	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-ENE-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
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Glass vial dissolved (hydrochloric acid) MP05-North-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial - dissolved (lab preserved) MP05-Source-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP05-WNW-1-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-north-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-Source-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Seawater by CVAAS										
Glass vial dissolved (hydrochloric acid) MP06-WNW-2-24	E509S	30-Jul-2024	09-Aug-2024	28 days	10 days	✓	09-Aug-2024	28 days	10 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) DUP-A	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MLP-01	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE - dissolved (lab preserved) MP05-Source-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-north-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Seawater by Triple Quad ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E465S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) DUP-A	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MLP-01	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-ENE-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-North-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - dissolved (lab preserved) MP05-Source-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP05-WNW-1-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-ENE-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-north-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-Source-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Dissolved Metals : Dissolved Sodium and Silicon in Seawater by CRC ICPMS										
HDPE dissolved (nitric acid) MP06-WNW-2-24	E469S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E601	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-North-1-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP05-Source-1-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
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Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MP06-Source-2-24	E581.VH+F1	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) DUP-A	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓





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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MLP-01	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved) MP05-ENE-1-24	E358-L	30-Jul-2024	03-Aug-2024	3 days	3 days	✓	04-Aug-2024	28 days	1 days	✓
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			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) DUP-A	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MLP-01	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-ENE-1-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
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Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP05-Source-1-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
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				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MP06-WNW-2-24	E355-L	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	04-Aug-2024	28 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE DUP-A	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MLP-01	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-ENE-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-North-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-Source-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP05-WNW-1-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-ENE-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-north-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-Source-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MP06-WNW-2-24	E290	30-Jul-2024	03-Aug-2024	14 days	4 days	✓	03-Aug-2024	14 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE DUP-A	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MLP-01	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-ENE-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-North-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-Source-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP05-WNW-1-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-ENE-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Seawater										
HDPE MP06-north-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-Source-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : Conductivity in Seawater										
HDPE MP06-WNW-2-24	E100S	30-Jul-2024	03-Aug-2024	28 days	4 days	✓	03-Aug-2024	28 days	4 days	✓
Physical Tests : pH by Meter										
HDPE MP06-WNW-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	90 hrs	✗ EHTR-FM	03-Aug-2024	0.25 hrs	91 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-ENE-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	90 hrs	✗ EHTR-FM	03-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-north-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	91 hrs	✗ EHTR-FM	03-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-WNW-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	03-Aug-2024	0.25 hrs	93 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE DUP-A	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	03-Aug-2024	0.25 hrs	94 hrs	✗ EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-ENE-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	✗ EHTR-FM	03-Aug-2024	0.25 hrs	94 hrs	✗ EHTR-FM



Matrix: **Water** Evaluation: \* = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MP05-North-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	92 hrs	* EHTR-FM	03-Aug-2024	0.25 hrs	94 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MLP-01	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	93 hrs	* EHTR-FM	03-Aug-2024	0.25 hrs	95 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP05-Source-1-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	93 hrs	* EHTR-FM	03-Aug-2024	0.25 hrs	95 hrs	* EHTR-FM
Physical Tests : pH by Meter										
HDPE MP06-Source-2-24	E108	30-Jul-2024	03-Aug-2024	0.25 hrs	94 hrs	* EHTR-FM	03-Aug-2024	0.25 hrs	96 hrs	* EHTR-FM
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE DUP-A	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MLP-01	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-north-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E162S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE DUP-A	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MLP-01	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-ENE-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-North-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓



Matrix: **Water** Evaluation: **✖** = Holding time exceedance ; **✓** = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-Source-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP05-WNW-1-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-ENE-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-north-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-Source-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry (Seawater)										
HDPE MP06-WNW-2-24	E160S	30-Jul-2024	----	----	----		06-Aug-2024	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE DUP-A	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MLP-01	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-ENE-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓





Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-North-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-Source-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP05-WNW-1-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-north-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-Source-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	3 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-ENE-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	4 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE MP06-WNW-2-24	E121	30-Jul-2024	----	----	----		03-Aug-2024	3 days	4 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-North-1-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP05-Source-1-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-ENE-2-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MP06-Source-2-24	E641A	30-Jul-2024	08-Aug-2024	14 days	9 days	✓	08-Aug-2024	40 days	0 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) DUP-A	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MLP-01	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-ENE-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-North-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial - total (lab preserved) MP05-Source-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP05-WNW-1-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-ENE-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-north-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-Source-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Mercury in Seawater by CVAAS										
Glass vial total (hydrochloric acid) MP06-WNW-2-24	E508S	30-Jul-2024	08-Aug-2024	28 days	9 days	✓	08-Aug-2024	28 days	9 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) DUP-A	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MLP-01	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-north-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Metals in Seawater by Triple Quad ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E466S	30-Jul-2024	04-Aug-2024	180 days	5 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) DUP-A	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MLP-01	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-ENE-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-North-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE - total (lab preserved) MP05-Source-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP05-WNW-1-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-ENE-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-north-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-Source-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Total Metals : Total Sodium and Silicon in Seawater by CRC ICPMS										
HDPE total (nitric acid) MP06-WNW-2-24	E468S.NaSi	30-Jul-2024	05-Aug-2024	180 days	6 days	✓	06-Aug-2024	180 days	7 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-North-1-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP05-Source-1-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-ENE-2-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) MP06-Source-2-24	E611A	30-Jul-2024	07-Aug-2024	14 days	8 days	✓	08-Aug-2024	14 days	8 days	✓

[Legend & Qualifier Definitions](#)

Page : 31 of 39  
Work Order : VA24B9271  
Client : WSP Canada Inc.  
Project : CA0026317.6821/86000/03

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EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended  
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.  
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 specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
Analytical Methods			QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1579240	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1579239	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✔
pH by Meter	E108	1579241	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1581336	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✔
Turbidity by Nephelometry	E121	1579402	2	27	7.4	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1579240	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1582045	1	11	9.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1582047	1	7	14.2	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1579239	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	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
<b>Laboratory Control Samples (LCS) - Continued</b>							
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1582044	1	10	10.0	5.0	✔
pH by Meter	E108	1579241	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1581336	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1581335	1	11	9.0	5.0	✔
Turbidity by Nephelometry	E121	1579402	2	27	7.4	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✔
<b>Method Blanks (MB)</b>							
Alkalinity Species by Titration	E290	1579240	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1582045	1	11	9.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1582047	1	7	14.2	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✔
Conductivity in Seawater	E100S	1579239	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1582044	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✔
TDS by Gravimetry (Seawater)	E162S	1581336	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	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
Method Blanks (MB) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✔
TSS by Gravimetry (Seawater)	E160S	1581335	1	11	9.0	5.0	✔
Turbidity by Nephelometry	E121	1579402	2	27	7.4	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1579259	1	10	10.0	5.0	✔
Bromide in Seawater by IC	E235S.Br	1579242	1	10	10.0	5.0	✔
BTEX by Headspace GC-MS	E611A	1583064	1	7	14.2	5.0	✔
Chloride in Seawater by IC	E235S.Cl	1579243	1	10	10.0	5.0	✔
Dissolved Mercury in Seawater by CVAAS	E509S	1587236	1	10	10.0	5.0	✔
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S	1579817	1	10	10.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1579257	1	10	10.0	5.0	✔
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi	1579818	1	10	10.0	5.0	✔
Fluoride in Seawater by IC (Low Level)	E235S.F-L	1579244	1	10	10.0	5.0	✔
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T	1579245	1	10	10.0	5.0	✔
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L	1579246	1	10	10.0	5.0	✔
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L	1579247	1	10	10.0	5.0	✔
Total Kjeldahl Nitrogen in Seawater by Fluorescence	E318S	1579260	1	10	10.0	5.0	✔
Total Mercury in Seawater by CVAAS	E508S	1585596	1	10	10.0	5.0	✔
Total Metals in Seawater by Triple Quad ICPMS	E466S	1579718	1	10	10.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1579258	1	10	10.0	5.0	✔
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S	1579261	1	10	10.0	5.0	✔
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi	1579717	1	10	10.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1583065	1	8	12.5	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 Seawater	E100S ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry (Seawater)	E160S ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids.
TDS by Gravimetry (Seawater)	E162S ALS Environmental - Vancouver	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 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Seawater by IC	E235S.Br ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Seawater by IC	E235S.Cl ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Seawater by IC (Low Level)	E235S.F-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Seawater by IC (Low Level)	E235S.NO2-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Seawater by IC (Trace Level)	E235S.NO3-T ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Seawater by IC (Low Level)	E235S.SO4-L  ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290  ALS Environmental - Vancouver	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 - Vancouver	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 in Seawater by Fluorescence	E318S  ALS Environmental - Vancouver	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)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L  ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO <sub>2</sub> . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L  ALS Environmental - Vancouver	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 CO <sub>2</sub> . 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).
Total Phosphorus in Seawater by Colourimetry (0.002 mg/L)	E372S  ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Metals in Seawater by Triple Quad ICPMS	E465S  ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Triple Quadrupole ICPMS.
Total Metals in Seawater by Triple Quad ICPMS	E466S  ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Triple Quadrupole ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Sodium and Silicon in Seawater by CRC ICPMS	E468S.NaSi ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Seawater samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. This method is compliant with digestion requirements of the British Columbia Environmental Laboratory Manual.
Dissolved Sodium and Silicon in Seawater by CRC ICPMS	E469S.NaSi ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Seawater samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
Total Mercury in Seawater by CVAAS	E508S ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Seawater samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Mercury in Seawater by CVAAS	E509S ALS Environmental - Vancouver	Water	APHA 3030B/EPA 1631E (mod)	Seawater samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	<p>Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	<p>Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).</p> <p>Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.</p>
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
BTEX by Headspace GC-MS	E611A ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Hardness (Calculated)	EC100  ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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 (Calculated) from Total Ca/Mg	EC100A  ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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.
Salinity in Water (calculation)	EC100S  ALS Environmental - Vancouver	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 seawater sample. Conductivity measurements are temperature-compensated to 25°C. Salinity in Practical Salinity Units is calculated.
F1-BTEX	EC580  ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A  ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A  ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298  ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in Seawater	EP318S  ALS Environmental - Vancouver	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 Total Organic Carbon by Combustion	EP355  ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO <sub>3</sub> .
Dissolved Metals Seawater Filtration	EP421S ALS Environmental - Vancouver	Water	PUGET SOUND PROTOCOLS, EPA 6020A	This analysis is carried out using procedures adapted from "Recommended Guidelines for Measuring Metals in Puget Sound Marine Water, Sediment, and Tissue Samples" prepared for the United States Environmental Protection Agency and the Puget Sound Water Quality Authority, 1995. The procedures may involve preliminary sample treatment by acid digestion or filtration (EPA Method 3005A). Instrumental analysis is by Collision/Reaction Cell ICPMS.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: VA24B9271	Page	: 1 of 21
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Vancouver
Contact	: Connor Pettem	Account Manager	: Amber Springer
Address	: 840 Howe St, 10th Floor Vancouver BC Canada V6Z 2S9	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: CA0026317.6821/86000/03	Date Samples Received	: 02-Aug-2024 08:35
PO	: ----	Date Analysis Commenced	: 03-Aug-2024
C-O-C number	: ----	Issue Date	: 12-Aug-2024 17:04
Sampler	: TT/MR/DV		
Site	: Baffinland Milne Port		
Quote number	: VA24-GOLD100-011		
No. of samples received	: 10		
No. of samples analysed	: 10		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative 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.

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## 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

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

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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: 1579239)											
VA24B9271-003	MP05-ENE-1-24	Conductivity	----	E100S	2.0	µS/cm	35200	35400	0.566%	20%	----
Physical Tests (QC Lot: 1579240)											
VA24B9271-003	MP05-ENE-1-24	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	93.1	94.4	1.39%	20%	----
Physical Tests (QC Lot: 1579241)											
VA24B9271-003	MP05-ENE-1-24	pH	----	E108	0.10	pH units	8.00	8.00	0.00%	4%	----
Physical Tests (QC Lot: 1579402)											
VA24B9181-001	Anonymous	Turbidity	----	E121	0.10	NTU	166	165	0.604%	15%	----
Physical Tests (QC Lot: 1579403)											
VA24B9271-006	MP06-north-2-24	Turbidity	----	E121	0.10	NTU	0.16	0.14	0.02	Diff <2x LOR	----
Physical Tests (QC Lot: 1581336)											
VA24B9271-001	MP05-Source-1-24	Solids, total dissolved [TDS]	----	E162S	800	mg/L	26900	26200	2.33%	20%	----
Anions and Nutrients (QC Lot: 1579242)											
VA24B9271-001	MP05-Source-1-24	Bromide	24959-67-9	E235S.Br	5.0	mg/L	40.3	41.7	1.4	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579243)											
VA24B9271-001	MP05-Source-1-24	Chloride	16887-00-6	E235S.Cl	50	mg/L	11800	12300	3.80%	20%	----
Anions and Nutrients (QC Lot: 1579244)											
VA24B9271-001	MP05-Source-1-24	Fluoride	16984-48-8	E235S.F-L	0.20	mg/L	0.52	0.54	0.02	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579245)											
VA24B9271-001	MP05-Source-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579246)											
VA24B9271-001	MP05-Source-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579247)											
VA24B9271-001	MP05-Source-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3.0	mg/L	1660	1660	0.178%	20%	----
Anions and Nutrients (QC Lot: 1579259)											
VA24B9271-001	MP05-Source-1-24	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579260)											
VA24B9271-001	MP05-Source-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	0.050	mg/L	0.076	0.084	0.008	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1579261)											
VA24B9271-001	MP05-Source-1-24	Phosphorus, total	7723-14-0	E372S	0.0040	mg/L	0.0174	0.0180	0.0006	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1579257)											



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: 1579257) - continued											
VA24B9271-001	MP05-Source-1-24	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	1.14	1.16	0.02	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1579258)											
VA24B9271-001	MP05-Source-1-24	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	0.89	0.96	0.07	Diff <2x LOR	----
Total Metals (QC Lot: 1579717)											
VA24B9271-001	MP05-Source-1-24	Silicon, total	7440-21-3	E468S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	6640	6630	0.195%	20%	----
Total Metals (QC Lot: 1579718)											
VA24B9271-001	MP05-Source-1-24	Aluminum, total	7429-90-5	E466S	0.0050	mg/L	0.0089	0.0078	0.0011	Diff <2x LOR	----
		Antimony, total	7440-36-0	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E466S	0.00040	mg/L	0.00266	0.00295	0.00030	Diff <2x LOR	----
		Barium, total	7440-39-3	E466S	0.0010	mg/L	0.0075	0.0077	0.0001	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E466S	0.30	mg/L	2.75	3.08	0.33	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E466S	0.000020	mg/L	<0.000020	0.000027	0.000007	Diff <2x LOR	----
		Calcium, total	7440-70-2	E466S	1.0	mg/L	283	295	4.03%	20%	----
		Cesium, total	7440-46-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E466S	0.000050	mg/L	0.000050	0.000052	0.000002	Diff <2x LOR	----
		Copper, total	7440-50-8	E466S	0.00050	mg/L	0.00958	0.00952	0.719%	20%	----
		Gallium, total	7440-55-3	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E466S	0.010	mg/L	0.013	0.012	0.0009	Diff <2x LOR	----
		Lead, total	7439-92-1	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E466S	0.020	mg/L	0.115	0.123	0.008	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E466S	1.0	mg/L	879	900	2.42%	20%	----
		Manganese, total	7439-96-5	E466S	0.00020	mg/L	0.00076	0.00078	0.00002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E466S	0.00010	mg/L	0.00638	0.00664	3.98%	20%	----
		Nickel, total	7440-02-0	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E466S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E466S	1.0	mg/L	254	260	2.54%	20%	----
		Rhenium, total	7440-15-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E466S	0.0050	mg/L	0.0656	0.0677	3.20%	20%	----
		Selenium, total	7782-49-2	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, total	7440-22-4	E466S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1579718) - continued											
VA24B9271-001	MP05-Source-1-24	Strontium, total	7440-24-6	E466S	0.010	mg/L	4.39	4.60	4.56%	20%	----
		Sulfur, total	7704-34-9	E466S	5.0	mg/L	572	590	3.11%	20%	----
		Tellurium, total	13494-80-9	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E466S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E466S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E466S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E466S	0.000050	mg/L	0.00230	0.00224	2.61%	20%	----
		Vanadium, total	7440-62-2	E466S	0.00050	mg/L	0.00074	0.00084	0.00010	Diff <2x LOR	----
		Yttrium, total	7440-65-5	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E466S	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E466S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1585596)											
VA24B9271-001	MP05-Source-1-24	Mercury, total	7439-97-6	E508S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1579817)											
VA24B9271-001	MP05-Source-1-24	Aluminum, dissolved	7429-90-5	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E465S	0.00040	mg/L	0.00282	0.00291	0.00009	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E465S	0.0010	mg/L	0.0074	0.0072	0.0002	Diff <2x LOR	----
		Beryllium, dissolved	7440-41-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E465S	0.30	mg/L	2.69	2.86	0.17	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E465S	0.000020	mg/L	<0.000020	0.000025	0.000005	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E465S	1.0	mg/L	279	275	1.63%	20%	----
		Cesium, dissolved	7440-46-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Gallium, dissolved	7440-55-3	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E465S	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E465S	0.020	mg/L	0.108	0.115	0.007	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E465S	1.0	mg/L	842	848	0.656%	20%	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 1579817) - continued											
VA24B9271-001	MP05-Source-1-24	Manganese, dissolved	7439-96-5	E465S	0.00010	mg/L	0.00054	0.00050	0.00003	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E465S	0.00010	mg/L	0.00648	0.00643	0.736%	20%	----
		Nickel, dissolved	7440-02-0	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E465S	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E465S	1.0	mg/L	242	240	0.958%	20%	----
		Rhenium, dissolved	7440-15-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E465S	0.0050	mg/L	0.0649	0.0619	4.67%	20%	----
		Selenium, dissolved	7782-49-2	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E465S	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Strontium, dissolved	7440-24-6	E465S	0.010	mg/L	4.43	4.26	3.93%	20%	----
		Sulfur, dissolved	7704-34-9	E465S	5.0	mg/L	586	591	0.911%	20%	----
		Tellurium, dissolved	13494-80-9	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E465S	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E465S	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E465S	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E465S	0.000050	mg/L	0.00222	0.00217	2.09%	20%	----
		Vanadium, dissolved	7440-62-2	E465S	0.00050	mg/L	0.00078	0.00070	0.00009	Diff <2x LOR	----
		Yttrium, dissolved	7440-65-5	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E465S	0.0010	mg/L	0.0012	0.0011	0.0001	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E465S	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1579818)											
VA24B9271-001	MP05-Source-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	7020	7110	1.21%	20%	----
Dissolved Metals (QC Lot: 1587236)											
VA24B9271-001	MP05-Source-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1583064)											
VA24B8291-002	Anonymous	Benzene	71-43-2	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	1.21	1.25	0.04	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1583064) - continued											
VA24B8291-002	Anonymous	Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1583065)											
VA24B8835-002	Anonymous	F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
		VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----



## Method Blank (MB) Report

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

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Physical Tests (QCLot: 1579239)</b>						
Conductivity	----	E100S	2	µS/cm	<2.0	----
<b>Physical Tests (QCLot: 1579240)</b>						
Alkalinity, total (as CaCO <sub>3</sub> )	----	E290	1	mg/L	1.3	----
<b>Physical Tests (QCLot: 1579402)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Physical Tests (QCLot: 1579403)</b>						
Turbidity	----	E121	0.1	NTU	<0.10	----
<b>Physical Tests (QCLot: 1581335)</b>						
Solids, total suspended [TSS]	----	E160S	2	mg/L	<2.0	----
<b>Physical Tests (QCLot: 1581336)</b>						
Solids, total dissolved [TDS]	----	E162S	10	mg/L	<10	----
<b>Anions and Nutrients (QCLot: 1579242)</b>						
Bromide	24959-67-9	E235S.Br	5	mg/L	<5.0	----
<b>Anions and Nutrients (QCLot: 1579243)</b>						
Chloride	16887-00-6	E235S.Cl	50	mg/L	<50	----
<b>Anions and Nutrients (QCLot: 1579244)</b>						
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	<0.20	----
<b>Anions and Nutrients (QCLot: 1579245)</b>						
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1579246)</b>						
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	<0.010	----
<b>Anions and Nutrients (QCLot: 1579247)</b>						
Sulfate (as SO <sub>4</sub> )	14808-79-8	E235S.SO4-L	3	mg/L	<3.0	----
<b>Anions and Nutrients (QCLot: 1579259)</b>						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
<b>Anions and Nutrients (QCLot: 1579260)</b>						
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	<0.050	----
<b>Anions and Nutrients (QCLot: 1579261)</b>						
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	<0.0020	----
<b>Organic / Inorganic Carbon (QCLot: 1579257)</b>						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
<b>Organic / Inorganic Carbon (QCLot: 1579258)</b>						



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Organic / Inorganic Carbon (QCLot: 1579258) - continued</b>						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
<b>Total Metals (QCLot: 1579717)</b>						
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	<1.0	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	<2.5	----
<b>Total Metals (QCLot: 1579718)</b>						
Aluminum, total	7429-90-5	E466S	0.005	mg/L	<0.0050	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	<0.0010	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	<0.00040	----
Barium, total	7440-39-3	E466S	0.001	mg/L	<0.0010	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	<0.00050	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	<0.00050	----
Boron, total	7440-42-8	E466S	0.3	mg/L	<0.30	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	<0.000020	----
Calcium, total	7440-70-2	E466S	1	mg/L	<1.0	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	<0.00050	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	<0.000050	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	<0.00050	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E466S	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	<0.00010	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	<0.020	----
Magnesium, total	7439-95-4	E466S	1	mg/L	<1.0	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	<0.00020	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	<0.00010	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E466S	1	mg/L	<1.0	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	<0.00050	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	<0.0050	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	<0.00050	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	<0.00010	----
Strontium, total	7440-24-6	E466S	0.01	mg/L	<0.010	----
Sulfur, total	7704-34-9	E466S	5	mg/L	<5.0	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	<0.00050	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Total Metals (QCLot: 1579718) - continued</b>						
Thallium, total	7440-28-0	E466S	0.00005	mg/L	<0.000050	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	<0.00050	----
Tin, total	7440-31-5	E466S	0.001	mg/L	<0.0010	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	<0.0050	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	<0.0010	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	<0.000050	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	<0.00050	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	<0.00050	----
<b>Total Metals (QCLot: 1585596)</b>						
Mercury, total	7439-97-6	E508S	0.000005	mg/L	<0.0000050	----
<b>Dissolved Metals (QCLot: 1579817)</b>						
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	<0.0050	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	<0.0010	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	<0.00040	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	<0.0010	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	<0.00050	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	<0.00050	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	<0.30	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	<0.000020	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	<1.0	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	<0.00050	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	<0.000050	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	<0.00050	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	<0.00050	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	<0.00010	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	<0.020	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	<1.0	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	<0.050	----





Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Dissolved Metals (QCLot: 1579817) - continued</b>						
Potassium, dissolved	7440-09-7	E465S	1	mg/L	<1.0	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	<0.00050	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	<0.0050	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	<0.00050	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	<0.00010	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	<0.010	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	<5.0	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	<0.00050	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	<0.000050	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	<0.00050	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	<0.0010	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	<0.0050	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	<0.0010	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	<0.000050	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	<0.00050	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	<0.00050	----
<b>Dissolved Metals (QCLot: 1579818)</b>						
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	<1.0	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	<2.5	----
<b>Dissolved Metals (QCLot: 1587236)</b>						
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	<0.0000050	----
<b>Volatile Organic Compounds (QCLot: 1583064)</b>						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
<b>Hydrocarbons (QCLot: 1582045)</b>						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1582047)</b>						



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>Hydrocarbons (QCLot: 1582047) - continued</b>						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
<b>Hydrocarbons (QCLot: 1583065)</b>						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
<b>Polycyclic Aromatic Hydrocarbons (QCLot: 1582044)</b>						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----



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: 1579239)									
Conductivity	----	E100S	2	µS/cm	147 µS/cm	99.6	80.0	120	----
Physical Tests (QCLot: 1579240)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1579241)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1579402)									
Turbidity	----	E121	0.1	NTU	200 NTU	98.0	85.0	115	----
Physical Tests (QCLot: 1579403)									
Turbidity	----	E121	0.1	NTU	200 NTU	98.5	85.0	115	----
Physical Tests (QCLot: 1581335)									
Solids, total suspended [TSS]	----	E160S	2	mg/L	150 mg/L	94.3	85.0	115	----
Physical Tests (QCLot: 1581336)									
Solids, total dissolved [TDS]	----	E162S	10	mg/L	1000 mg/L	103	85.0	115	----
Anions and Nutrients (QCLot: 1579242)									
Bromide	24959-67-9	E235S.Br	5	mg/L	0.5 mg/L	97.8	85.0	115	----
Anions and Nutrients (QCLot: 1579243)									
Chloride	16887-00-6	E235S.Cl	50	mg/L	100 mg/L	95.6	90.0	110	----
Anions and Nutrients (QCLot: 1579244)									
Fluoride	16984-48-8	E235S.F-L	0.2	mg/L	1 mg/L	92.2	90.0	110	----
Anions and Nutrients (QCLot: 1579245)									
Nitrate (as N)	14797-55-8	E235S.NO3-T	0.01	mg/L	2.5 mg/L	95.1	90.0	110	----
Anions and Nutrients (QCLot: 1579246)									
Nitrite (as N)	14797-65-0	E235S.NO2-L	0.01	mg/L	0.5 mg/L	96.4	90.0	110	----
Anions and Nutrients (QCLot: 1579247)									
Sulfate (as SO4)	14808-79-8	E235S.SO4-L	3	mg/L	100 mg/L	96.4	90.0	110	----
Anions and Nutrients (QCLot: 1579259)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100	85.0	115	----
Anions and Nutrients (QCLot: 1579260)									
Kjeldahl nitrogen, total [TKN]	----	E318S	0.05	mg/L	4 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1579261)									
Phosphorus, total	7723-14-0	E372S	0.002	mg/L	0.05 mg/L	93.7	80.0	120	----



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: 1579257)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	98.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1579258)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	98.8	80.0	120	----
Total Metals (QCLot: 1579717)									
Silicon, total	7440-21-3	E468S.NaSi	1	mg/L	10 mg/L	108	80.0	120	----
Sodium, total	7440-23-5	E468S.NaSi	2.5	mg/L	50 mg/L	102	80.0	120	----
Total Metals (QCLot: 1579718)									
Aluminum, total	7429-90-5	E466S	0.005	mg/L	2 mg/L	92.4	80.0	120	----
Antimony, total	7440-36-0	E466S	0.001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, total	7440-38-2	E466S	0.0004	mg/L	1 mg/L	99.9	80.0	120	----
Barium, total	7440-39-3	E466S	0.001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, total	7440-41-7	E466S	0.0005	mg/L	0.1 mg/L	106	80.0	120	----
Bismuth, total	7440-69-9	E466S	0.0005	mg/L	1 mg/L	98.9	80.0	120	----
Boron, total	7440-42-8	E466S	0.3	mg/L	1 mg/L	99.0	80.0	120	----
Cadmium, total	7440-43-9	E466S	0.00002	mg/L	0.1 mg/L	97.7	80.0	120	----
Calcium, total	7440-70-2	E466S	1	mg/L	50 mg/L	99.3	80.0	120	----
Cesium, total	7440-46-2	E466S	0.0005	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E466S	0.0005	mg/L	0.25 mg/L	93.5	80.0	120	----
Cobalt, total	7440-48-4	E466S	0.00005	mg/L	0.25 mg/L	88.6	80.0	120	----
Copper, total	7440-50-8	E466S	0.0005	mg/L	0.25 mg/L	97.0	80.0	120	----
Gallium, total	7440-55-3	E466S	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Iron, total	7439-89-6	E466S	0.01	mg/L	1 mg/L	92.4	80.0	120	----
Lead, total	7439-92-1	E466S	0.0001	mg/L	0.5 mg/L	99.0	80.0	120	----
Lithium, total	7439-93-2	E466S	0.02	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, total	7439-95-4	E466S	1	mg/L	50 mg/L	112	80.0	120	----
Manganese, total	7439-96-5	E466S	0.0002	mg/L	0.25 mg/L	91.2	80.0	120	----
Molybdenum, total	7439-98-7	E466S	0.0001	mg/L	0.25 mg/L	90.6	80.0	120	----
Nickel, total	7440-02-0	E466S	0.0005	mg/L	0.5 mg/L	89.8	80.0	120	----
Phosphorus, total	7723-14-0	E466S	0.05	mg/L	10 mg/L	99.2	80.0	120	----
Potassium, total	7440-09-7	E466S	1	mg/L	50 mg/L	101	80.0	120	----
Rhenium, total	7440-15-5	E466S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Rubidium, total	7440-17-7	E466S	0.005	mg/L	0.1 mg/L	90.9	80.0	120	----
Selenium, total	7782-49-2	E466S	0.0005	mg/L	1 mg/L	99.6	80.0	120	----
Silver, total	7440-22-4	E466S	0.0001	mg/L	0.1 mg/L	87.6	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1579718) - continued									
Strontium, total	7440-24-6	E466S	0.01	mg/L	0.25 mg/L	89.6	80.0	120	----
Sulfur, total	7704-34-9	E466S	5	mg/L	50 mg/L	102	80.0	120	----
Tellurium, total	13494-80-9	E466S	0.0005	mg/L	0.1 mg/L	94.6	80.0	120	----
Thallium, total	7440-28-0	E466S	0.00005	mg/L	1 mg/L	102	80.0	120	----
Thorium, total	7440-29-1	E466S	0.0005	mg/L	0.1 mg/L	98.5	80.0	120	----
Tin, total	7440-31-5	E466S	0.001	mg/L	0.5 mg/L	97.7	80.0	120	----
Titanium, total	7440-32-6	E466S	0.005	mg/L	0.25 mg/L	96.6	80.0	120	----
Tungsten, total	7440-33-7	E466S	0.001	mg/L	0.1 mg/L	96.9	80.0	120	----
Uranium, total	7440-61-1	E466S	0.00005	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E466S	0.0005	mg/L	0.5 mg/L	92.5	80.0	120	----
Yttrium, total	7440-65-5	E466S	0.0005	mg/L	0.1 mg/L	97.8	80.0	120	----
Zinc, total	7440-66-6	E466S	0.003	mg/L	0.5 mg/L	93.2	80.0	120	----
Zirconium, total	7440-67-7	E466S	0.0005	mg/L	0.1 mg/L	94.2	80.0	120	----
Total Metals (QCLot: 1585596)									
Mercury, total	7439-97-6	E508S	0.000005	mg/L	0 mg/L	105	80.0	120	----
Dissolved Metals (QCLot: 1579817)									
Aluminum, dissolved	7429-90-5	E465S	0.005	mg/L	2 mg/L	88.0	80.0	120	----
Antimony, dissolved	7440-36-0	E465S	0.001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, dissolved	7440-38-2	E465S	0.0004	mg/L	1 mg/L	96.6	80.0	120	----
Barium, dissolved	7440-39-3	E465S	0.001	mg/L	0.25 mg/L	99.2	80.0	120	----
Beryllium, dissolved	7440-41-7	E465S	0.0005	mg/L	0.1 mg/L	105	80.0	120	----
Bismuth, dissolved	7440-69-9	E465S	0.0005	mg/L	1 mg/L	94.8	80.0	120	----
Boron, dissolved	7440-42-8	E465S	0.3	mg/L	1 mg/L	98.9	80.0	120	----
Cadmium, dissolved	7440-43-9	E465S	0.00002	mg/L	0.1 mg/L	97.5	80.0	120	----
Calcium, dissolved	7440-70-2	E465S	1	mg/L	50 mg/L	100	80.0	120	----
Cesium, dissolved	7440-46-2	E465S	0.0005	mg/L	0.05 mg/L	99.5	80.0	120	----
Chromium, dissolved	7440-47-3	E465S	0.0005	mg/L	0.25 mg/L	92.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E465S	0.00005	mg/L	0.25 mg/L	86.9	80.0	120	----
Copper, dissolved	7440-50-8	E465S	0.0005	mg/L	0.25 mg/L	97.0	80.0	120	----
Gallium, dissolved	7440-55-3	E465S	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Iron, dissolved	7439-89-6	E465S	0.01	mg/L	1 mg/L	89.2	80.0	120	----
Lead, dissolved	7439-92-1	E465S	0.0001	mg/L	0.5 mg/L	95.1	80.0	120	----
Lithium, dissolved	7439-93-2	E465S	0.02	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E465S	1	mg/L	50 mg/L	112	80.0	120	----
Manganese, dissolved	7439-96-5	E465S	0.0001	mg/L	0.25 mg/L	90.4	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1579817) - continued									
Molybdenum, dissolved	7439-98-7	E465S	0.0001	mg/L	0.25 mg/L	90.3	80.0	120	----
Nickel, dissolved	7440-02-0	E465S	0.0005	mg/L	0.5 mg/L	91.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E465S	0.05	mg/L	10 mg/L	97.8	80.0	120	----
Potassium, dissolved	7440-09-7	E465S	1	mg/L	50 mg/L	103	80.0	120	----
Rhenium, dissolved	7440-15-5	E465S	0.0005	mg/L	0.1 mg/L	103	80.0	120	----
Rubidium, dissolved	7440-17-7	E465S	0.005	mg/L	0.1 mg/L	89.0	80.0	120	----
Selenium, dissolved	7782-49-2	E465S	0.0005	mg/L	1 mg/L	101	80.0	120	----
Silver, dissolved	7440-22-4	E465S	0.0001	mg/L	0.1 mg/L	87.2	80.0	120	----
Strontium, dissolved	7440-24-6	E465S	0.01	mg/L	0.25 mg/L	87.9	80.0	120	----
Sulfur, dissolved	7704-34-9	E465S	5	mg/L	50 mg/L	99.3	80.0	120	----
Tellurium, dissolved	13494-80-9	E465S	0.0005	mg/L	0.1 mg/L	94.9	80.0	120	----
Thallium, dissolved	7440-28-0	E465S	0.00005	mg/L	1 mg/L	96.7	80.0	120	----
Thorium, dissolved	7440-29-1	E465S	0.0005	mg/L	0.1 mg/L	104	80.0	120	----
Tin, dissolved	7440-31-5	E465S	0.001	mg/L	0.5 mg/L	98.6	80.0	120	----
Titanium, dissolved	7440-32-6	E465S	0.005	mg/L	0.25 mg/L	93.5	80.0	120	----
Tungsten, dissolved	7440-33-7	E465S	0.001	mg/L	0.1 mg/L	98.6	80.0	120	----
Uranium, dissolved	7440-61-1	E465S	0.00005	mg/L	0.005 mg/L	97.4	80.0	120	----
Vanadium, dissolved	7440-62-2	E465S	0.0005	mg/L	0.5 mg/L	92.3	80.0	120	----
Yttrium, dissolved	7440-65-5	E465S	0.0005	mg/L	0.1 mg/L	94.1	80.0	120	----
Zinc, dissolved	7440-66-6	E465S	0.001	mg/L	0.5 mg/L	89.8	80.0	120	----
Zirconium, dissolved	7440-67-7	E465S	0.0005	mg/L	0.1 mg/L	92.8	80.0	120	----
Silicon, dissolved	7440-21-3	E469S.NaSi	1	mg/L	10 mg/L	101	80.0	120	----
Sodium, dissolved	7440-23-5	E469S.NaSi	2.5	mg/L	50 mg/L	103	80.0	120	----
Mercury, dissolved	7439-97-6	E509S	0.000005	mg/L	0 mg/L	101	80.0	120	----
Volatile Organic Compounds (QCLot: 1583064)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	116	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	104	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	113	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	112	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	108	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	110	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	107	70.0	130	----
Hydrocarbons (QCLot: 1582045)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	102	70.0	130	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Hydrocarbons (QCLot: 1582045) - continued									
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	105	70.0	130	----
Hydrocarbons (QCLot: 1582047)									
F2 (C10-C16)	----	E601	100	µg/L	3540 µg/L	107	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7050 µg/L	100	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5050 µg/L	111	70.0	130	----
Hydrocarbons (QCLot: 1583065)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	84.1	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	81.7	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1582044)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	114	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	121	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	114	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	112	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	106	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	108	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	106	60.0	130	----



Matrix Spike (MS) Report

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

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 1579242)										
VA24B9271-002	MP05-North-1-24	Bromide	24959-67-9	E235S.Br	51.3 mg/L	50 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1579243)										
VA24B9271-002	MP05-North-1-24	Chloride	16887-00-6	E235S.Cl	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1579244)										
VA24B9271-002	MP05-North-1-24	Fluoride	16984-48-8	E235S.F-L	8.88 mg/L	10 mg/L	88.8	75.0	125	----
Anions and Nutrients (QCLot: 1579245)										
VA24B9271-002	MP05-North-1-24	Nitrate (as N)	14797-55-8	E235S.NO3-T	7.20 mg/L	7.5 mg/L	96.0	75.0	125	----
Anions and Nutrients (QCLot: 1579246)										
VA24B9271-002	MP05-North-1-24	Nitrite (as N)	14797-65-0	E235S.NO2-L	4.71 mg/L	5 mg/L	94.2	75.0	125	----
Anions and Nutrients (QCLot: 1579247)										
VA24B9271-002	MP05-North-1-24	Sulfate (as SO4)	14808-79-8	E235S.SO4-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1579259)										
VA24B9271-002	MP05-North-1-24	Ammonia, total (as N)	7664-41-7	E298	0.105 mg/L	0.1 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1579260)										
VA24B9271-002	MP05-North-1-24	Kjeldahl nitrogen, total [TKN]	----	E318S	2.17 mg/L	2.5 mg/L	86.7	70.0	130	----
Anions and Nutrients (QCLot: 1579261)										
VA24B9271-002	MP05-North-1-24	Phosphorus, total	7723-14-0	E372S	0.0878 mg/L	0.1 mg/L	87.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1579257)										
VA24B9271-002	MP05-North-1-24	Carbon, dissolved organic [DOC]	----	E358-L	5.12 mg/L	5 mg/L	102	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1579258)										
VA24B9271-002	MP05-North-1-24	Carbon, total organic [TOC]	----	E355-L	5.12 mg/L	5 mg/L	102	70.0	130	----
Total Metals (QCLot: 1579717)										
VA24B9271-002	MP05-North-1-24	Silicon, total	7440-21-3	E468S.NaSi	520 mg/L	500 mg/L	104	70.0	130	----
		Sodium, total	7440-23-5	E468S.NaSi	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1579718)										
VA24B9271-002	MP05-North-1-24	Aluminum, total	7429-90-5	E466S	3.39 mg/L	4 mg/L	84.8	70.0	130	----
		Antimony, total	7440-36-0	E466S	0.388 mg/L	0.4 mg/L	97.0	70.0	130	----
		Arsenic, total	7440-38-2	E466S	0.406 mg/L	0.4 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E466S	0.401 mg/L	0.4 mg/L	100	70.0	130	----
		Beryllium, total	7440-41-7	E466S	0.873 mg/L	0.8 mg/L	109	70.0	130	----
		Bismuth, total	7440-69-9	E466S	0.178 mg/L	0.2 mg/L	89.2	70.0	130	----
		Boron, total	7440-42-8	E466S	ND mg/L	----	ND	70.0	130	----





Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1579718) - continued										
VA24B9271-002	MP05-North-1-24	Cadmium, total	7440-43-9	E466S	0.0782 mg/L	0.08 mg/L	97.8	70.0	130	----
		Calcium, total	7440-70-2	E466S	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E466S	0.202 mg/L	0.2 mg/L	101	70.0	130	----
		Chromium, total	7440-47-3	E466S	0.744 mg/L	0.8 mg/L	93.0	70.0	130	----
		Cobalt, total	7440-48-4	E466S	0.346 mg/L	0.4 mg/L	86.6	70.0	130	----
		Copper, total	7440-50-8	E466S	0.365 mg/L	0.4 mg/L	91.3	70.0	130	----
		Gallium, total	7440-55-3	E466S	0.0578 mg/L	0.05 mg/L	116	70.0	130	----
		Iron, total	7439-89-6	E466S	35.0 mg/L	40 mg/L	87.5	70.0	130	----
		Lead, total	7439-92-1	E466S	0.368 mg/L	0.4 mg/L	92.0	70.0	130	----
		Lithium, total	7439-93-2	E466S	2.04 mg/L	2 mg/L	102	70.0	130	----
		Magnesium, total	7439-95-4	E466S	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E466S	0.362 mg/L	0.4 mg/L	90.6	70.0	130	----
		Molybdenum, total	7439-98-7	E466S	0.375 mg/L	0.4 mg/L	93.8	70.0	130	----
		Nickel, total	7440-02-0	E466S	0.678 mg/L	0.8 mg/L	84.8	70.0	130	----
		Phosphorus, total	7723-14-0	E466S	211 mg/L	200 mg/L	105	70.0	130	----
		Potassium, total	7440-09-7	E466S	ND mg/L	----	ND	70.0	130	----
		Rhenium, total	7440-15-5	E466S	0.0556 mg/L	0.05 mg/L	111	70.0	130	----
		Rubidium, total	7440-17-7	E466S	0.372 mg/L	0.4 mg/L	93.1	70.0	130	----
		Selenium, total	7782-49-2	E466S	0.854 mg/L	0.8 mg/L	107	70.0	130	----
		Silver, total	7440-22-4	E466S	0.0722 mg/L	0.08 mg/L	90.3	70.0	130	----
		Strontium, total	7440-24-6	E466S	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E466S	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E466S	0.757 mg/L	0.8 mg/L	94.6	70.0	130	----
		Thallium, total	7440-28-0	E466S	0.0753 mg/L	0.08 mg/L	94.1	70.0	130	----
		Thorium, total	7440-29-1	E466S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Tin, total	7440-31-5	E466S	0.404 mg/L	0.4 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E466S	0.807 mg/L	0.8 mg/L	101	70.0	130	----
		Tungsten, total	7440-33-7	E466S	0.389 mg/L	0.4 mg/L	97.3	70.0	130	----
		Uranium, total	7440-61-1	E466S	0.0771 mg/L	0.08 mg/L	96.4	70.0	130	----
		Vanadium, total	7440-62-2	E466S	1.86 mg/L	2 mg/L	92.8	70.0	130	----
		Yttrium, total	7440-65-5	E466S	0.0546 mg/L	0.05 mg/L	109	70.0	130	----
		Zinc, total	7440-66-6	E466S	6.95 mg/L	8 mg/L	86.8	70.0	130	----
		Zirconium, total	7440-67-7	E466S	0.736 mg/L	0.8 mg/L	92.0	70.0	130	----
Total Metals (QCLot: 1585596)										
VA24B9271-002	MP05-North-1-24	Mercury, total	7439-97-6	E508S	0.0000717 mg/L	0 mg/L	71.7	70.0	130	----
Dissolved Metals (QCLot: 1579817)										
VA24B9271-002	MP05-North-1-24	Aluminum, dissolved	7429-90-5	E465S	3.25 mg/L	4 mg/L	81.3	70.0	130	----
		Antimony, dissolved	7440-36-0	E465S	0.378 mg/L	0.4 mg/L	94.6	70.0	130	----
		Arsenic, dissolved	7440-38-2	E465S	0.376 mg/L	0.4 mg/L	93.9	70.0	130	----
		Barium, dissolved	7440-39-3	E465S	0.399 mg/L	0.4 mg/L	99.6	70.0	130	----
		Beryllium, dissolved	7440-41-7	E465S	0.840 mg/L	0.8 mg/L	105	70.0	130	----
		Bismuth, dissolved	7440-69-9	E465S	0.172 mg/L	0.2 mg/L	85.9	70.0	130	----
		Boron, dissolved	7440-42-8	E465S	ND mg/L	----	ND	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1579817) - continued										
VA24B9271-002	MP05-North-1-24	Cadmium, dissolved	7440-43-9	E465S	0.0752 mg/L	0.08 mg/L	94.0	70.0	130	----
		Calcium, dissolved	7440-70-2	E465S	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E465S	0.198 mg/L	0.2 mg/L	99.1	70.0	130	----
		Chromium, dissolved	7440-47-3	E465S	0.729 mg/L	0.8 mg/L	91.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E465S	0.340 mg/L	0.4 mg/L	85.0	70.0	130	----
		Copper, dissolved	7440-50-8	E465S	0.362 mg/L	0.4 mg/L	90.4	70.0	130	----
		Gallium, dissolved	7440-55-3	E465S	0.0546 mg/L	0.05 mg/L	109	70.0	130	----
		Iron, dissolved	7439-89-6	E465S	35.0 mg/L	40 mg/L	87.6	70.0	130	----
		Lead, dissolved	7439-92-1	E465S	0.355 mg/L	0.4 mg/L	88.7	70.0	130	----
		Lithium, dissolved	7439-93-2	E465S	1.96 mg/L	2 mg/L	97.9	70.0	130	----
		Magnesium, dissolved	7439-95-4	E465S	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E465S	0.354 mg/L	0.4 mg/L	88.5	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E465S	0.360 mg/L	0.4 mg/L	90.1	70.0	130	----
		Nickel, dissolved	7440-02-0	E465S	0.664 mg/L	0.8 mg/L	83.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E465S	193 mg/L	200 mg/L	96.6	70.0	130	----
		Potassium, dissolved	7440-09-7	E465S	ND mg/L	----	ND	70.0	130	----
		Rhenium, dissolved	7440-15-5	E465S	0.0526 mg/L	0.05 mg/L	105	70.0	130	----
		Rubidium, dissolved	7440-17-7	E465S	0.361 mg/L	0.4 mg/L	90.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E465S	0.806 mg/L	0.8 mg/L	101	70.0	130	----
		Silver, dissolved	7440-22-4	E465S	0.0695 mg/L	0.08 mg/L	86.9	70.0	130	----
		Strontium, dissolved	7440-24-6	E465S	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E465S	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E465S	0.724 mg/L	0.8 mg/L	90.5	70.0	130	----
		Thallium, dissolved	7440-28-0	E465S	0.0711 mg/L	0.08 mg/L	88.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E465S	0.383 mg/L	0.4 mg/L	95.8	70.0	130	----
		Tin, dissolved	7440-31-5	E465S	0.385 mg/L	0.4 mg/L	96.2	70.0	130	----
		Titanium, dissolved	7440-32-6	E465S	0.732 mg/L	0.8 mg/L	91.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E465S	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E465S	0.0778 mg/L	0.08 mg/L	97.3	70.0	130	----
		Vanadium, dissolved	7440-62-2	E465S	1.85 mg/L	2 mg/L	92.6	70.0	130	----
		Yttrium, dissolved	7440-65-5	E465S	0.0498 mg/L	0.05 mg/L	99.7	70.0	130	----
		Zinc, dissolved	7440-66-6	E465S	6.68 mg/L	8 mg/L	83.6	70.0	130	----
		Zirconium, dissolved	7440-67-7	E465S	0.698 mg/L	0.8 mg/L	87.3	70.0	130	----
Dissolved Metals (QCLot: 1579818)										
VA24B9271-002	MP05-North-1-24	Silicon, dissolved	7440-21-3	E469S.NaSi	472 mg/L	500 mg/L	94.4	70.0	130	----
		Sodium, dissolved	7440-23-5	E469S.NaSi	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1587236)										
VA24B9271-002	MP05-North-1-24	Mercury, dissolved	7439-97-6	E509S	0.0000832 mg/L	0 mg/L	83.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1583064)										
VA24B8291-002	Anonymous	Benzene	71-43-2	E611A	102 µg/L	100 µg/L	102	60.0	140	----
		Ethylbenzene	100-41-4	E611A	95.4 µg/L	100 µg/L	95.4	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	107 µg/L	100 µg/L	107	60.0	140	----
		Styrene	100-42-5	E611A	102 µg/L	100 µg/L	102	60.0	140	----



Sub-Matrix: <b>Water</b>					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1583064) - continued										
VA24B8291-002	Anonymous	Toluene	108-88-3	E611A	97.9 µg/L	100 µg/L	97.9	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	210 µg/L	200 µg/L	105	60.0	140	----
		Xylene, o-	95-47-6	E611A	98.1 µg/L	100 µg/L	98.1	60.0	140	----
Hydrocarbons (QCLot: 1583065)										
VA24B9264-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5470 µg/L	6310 µg/L	86.7	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5320 µg/L	6310 µg/L	84.3	60.0	140	----



## COC Number: 21 -

Page 1 of 1

**Canada Toll Free: 1 800 668 9878**

Work Order Reference

Work Order Reference  
**VA24B9271**



Telephone : + 1 604 253 4188

[illegible]

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**APPENDIX 2C**

# Water Quality Screening Table

Appendix 2C - Table 1: Water Quality Screening  
Table for Marine Environmental Effects Monitoring Program 2024

Parameter	Station Sample Date FIELD_SOG	Unit	MP-05 ENE					MP-05 North					MP-05					MP-05 Source					MP-05 WNW				
			30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024
			VA2489271-003	VA2489990-003	VA24C0615-003	YL2401213-003	VA24C1760-003	VA2489271-002	VA2489990-002	VA24C0615-002	YL2401213-002	VA24C1760-002	VA2489271-001	VA2489990-001	VA24C0615-001	YL2401213-001	VA24C1760-001	VA2489271-004	VA2489990-004	VA24C0615-004	YL2401213-004	VA24C1760-004	VA2489271-004	VA2489990-004	VA24C0615-004	YL2401213-004	VA24C1760-004
<b>Field + Physical</b>																											
Alkalinity, total (as CaCO3)	-	mg/L	81.1	84.7	107	88.2	103	82.5	85.3	107	88.3	103	81.3	83.4	107	101	101	84.6	86.7	107	88.5	103	84.6	86.7	107	88.5	103
Conductivity	-	µS/cm	6126	1120	1560	1060	1480	6126	1120	1560	1060	1480	6126	1120	1560	1060	1480	6126	1120	1560	1060	1480	6126	1120	1560	1060	1480
Hardness (as CaCO3), dissolved	-	mg/L	456	1120	1560	1060	1480	456	1120	1560	1060	1480	456	1120	1560	1060	1480	456	1120	1560	1060	1480	456	1120	1560	1060	1480
Hardness (as CaCO3), from total Ca/Mg	-	mg/L	456	1120	1560	1060	1480	456	1120	1560	1060	1480	456	1120	1560	1060	1480	456	1120	1560	1060	1480	456	1120	1560	1060	1480
Solids, total dissolved (TDS)	-	mg/L	2760	800	3970	2280	3000	2690	900	3900	2400	3000	2690	900	3900	2400	3000	2690	900	3900	2400	3000	2690	900	3900	2400	3000
Solids, total suspended (TSS)	-	mg/L	5.3	2.0	2.4	2.0	2.7	3.5	2.7	2.1	2.0	2.1	2.0	2.1	2.0	2.1	2.0	2.5	2.4	2.4	2.4	2.5	2.4	2.4	2.4	2.4	
Turbidity	-	NTU	0.96	0.36	0.28	0.41	0.28	0.39	0.29	0.44	0.48	0.37	0.71	0.37	0.38	0.27	0.3	0.35	0.34	0.19	0.76	0.41	0.35	0.34	0.19	0.76	0.41
pH	7.0 - 8.7	pH units	8.0	8.1	8.0	8.1	8.0	8.0	8.1	8.1	8.1	8.1	8.0	8.0	8.1	8.0	8.1	8.0	8.1	8.0	8.0	8.1	8.0	8.0	8.1	8.0	8.1
Salinity	-	psu	22.9	7.1	29.2	19.9	27.3	22.5	7.9	29.3	19.9	26.7	22.2	7.7	29.2	22.3	27.3	22.3	7.9	29.7	22.3	27.3	22.3	7.9	29.7	22.3	27.3
<b>Metals + Nutrients</b>																											
Ammonia, total (as N)	-	mg/L	0.0112	<0.0050	0.0057	<0.0050	<0.0050	0.0054	0.0053	0.0072	<0.0050	<0.0050	0.0072	<0.0050	<0.0050	0.0074	<0.0050	0.0064	0.0062	0.0089	<0.0050	<0.0050	0.0064	0.0062	0.0089	<0.0050	<0.0050
Bromide	-	mg/L	42.3	13.4	55.7	36.1	50.9	41.4	15.1	55.7	36	54	40.3	13.2	56	40.4	52.5	41.5	6.3	56.7	42.7	53.2	41.5	6.3	56.7	42.7	53.2
Chloride	-	mg/L	1206	3000	3000	1200	1470	1200	410	1600	1200	1500	1200	300	1600	1200	1500	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Fluoride	-	mg/L	0.57	0.2	0.75	0.54	0.92	0.54	0.22	0.74	0.74	0.9	0.52	<0.20	0.7	0.55	0.85	0.55	<0.20	0.76	0.6	0.82	0.55	<0.20	0.76	0.6	0.82
Kjeldahl nitrogen, total [TKN]	339	mg/L	0.08	<0.050	0.1	0.102	0.088	0.087	0.091	0.11	0.084	0.112	0.076	<0.050	0.105	0.075	0.126	0.073	<0.050	0.099	0.09	0.064	0.073	<0.050	0.099	0.09	0.064
Nitrate (as N)	45	mg/L	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111	0.111
Nitrite (as N)	-	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphorus, total	-	mg/L	0.0185	0.0050	0.027	0.0155	0.0201	0.0153	0.0065	0.0246	0.0154	0.0198	0.0174	0.0040	0.022	0.0162	0.0162	0.0159	0.0037	0.0229	0.0189	0.0189	0.0159	0.0037	0.0229	0.0189	0.0189
Phosphorus, total dissolved	-	mg/L	<0.0050	<0.0050	0.0052	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Sulfate (as SO4)	-	mg/L	1720	325	250	1510	2000	1870	574	2205	1510	2050	1740	507	2220	1780	1940	1640	213	2300	1778	2050	1640	213	2300	1778	2050
<b>Carbon</b>																											
Carbon, dissolved organic [DOC]	-	mg/L	<0.50	1.02	0.87	1.15	1.00	0.94	1.02	1.05	0.94	0.94	1.14	1.31	0.94	0.92	1.08	0.89	0.95	1.14	0.92	0.92	0.89	0.95	1.14	0.92	0.92
Carbon, total organic [TOC]	-	mg/L	0.85	1.21	0.93	0.92	0.98	0.82	1.14	0.97	0.89	1.11	0.89	1.08	0.76	0.92	1.01	0.99	1.15	0.80	0.92	0.92	1.09	1.15	0.80	0.92	1.04
<b>Metals, Total</b>																											
Aluminum	-	mg/L	0.0141	0.0115	<0.0050	0.0093	0.0123	0.0076	0.0072	0.0106	0.0087	0.0114	0.0066	0.0117	0.0061	0.0061	0.0122	0.0077	0.0102	0.005	0.0136	0.0117	0.0077	0.0102	0.005	0.0136	0.0117
Antimony	-	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	0.0125	mg/L	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Barium	-	mg/L	0.0076	0.0048	0.0079	0.0073	0.0086	0.0074	0.0084	0.008	0.007	0.0084	0.0075	0.0043	0.008	0.0073	0.0083	0.0077	0.0041	0.0082	0.0082	0.0082	0.0077	0.0041	0.0082	0.0082	0.0082
Beryllium	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron	-	mg/L	1.1	1.8	2.14	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Cadmium	0.00012	mg/L	0.000027	<0.000020	0.000024	0.000020	0.000020	0.000020	0.000020	0.000020	<0.000020	0.000020	<0.000020	<0.000020	0.000022	0.000022	0.000022	<0.000020	<0.000020	0.000023	0.000022	0.000022	<0.000020	<0.000020	0.000023	0.000022	0.000022
Calcium	-	mg/L	298	95	398	248	351	292	75	394	25	394	293	64	405	294	355	288	31	407	295	353	288	31	407	295	353
Cesium	-	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chromium	0.0015 (VI)	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	&lt	

Appendix 2C - Table 1: Water Quality Screening  
Table for Marine Environmental Effects Monitoring Program 2024

Parameter	Station Sample Date	FIELD_SDG	MP-06 ENE					MP-06 North					MP-06					MP-06 Source					MP-06 WNW				
			30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024	30-Jul-2024	06-Aug-2024	12-Aug-2024	15-Aug-2024	18-Aug-2024
			VA2489271-007	VA2489990-007	VA24C0615-007	YL2401213-007	VA24C1760-007	VA2489271-006	VA2489990-006	VA24C0615-006	YL2401213-006	VA24C1760-006	VA2489271-005	VA2489990-005	VA24C0615-005	YL2401213-005	VA24C1760-005	VA2489271-008	VA2489990-008	VA24C0615-008	YL2401213-008	VA24C1760-008					
CCME AQUATIC LIFE MARINE WATER - LONG TERM			CCME AQUATIC LIFE MARINE WATER - SHORT TERM			Unit																					
Field + Physical																											
Alkalinity, total (as CaCO3)			mg/L	94.1	112	109	108	105	109	112	108	109	105	94.4	78.4	107	90	103	109	112	110	108	104				
Conductivity			µS/cm	3500	4600	4700	4800	4800	4200	4600	4600	4600	4600	3400	3400	4500	1600	4600	4400	4600	4700	4700	4600				
Hardness (as CaCO3), dissolved			mg/L	1480	1730	1730	1780	1880	1390	1910	1620	1680	1680	1140	840	108	490	1970	4790	5270	5660	5470	5870	4780			
Hardness (as CaCO3), from total Ca/Mg			mg/L	1480	1730	1730	1780	1880	1390	1910	1620	1680	1680	1140	840	108	490	1970	4790	5270	5660	5470	5870	4780			
Solids, total dissolved (TDS)			mg/L	2800	4000	4000	4000	4000	2400	4000	3800	3800	3800	2200	1200	2000	1000	3800	4000	4200	4200	4200	4200	3800			
Solids, total suspended (TSS)			mg/L	5.0	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.8	3.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0			
NTU			mg/L	0.36	0.17	0.23	0.2	0.26	0.16	0.16	0.25	0.25	0.25	0.29	0.32	0.4	0.24	0.42	0.4	0.2	0.19	0.18	0.32				
pH			pH units	8.0	8.1	8.1	8.0	8.0	8.0	8.1	8.0	8.0	8.0	8.0	8.1	8.1	8.1	8.1	8.0	8.1	8.0	8.0	8.0				
Salinity			psu	21.1	20.8	20.4	20.8	20.2	20.5	21	20.2	21	20.2	22.6	20.9	21.1	20.9	20.1	21.1	20.5	20.8	20.4	20.7				
Metals + Nutrients																											
Ammonia, total (as N)			mg/L	<0.0050	<0.0050	<0.0050	0.0094	<0.0050	0.0088	0.0059	<0.0050	<0.0050	0.0071	<0.0050	0.0081	0.0092	0.0092	0.0091	0.0086	0.006	<0.0050	<0.0050	<0.0050				
Bromide			mg/L	42.1	55.5	57.8	56	54.4	55	55.8	58.3	56.8	59.8	41.6	<5.0	57.5	17.9	50.7	55.4	56.2	57.9	56	49.6				
Chloride			mg/L	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Fluoride			mg/L	0.57	0.89	0.8	1.01	0.91	0.68	0.83	0.8	0.91	0.67	0.56	<0.20	0.76	0.31	0.9	0.68	0.87	0.81	0.96	0.91				
Kjeldahl nitrogen, total [TKN]			mg/L	0.084	0.099	0.089	0.1	0.071	0.091	0.087	0.073	0.103	0.073	0.08	<0.050	0.099	0.08	0.072	0.084	0.09	0.084	0.096	0.086				
Nitrate (as N)	339	45	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010				
Nitrite (as N)			mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010				
Phosphorus, total			mg/L	0.0161	0.0306	0.025	0.0253	0.024	0.0234	0.0235	0.0239	0.025	0.0239	0.0159	0.0081	0.0236	0.0086	0.0084	0.0216	0.0242	0.0239	0.0203	0.0188				
Phosphorus, total dissolved			mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Sulfate (as SO4)			mg/L	1720	2250	2330	2320	2090	2180	2250	2340	2360	2270	1680	90.3	2310	768	2060	2190	2240	2340	2330	2040				
Carbon																											
Carbon, dissolved organic [DOC]			mg/L	0.85	1.15	0.76	0.88	0.93	1.02	1.35	0.89	1.01	1.09	1.02	1.07	0.73	1.08	0.99	0.95	1.01	0.96	1.00	0.97				
Carbon, total organic [TOC]			mg/L	0.88	1.17	0.78	1.08	0.94	0.95	0.96	0.83	0.95	0.92	0.86	1.17	0.79	1.02	1.00	0.91	1.27	0.81	0.86	0.97				
Metals, Total																											
Aluminum			mg/L	0.0125	<0.0050	0.0074	0.0122	<0.0050	<0.0050	<0.0050	<0.0050	0.0125	0.0127	0.0126	<0.0050	<0.0050	0.0098	0.0122	<0.0050	<0.0050	<0.0050	<0.0050	0.0121				
Antimony			mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010				
Arsenic	0.0125		mg/L	0.0008	0.0001	0.0004	0.0001	0.0008	0.0005	0.0006	0.0009	0.0001	0.0018	0.0018	<0.0010	0.0006	0.0002	0.0008	0.0014	0.0015	0.0001	0.0007	0.0001				
Barium			mg/L	0.0078	0.0083	0.0083	0.0084	0.008	0.008	0.0084	0.0078	0.008	0.0079	0.0039	0.0039	0.0081	0.0053	0.008	0.0082	0.0086	0.0082	0.0083	0.0083				
Beryllium			mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Bismuth			mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Boron			mg/L	1.1	1.8	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.1	1.1	1.7	1.2	1.7	1.1	1.1	1.1	1.1	1.1	1.1				
Cadmium	0.00012		mg/L	0.000026	0.00003	0.000028	0.000041	0.000033	0.000023	0.000023	0.000023	0.000036	0.000023	0.000020	0.000031	0.000026	0.000024	0.000032	0.000034	0.000035	0.00003	0.000028	0.00002				
Calcium			mg/L	294	307	416	375	381	375	384	398	382	386	296	31	399	138	324	384	375	402	375	347				
Cesium			mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Chromium	0.0015 (VI)		mg/L	<0.0050	0.0002	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Cobalt			mg/L	<0.0050	0.00003	0.00005	0.00003	0.00006	0.00005	0.00006	0.00006	0.00006	0.00006	0.00006	<0.0050	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006				
Copper			mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001				
Gallium			mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Iron			mg/L	0.01	0.06	<0.010	<0.010	0.016	<0.010	<0.010	<0.010	<0.010	0.017	0.018	0.016	0.014	<0.010	0.019	<0.010	<0.010	<0.010	<0.010	0.017				
Lead			mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050				
Lithium			mg/L	0.123	0.197	0.193	0.173	0.173	0.168	0.169	0.152	0.172	0.178	0.127	<0.001	0.152	0.064	0.156	0.161	0.193	0.191	0.169	0.156				
Magnesium			mg/L	874	1180	1130	1130	1130	1130	1130	1130	1059	823	33.7	1100	377	930	1110	1220	1080	1030	925	825				
Manganese			mg/L	0.0071	0.0069	0.0049	0.0036	0.0039	0.0039																		

**APPENDIX 2D**

**QA/QC Results**



## 1.0 QAQC RESULTS

This appendix describes the QAQC results for surface water sampled for the 2024 MEEMP conducted at Milne Port and in Milne Inlet during the 2024 open-water season. Water quality samples were collected during five sampling events scheduled between 30 July and 18 August 2024, to monitor for potential changes in water quality associated with site drainage and treated effluent discharges to the marine environment (including iron ore stockpile run-off). Samples were collected to align with the confirmed active site discharges.

Most chemical analyses on surface water samples were completed within the sample hold time requirements, with the exception of some hold time exceedances for parameters such as pH, turbidity, DOC, nitrite, nitrate, total dissolved phosphorus, and TSS/TDS (Table 1). Although some sample hold time exceedances were documented, the hold times for the parameters in question are relatively short. Given the remote location of the site, such exceedances were unavoidable. The data should still be comparable to previous yearly measurements as similar issues with hold time exceedances have been encountered.

**Table 1. Hold time requirements for discrete water quality samples collected at MP-05 and MP-06 marine discharge sites.**

Analysis	Hold Times	Exceeded Hold Times?	Actual Time
General (pH, Alkalinity, Turbidity, Conductivity, Anions, TSS, DOC, TDS, TOC, Ammonia, TKN, Hardness, Salinity)	15 minutes for pH 3 days for NO <sub>2</sub> , NO <sub>3</sub> , Turbidity, DOC, Total Dissolved Phosphorus 7 days for TSS/TDS 14 days for Alkalinity 28 days for Ammonia, Salinity, TKN	Yes – pH, Turbidity, DOC, Nitrite (NO <sub>2</sub> ), Nitrate (NO <sub>3</sub> ), Total Dissolved Phosphorus, and TSS/TDS	pH – 94 to 247 hours Turbidity, DOC – 4 to 9 days NO <sub>2</sub> , NO <sub>3</sub> – 4 to 10 days Total Dissolved Phosphorus – 4 to 9 days TSS/TDS – 8 to 9 days
Total Metals	6 months	No	N/A
Dissolved Metals	6 months	No	N/A
Total Mercury	28 days	No	N/A
Dissolved mercury	28 days	No	N/A
Petroleum hydrocarbons (BTX/MTBE/F1)	14 days	No	N/A
Hydrocarbons (LEPH/HEPH), F2-F4, PAHs	14 days	No	N/A
Nutrients (including total phosphorus)	28 days	No	N/A

ALS is certified by the Canadian Association for Laboratory Accreditation (CALA) for the analyses conducted. The analytical laboratory also incorporated and reported the results of internal QA/QC checks. These were used to assess the reliability and reproducibility of the data. Reports from the laboratory are provided in Appendix 2B and were reviewed by WSP. Data reported by the laboratory were considered reliable according to the accredited laboratory QA/QC assessment.

From the field blanks collected during the field program, measured concentrations were generally all less than the analytical detection limit (Appendix D - Table D1). All parameters met QAQC requirements, and field blank concentrations were less than 5-times the detection limit in all field blanks.

To demonstrate that the samples and analytical results can be considered valid, representative, and reproducible, five field duplicate samples were collected. The RPD between field duplicate sample results was used to assess duplicate sample data. The RPD is a measure of the variability between two outcomes from the same procedure or process and is calculated as:

$$RPD = \frac{\text{absolute value (sample concentration} - \text{duplicate concentration)}}{\text{mean concentration}} \times 100$$

An RPD less than 20% for inorganic parameters in water is considered acceptable (BC ENV 2020). The QA/QC results of field RPDs are provided in Appendix D - Table D2. All samples met RDP data quality objectives with the exception of:

- Duplicate B and its parent sample MP-05 North (sampled 6 August 2024) had a RPD percentage of 23% for conductivity, 24% for total dissolved solids (TDS), 24% for salinity, 27% for chloride, and 24% for sulphate.
- Duplicate C and its parent sample MP-05 ENE (sampled 12 August 2024) had a RPD percentage of 71% for total copper.

The QA/QC results indicate that the water chemistry data collected during the 2024 MEEMP were of acceptable quality.

Table D1 - Results of Water Quality QAQC Field Blank Sample Results  
Milne Port, 2024

Sample ID					
Date Sampled	Units	Reported Detection Limit (RDL)	MLP-01	MPL-02	MLP-03
Laboratory ID			30-Jul-2024	06-Aug-2024	18-Aug-2024
			VA24B9271-010	VA24B9990-010	VA24C1760-010
Field and Physical					
Alkalinity, total (as CaCO3)	mg/L	1.0	<1.0	<1.0	<1.0
Conductivity	µS/cm	2.0	<2.0	<2.0	<2.0
Hardness (as CaCO3), dissolved	mg/L	0.50	<1.00	<1.00	<1.00
Hardness (as CaCO3), from total Ca/Mg	mg/L	0.50	<1.00	<1.00	<1.00
Solids, total dissolved [TDS]	mg/L	10	<10	<10	<10
Solids, total suspended [TSS]	mg/L	2.0	<2.0	<2.0	<2.0
Turbidity	NTU	0.10	<0.10	<0.10	<0.10
pH	pH units	0.10	5.44	5.79	5.49
Salinity	psu	1.0	<1.0	<1.0	<1.0
Anions and Nutrients					
Ammonia, total (as N)	mg/L	0.0050	<0.0050	0.0053	0.0052
Bromide	mg/L	5.0	<5.0	<5.0	<5.0
Chloride	mg/L	50	<50	<50	<50
Fluoride	mg/L	0.20	<0.20	<0.20	<0.20
Kjeldahl nitrogen, total [TKN]	mg/L	0.050	<0.050	<0.050	0.051
Nitrate (as N)	mg/L	0.010	0.012	<0.010	<0.010
Nitrite (as N)	mg/L	0.010	<0.010	<0.010	<0.010
Phosphorus, total	mg/L	0.0020	<0.0040	<0.0020	0.004
Phosphorus, total dissolved	mg/L	0.0020	-	<0.0020	<0.0020
Sulfate (as SO4)	mg/L	3.0	<3.0	<3.0	<3.0
Carbon, dissolved organic [DOC]	mg/L	0.50	<0.50	<0.50	<0.50
Carbon, total organic [TOC]	mg/L	0.50	<0.50	<0.50	<0.50
Metals, Total					
Aluminum	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Antimony	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Arsenic	mg/L	0.00040	<0.00040	<0.00040	<0.00040
Barium	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Beryllium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Bismuth	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Boron	mg/L	0.30	<0.30	<0.30	<0.30
Cadmium	mg/L	0.000020	<0.000020	<0.000020	<0.000020
Calcium	mg/L	1.0	<1.0	<1.0	<1.0
Cesium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Chromium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Cobalt	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Copper	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Gallium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Iron	mg/L	0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Lithium	mg/L	0.020	<0.020	<0.020	<0.020
Magnesium	mg/L	1.0	<1.0	<1.0	<1.0
Manganese	mg/L	0.00020	<0.00020	<0.00020	<0.00020
Mercury	mg/L	0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Nickel	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Phosphorus	mg/L	0.050	<0.050	<0.050	<0.050
Potassium	mg/L	1.0	<1.0	<1.0	<1.0
Rhenium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Rubidium	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Selenium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Silicon	mg/L	1.0	<1.0	<1.0	<1.0
Silver	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Sodium	mg/L	2.5	<2.5	<2.5	<2.5
Strontium	mg/L	0.010	<0.010	<0.010	<0.010
Sulphur (Colloidal)	mg/L	5.0	<5.0	<5.0	<5.0
Tellurium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Thallium	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Tin	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Titanium	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Tungsten	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Uranium	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Vanadium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Yttrium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Zinc	mg/L	0.0030	<0.0030	<0.0030	<0.0030
Zirconium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Metals, Dissolved					
Aluminum (Al)	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Antimony (Sb)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)	mg/L	0.00040	<0.00040	<0.00040	<0.00040
Barium (Ba)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Beryllium (Be)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Bismuth (Bi)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Boron (B)	mg/L	0.30	<0.30	<0.30	<0.30
Cadmium (Cd)	mg/L	0.000020	<0.000020	<0.000020	<0.000020
Calcium (Ca)	mg/L	1.0	<1.0	<1.0	<1.0
Cesium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Chromium (Cr)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Copper (Cu)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Gallium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Iron (Fe)	mg/L	0.010	<0.010	<0.010	<0.010
Lead (Pb)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Lithium (Li)	mg/L	0.020	<0.020	<0.020	<0.020
Magnesium (Mg)	mg/L	1.0	<1.0	<1.0	<1.0
Manganese (Mn)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Mercury (Hg)	mg/L	0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum (Mo)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Nickel (Ni)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Phosphorus (P)	mg/L	0.050	<0.050	<0.050	<0.050
Potassium (K)	mg/L	1.0	<1.0	<1.0	<1.0
Rhenium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Rubidium	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Selenium (Se)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Silicon	mg/L	1.0	<1.0	<1.0	<1.0
Silver (Ag)	mg/L	0.00010	<0.00010	<0.00010	<0.00010
Sodium (Na)	mg/L	2.5	<2.5	<2.5	<2.5
Strontium (Sr)	mg/L	0.010	<0.010	<0.010	<0.010
Sulfur (S)	mg/L	5.0	<5.0	<5.0	<5.0
Tellurium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Thallium (Tl)	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Thorium-232	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Tin (Sn)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)	mg/L	0.0050	<0.0050	<0.0050	<0.0050
Tungsten (W)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)	mg/L	0.000050	<0.000050	<0.000050	<0.000050
Vanadium (V)	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Yttrium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)	mg/L	0.0010	<0.0010	<0.0010	<0.0010
Zirconium	mg/L	0.00050	<0.00050	<0.00050	<0.00050
VOCs and BTEX					
Benzene	µg/L	0.50	-	<0.50	-
Ethylbenzene	µg/L	0.50	-	<0.50	-
Methyl-tert-butyl ether [MTBE]	µg/L	0.50	-	<0.50	-
Styrene	µg/L	0.50	-	<0.50	-
Toluene	µg/L	0.50	-	<0.50	-
Xylene, m+p-	µg/L	0.40	-	<0.40	-
Xylene, o-	µg/L	0.30	-	<0.30	-
Xylenes, total	µg/L	0.50	-	<0.50	-
Hydrocarbons					
Petroleum Hydrocarbons - F1 (C6-C10)	µg/L	100	-	<100	-
Petroleum Hydrocarbons - F2 (C10-C16)	µg/L	100	-	<100	-
Petroleum Hydrocarbons - F3 (C16-C34)	µg/L	250	-	<250	-
Petroleum Hydrocarbons - F4 (C34-C50)	µg/L	250	-	<250	-
Acenaphthene	µg/L	0.010	-	<0.010	-
Acenaphthylene	µg/L	0.010	-	<0.010	-
Acridine	µg/L	0.010	-	<0.010	-
Anthracene	µg/L	0.010	-	<0.010	-
Benz(a)anthracene	µg/L	0.010	-	<0.010	-
Benzo(a)pyrene	µg/L	0.0050	-	<0.0050	-
Benzo(b,j) fluoranthene	µg/L	0.010	-	<0.010	-
Benzo(b,j,k)fluoranthene	µg/L	0.015	-	<0.015	-
Benzo(g,h,i)perylene	µg/L	0.010	-	<0.010	-
Benzo(k)fluoranthene	µg/L	0.010	-	<0.010	-
Chrysene	µg/L	0.010	-	<0.010	-
Dibenz(a,h)anthracene	µg/L	0.0050	-	<0.0050	-
Fluoranthene	µg/L	0.010	-	<0.010	-
Fluorene	µg/L	0.010	-	<0.010	-
Indeno(1,2,3-c,d)pyrene	µg/L	0.010	-	<0.010	-
Methylnaphthalene, 1-	µg/L	0.010	-	<0.010	-
Methylnaphthalene, 2-	µg/L	0.010	-	<0.010	-
Naphthalene	µg/L	0.050	-	<0.050	-
Phenanthrene	µg/L	0.020	-	<0.020	-
Pyrene	µg/L	0.010	-	<0.010	-
Quinoline	µg/L	0.050	-	<0.050	-
VHCs					
Volatile Hydrocarbons (C6-C10)	µg/L	100	-	<100	-
Volatile Petroleum Hydrocarbons (C6-C10)	µg/L	100	-	<100	-

**Notes:**  
BTEX = benzene, toluene, ethylbenzene and xylene; F1, F2, F3, F4 - Fractions of hydrocarbons; mg/L = milligrams per liter; N = nitrogen; NTU - Nephelometric Turbidity Units; pH = scale of acidity; psu = practical salinity units; VHC = volatile hydrocarbons; VOCs = volatile organic compounds; µg/L = microgram per liter; µS/cm = milliSiemens per centimeter; "-" = no value; "<" = less than detection limit.  
Difference factor (DF) = absolute difference between two values divided by the method detection limit. The DF is calculated when the concentration is less than five times the detection limit.  
Acceptable DF is less than or equal to 5.0.  
**Bold** values indicate an exceedance of the acceptable RPD or DF.

Table D2 - Results of Water Quality QA/QC Duplicate Sample Results  
Mine Port, 2024

Sample ID	Units	MP-06 WNW 30-Jul-2024 VA2408971-008 FDA	DUP-A 30-Jul-2024 VA2408971-009 FD	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-06 North 06-Aug-2024 VA2408971-002 FDA	DUP-B 06-Aug-2024 VA2408971-009 FD	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-06 ENE 12-Aug-2024 VA2408971-003 FDA	DUP-C 12-Aug-2024 VA2408971-009 FD	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-06 ENE 15-Aug-2024 VA2408971-007 FDA	DUP-D 15-Aug-2024 VA2408971-009 FD	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)	MP-06 WNW 18-Aug-2024 VA2408971-004 FDA	DUP-E 18-Aug-2024 VA2408971-009 FD	Reported Detection Limit	Mean	Relative Percent Difference (RPD)	Difference Factor (DF)
Field and Physical																															
Alkalinity, total (as CaCO3)	mg/L	109	109	1.0	109	0%	NA	85.2	84.4	1.0	85	1%	NA	107	107	1.0	107	0%	NA	108	108	1.0	108	0%	NA	103	104	1.0	104	1%	NA
Conductivity	µS/cm	44200	44300	2.0	44250	0%	NA	11850	11850	2.0	11850	0%	NA	44100	43900	2.0	44000	2%	NA	45800	45100	2.0	45450	2%	NA	40300	40500	2.0	40400	0%	NA
Hardness (as CaCO3), dissolved	mg/L	5270	5260	0.50	5265	0%	NA	1270	1240	0.50	1255	2%	NA	5560	5340	0.50	5450	4%	NA	5780	5800	0.50	5805	1%	NA	4670	4820	0.50	4745	3%	NA
Hardness (as CaCO3), from total CaH2	mg/L	5530	5610	0.50	5570	1%	NA	1050	1050	0.50	1040	2%	NA	5440	5480	0.50	5450	0%	NA	5180	5100	0.50	5140	2%	NA	4780	4870	0.50	4725	2%	NA
Solids, total dissolved [TDS]	mg/L	34200	34300	10	34250	0%	NA	7120	7120	10	8070	24%	NA	39700	43600	10	41650	9%	NA	36600	37000	10	36800	1%	NA	30300	31100	10	30700	3%	NA
Solids, total suspended [TSS]	mg/L	<2.0	<2.0	2.0	NC	NC	NC	<2.0	<2.0	2.0	NC	NC	NC	<2.0	<2.0	2.0	NC	NC	NC	<2.0	<2.0	2.0	NC	NC	<2.0	<2.0	2.0	NC	NC	NC	
Turbidity	NTU	0.14	0.14	0.10	0.14	0%	NA	0.10	0.10	0.10	0.10	0%	NA	0.10	0.10	0.10	0.10	0%	NA	0.10	0.10	0.10	0%	NA	0.10	0.10	0.10	0.10	0%	NA	
pH	pH units	8.02	8.02	0.10	8.02	0%	NA	8.08	8.10	0.10	8.09	0%	NA	8.04	8.05	0.10	8.05	0%	NA	8.04	8.04	0.10	8.04	0%	NA	7.95	7.94	0.10	7.95	0%	NA
Salinity	psu	29.5	29.6	1.0	30	0%	NA	7.9	8.2	1.0	7.1	24%	NA	29.2	29.1	1.0	29.2	0%	NA	30.8	30.2	1.0	30.5	2%	NA	26.9	27	1.0	27.0	0%	NA
Anions and Nutrients																															
Ammonia, total (as N)	mg/L	0.0098	0.0097	0.0050	0.0099	NA	0.2	0.0054	<0.0050	0.0050	NC	NC	NC	0.0057	0.008	0.0050	0.0097	NA	0.5	0.0094	0.0059	0.0050	0.0077	NA	0.7	<0.0050	<0.0050	0.0050	NC	NC	
Bromide	mg/L	55.4	55.6	5.0	55.5	0%	NA	15.1	11.3	5.0	13.2	NA	0.8	55.7	55.8	0%	NA	56.0	56.5	5.0	56.3	1%	NA	53.2	50.0	5.0	50.1	6%	NA	6%	NA
Chloride	mg/L	16200	16200	50	16200	0%	NA	3170	3170	50	16600	27%	NA	16600	16600	0%	NA	16600	16600	0%	NA	16600	16600	0%	NA	15400	14900	50	14950	6%	NA
Fluoride	mg/L	0.88	0.71	0.20	0.7	NA	0.2	0.22	<0.20	0.20	NC	NC	NC	0.75	0.77	0.20	0.8	NA	0.1	1.01	0.20	0.20	1%	NA	0.92	0.84	0.20	0.9	NA	0.4	
Kjeldahl nitrogen, total [TKN]	mg/L	0.084	0.088	0.050	0.1	NA	0.3	0.091	<0.050	0.050	NC	NC	NC	0.1	0.102	0.1	0.1	NA	0.1	0.108	0.050	0.1	NA	0.2	0.064	0.076	0.050	0.1	NA	0.2	
Nitrate (as N)	mg/L	<0.010	<0.010	0.010	NC	NC	NC	0.034	0.03	0.010	0.03	NA	0.4	0.011	<0.010	0.010	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	
Nitrite (as N)	mg/L	<0.010	<0.010	0.010	NC	NC	NC	0.040	<0.010	<0.010	<0.010	NC	NC	<0.010	<0.010	0.010	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	<0.010	<0.010	0.010	NC	NC	NC	
Phosphorus, total	mg/L	0.0216	0.0216	0.0020	0.0216	0%	NA	0.0088	0.0104	0.0020	0.0096	17%	NA	0.0227	0.0227	0.0020	0.023	0%	NA	0.0253	0.0284	0.0020	0.028	4%	NA	0.0189	0.0191	0.0020	0.019	1%	NA
Phosphorus, dissolved	mg/L	2190	2190	3.0	2190	1%	NA	0.0088	0.0069	0.0020	0.0078	NA	0.9	0.0263	0.0224	0.0020	0.024	16%	NA	0.0247	0.0248	0.0020	0.025	4%	NA	0.0185	0.0203	0.0020	0.019	9%	NA
Sulfate (as SO4)	mg/L	2190	2190	3.0	2190	1%	NA	374	449	3.0	512	24%	NA	2250	2260	3.0	2250	0%	NA	2320	2320	3.0	2320	0%	NA	2050	1940	3.0	1995	6%	NA
Carbon, dissolved organic [DOC]	mg/L	0.95	0.96	0.50	1.0	NA	0.02	1.02	1.08	0.50	1.1	NA	0.1	0.87	0.83	0.50	0.85	NA	0.1	0.88	0.85	0.50	0.87	NA	0.1	0.92	1.19	0.50	1.08	NA	0.5
Carbon, total organic [TOC]	mg/L	0.91	0.91	0.50	0.9	NA	0.0	1.14	1.18	0.50	1.1	NA	0.0	0.80	0.78	0.50	0.86	NA	0.3	0.88	1.03	0.50	1.06	NA	0.1	1.04	1.11	0.50	1.08	NA	0.1
Metals, Total																															
Aluminum	mg/L	<0.0050	<0.0050	0.0050	NC	NC	NC	0.0077	0.0088	0.0050	0.01	NA	6.5	<0.0050	0.0054	0.0050	NC	NC	NC	0.0122	0.0099	0.0050	0.01	NA	0.8	0.0137	0.0142	0.0050	0.01	NA	0.1
Arsenic	mg/L	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC	<0.0010	<0.0010	0.0010	NC	NC	NC
Boron	mg/L	0.00374	0.00374	0.00040	0.004	0%	NA	0.00113	0.00040	0.00040	0.0011	NA	0.2	0.00386	0.00408	0.00040	0.0040	5%	NA	0.00357	0.00355	0.00040	0.004	1%	NA	0.0032	0.00325	0.00040	0.003	2%	NA
Barium	mg/L	0.0082	0.0079	0.0010	0.008	5%	NA	0.0045	0.0044	0.0010	0.004	NA	0.1	0.0079	0.0083	0.0010	0.01	5%	NA	0.0084	0.0083	0.0010	0.01	1%	NA	0.0082	0.0082	0.0010	0.01	0%	NA
Beryllium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Bismuth	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Cadmium	mg/L	4.23	4.10	0.30	4.19	0%	NA	0.64	0.74	0.30	4.09	NA	3.3	3.99	4.08	0.30	3.76	NA	0.4	3.79	4.08	0.30	3.76	NA	0.6	0.00035	0.00031	0.00020	0.0003	NA	0.2
Cadmium	mg/L	0.000032	0.000034	0.000020	0.000	NA	0.1	<0.000020	<0.000020	0.000020	NC	NC	NC	0.000034	0.000027	0.000020	0.00003	NA	0.4	0.00041	0.00003	0.000020	0.00004	NA	0.6	0.000035	0.00031	0.00020	0.0003	NA	0.2
Calcium	mg/L	384	384	1.0	384	0%	NA	75.8	74.4	1.0	77	4%	NA	388	404	1.0	401	1%	NA	375	377	1.0	376	1%	NA	353	350	1.0	352	1%	NA
Cesium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Chromium	mg/L	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC	<0.00050	<0.00050	0.00050	NC	NC	NC
Cobalt	mg/L	0.000058	0.000054	0.000050	0.0001	NA	0.0	<0.000050	<0.000050	0.000050	NC	NC	NC	0.000058	0.000057	0.000050	0.000058	0%	NA	0.000058	<0.000050	0.000050	NC	NC	NC	0.000058	<0.000050	0.000050	NC	NC	NC
Copper	mg/L	0.00597	0.00548	0.00050	0.006	9%	NA	0.00166	0.0018	0.00050	0.0017	NA	0.3	0.00271	0.00129	0.00050	0.002	71%	NA	0.002											

**APPENDIX 2E**

# MEEMP Annual Comparison Table

Parameter	CCME Marine WQG for Protection of Aquatic Life <sup>(a)</sup>		2015 (MP-05)			2016 (MP-05)			2017 (MP-05)			2018 (MP-05)			2019 (MP-05)			2020			2021			2022			2023			2024		
	Short Term	Long Term	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Physical																																
pH	—	7.0–8.7	7.8	7.5	7.9	7.8	7.7	7.9	7.8	7.0	8.0	8.0	7.9	8.1	8.0	7.9	8.2	8.0	7.9	8.1	8.0	7.9	8.1	8.0	7.8	8.0	7.9	7.8	8.0	8.0	8.0	8.1
Salinity (psu)	—	Within 10% of background psu	NR	NR	NR	NR	NR	NR	13.9	4.1	24.4	8.8	5.4	19.3	20.7	6.4	31.5	8.6	4.1	29.4	16.4	1.7	30.8	17.1	2.5	32.9	18.8	1.0	31.9	24.0	1.3	31.0
TSS (mg/L)	<25 mg/L above background	<5 mg/L above background	1.2	0.5	2.2	1.6	1.0	3.0	4.2	< 2.0	25.5	1.4	1.0	4.3	1.3	< 2.0	2.9	3.4	< 2.0	7.5	2.5	< 2.0	7.9	2.9	< 2.0	12.2	2.1	< 2.0	3.1	2.8	<2.0	7.2
Turbidity (NTU)	<8 NTU above background	<2 NTU above background	0.2	0.1	0.9	0.4	0.1	1.0	1.1	0.3	9.6	0.7	0.2	2.5	0.3	< 0.1	0.7	0.3	< 0.1	0.7	0.5	< 0.1	1.7	0.5	< 0.10	3.3	0.4	< 0.10	1.6	0.3	<0.10	1.0
Nutrients (mg/L)																																
Nitrate (as N)	339	45	0.04	0.03	0.2	0.16	0.05	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.02	< 0.01	0.3	0.02	< 0.01	0.21	0.02	< 0.01	0.45	0.02	< 0.01	0.19	0.01	< 0.01	0.07	
Total Metals (µg/L)																																
Aluminum	—	—	NR	< 50	50	16	9	25	25	8	142	18	8	48	25	< 5	334	12.5	5.4	26.5	15.8	5	38.3	20.5	5	64.2	11.0	5	52.3	8.9	< 5	14.1
Arsenic	—	12.5	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	1	< 0.4	1.6	0.54	< 0.4	1.4	0.88	0.4	1.7	0.96	< 0.4	1.70	1.05	< 0.4	1.81	3.06	< 0.4	4.21
Cadmium	—	0.12	< 0.01	< 0.01	< 0.01	0.02	0.01	0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.03	< 0.01	0.05	0.01	< 0.01	0.02	0.02	< 0.01	0.05	0.02	< 0.01	0.03	0.02	< 0.02	0.03	0.03	< 0.02	0.04
Chromium	—	1.5 (Cr[VI])	< 10	< 10	< 10	< 10	< 10	< 10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.3	< 0.5	0.5	0.55	< 0.5	2.4	< 0.5	< 0.5	< 0.5	0.57	< 0.5	1.65	0.52	< 0.5	1.10	0.50	< 0.5	0.62
Copper	—	—	< 20	< 20	< 20	< 20	< 20	< 20	0.61	< 0.5	1	0.6	< 0.5	0.9	1.7	< 0.5	11	0.51	< 0.5	0.6	0.7	< 0.5	2.1	3.5	< 0.5	23.6	1.2	< 0.5	4.5	3.0	< 0.5	20.1
Iron	—	—	< 500	< 500	< 500	< 500	< 500	< 500	40	< 10	286	25.3	< 10	93	14	< 10	20	15.6	< 10	53	20.2	< 10	71	24.7	< 10	96	14.4	< 10	40	13.6	< 10	36
Mercury	—	0.016	0.01	0.01	0.03	< 0.013	< 0.013	< 0.013	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.003	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
Silver	7.5	—	< 1	< 1	< 1	< 1	< 1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.11	< 0.1	0.25	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
PAHs (µg/L)																																
Naphthalene	—	1.4	NR	NR	NR	NR	NR	NR	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.032	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	

**Notes:** Bold Font = max exceeding a short term guideline or mean exceeding a long term guideline; (a) = Guidelines from CMME Marine WQG for the protection of Aquatic Life (<http://ceqg-rcqe.ccme.ca/download/en/221>). CCME = Canadian council of ministers of the environment; WQG = water quality guidelines; Min = minimum; Max = maximum; — = no guideline available; NR = not recorded; PSU = practical salinity unit; TSS = Total suspended solid; mg/L = milligrams per liter; < = less than; N = Nitrogen; Cr(VI) = hexavalent chromium; PAH = polycyclic aromatic hydrocarbon; µg/L = micrograms per liter; mL = milliliter.

**APPENDIX 2F**

# Water Quality Power Analysis

## 1.0 POWER ANALYSIS - METHODS

A Type I error is concluding there is a significant effect when none exists (i.e., a false positive). Alpha ( $\alpha$ ) is the probability of committing a Type I error. A Type II error is the probability of concluding there is no significant effect when there is a real effect of some specified magnitude (i.e., a false negative). Beta ( $\beta$ ) is the probability of committing a Type II error. The power of a statistical test ( $1 - \beta$ ) is the probability of detecting a real effect. In this analysis, the Type I error-rate ( $\alpha$ ), also referred to as the significance level, was set to 0.05. The desired minimum statistical power was 80%, which corresponds to a type II error-rate of 0.2. Power analyses were conducted to assess the power of statistical tests under multiple effect sizes. For each model, a set of effect sizes was created, based on preliminary power analyses, so that power >80% was achieved at the largest absolute values of effect sizes, but also so that power is assessed at a range of effect sizes. Both negative and positive effect sizes were used, to assess the power of detecting either a reduction or an increase in values of the response variables. Since the analysis focused on assessment of changes to statistical power at different effect sizes, the power analysis used the observed samples sizes from the collected data.

### 1.1 Data Simulation following Effect Size Application

The power to detect statistically significant effects was estimated using residual bootstrapping in R v. 4.3.2 (R 2023), following the approach of Fox and Weisberg (2018). The general approach was to simulate data based on the model selected for interpretation, the observed sample size, and the residuals, and re-run the models that were used for the original analysis using the simulated data. The data simulation and analysis were repeated 5,000 times, and the proportion of repetitions where the  $P$ -values of interest were significant ( $P < 0.05$ ) was interpreted as the statistical power of the test.

To produce simulated data, the original model was used to predict values of the response variable. The predicted values were then adjusted according to the effect size, depending on the analysis (see below for details). The simulated data were then analyzed using the same model structure as the original analysis. Effect sizes and statistical tests were applied differently to different models, as detailed below.

### 1.2 Effect Sizes

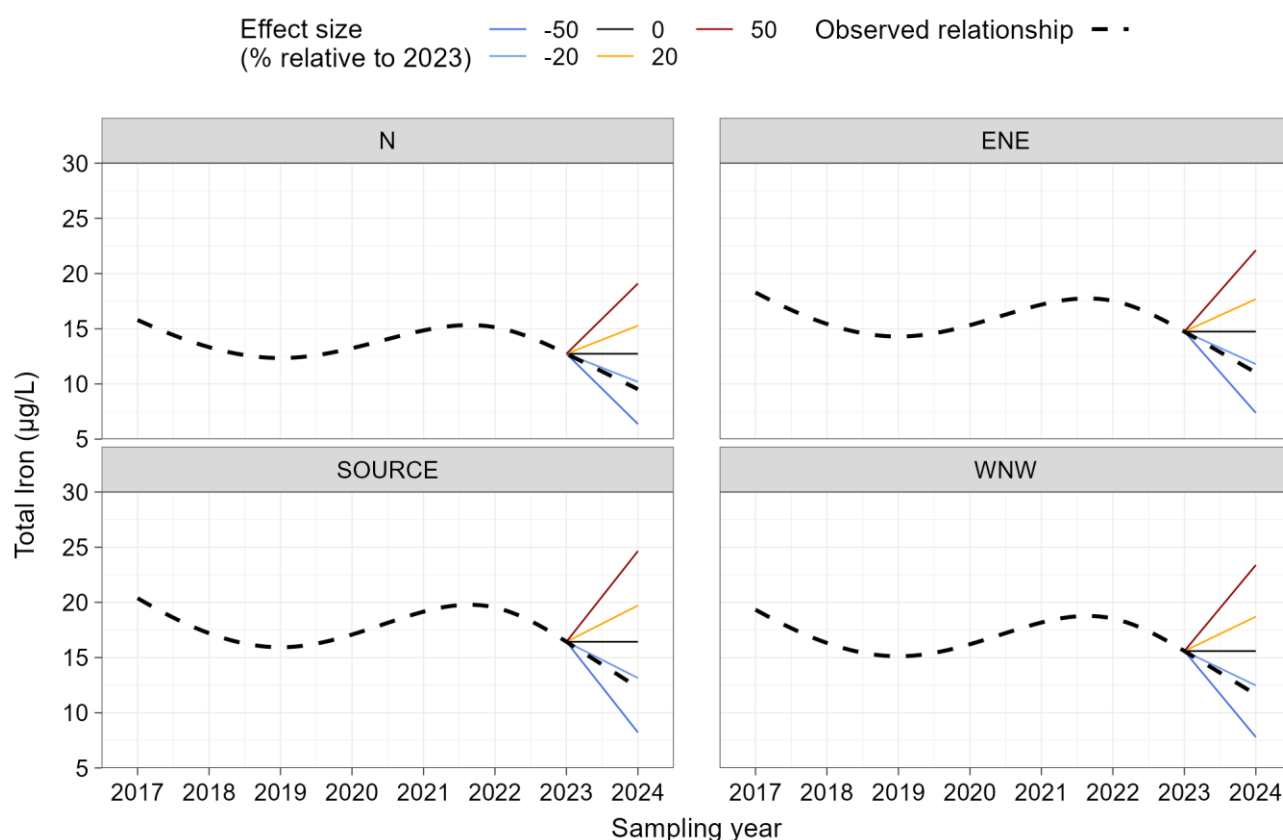
In this power analysis, the question of interest was the models' power to detect a temporal effect at each of the two areas.

To assess the power to detect temporal trends, the effect size was applied relative to the 2023 estimates, and it was only applied to 2024 data, whereas all data collected previously only had an effect size of zero. That is, only 2024 had an effect size applied to it, and an effect size of 0% would mean that 2024 values were identical to those from 2023. This allowed assessing what effect size, relative to the values in 2023, the model would be able to identify as a significant trend. An example of the effect size application to the 2019-2024 MP-05 dataset is provided in Figure 1.

The simulated data based on effect sizes applied to values of the response variable from 2024 were combined with simulated data from previous years (with an effect size of zero). This combined dataset was analyzed using the models from the original analysis in the main report. To estimate the power to detect a temporal effect for MP-



05 data, where a continuous effect of year was used, the significance of all model terms associated with the temporal trend (i.e., main effect and interaction with Site) was assessed, and the minimum  $P$ -values for the parameters were retained. For the MP-06 model, there were large effect sizes between years, leading to a high proportion of the simulated data resulting in a significant interaction term regardless of the effect size applied during simulation. Therefore, to estimate the power to detect a temporal effect for MP-06 data, where a categorical effect of year was used, the significance of the pairwise comparisons between 2023 and 2024 values was assessed, and the  $P$ -value for the comparison was retained for the calculation of statistical power. The comparisons were calculated using the package “emmeans” (Lenth 2019) in R v. 4.3.2 (R 2023).



**Figure 1 Application of effect sizes to examine effect of year in iron concentrations at MP-05, illustrating how effect sizes are applied relative to the 2023 estimates.**

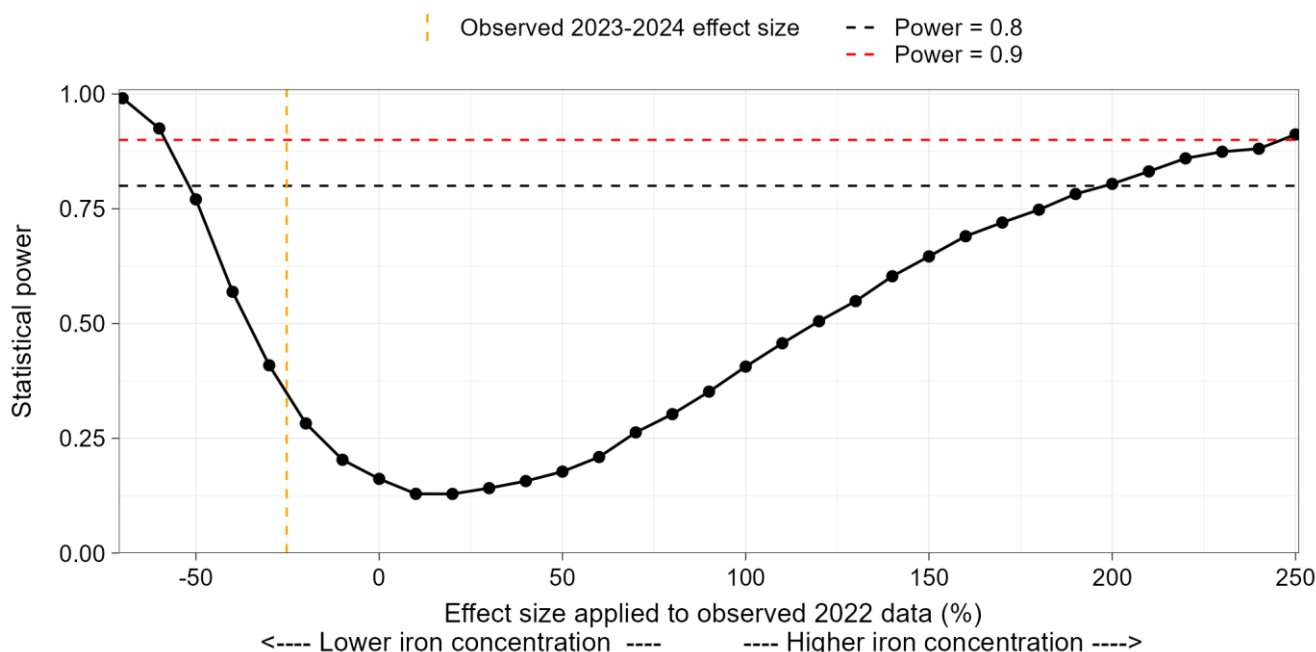
### 1.3 Power Analysis – Reporting of Results

Power curves were produced, showing statistical power as a function of effect size in percentages. Horizontal lines were added to visualize statistical power values of 0.8 (hereafter sufficient power) and 0.9 (hereafter high power), and a vertical line was added to visualize the maximum magnitude of differences that were observed between every two consecutive years in the original analysis.

## 2.0 POWER ANALYSIS – RESULTS

### 2.1 Iron Concentrations for the MP-05 Milne Port Site, 2017-2024

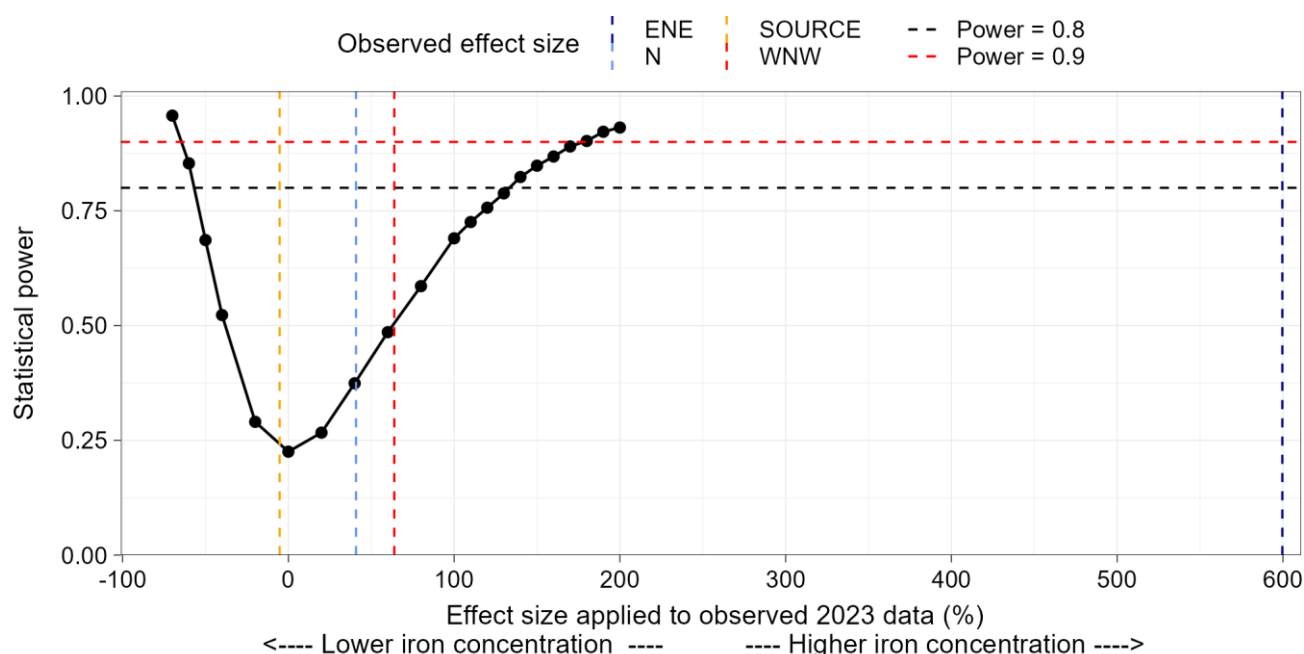
The power analysis indicated that the analysis of iron concentration data collected in 2017-2024 had sufficient power ( $>0.8$ ) to detect a single-year decrease or increase in iron concentrations at effect sizes of -52% and +200%, respectively (Figure 2). The observed effect size between 2023 and 2024 was -25%. Power to detect the observed effect size was low. This is consistent with the lack of statistical significance of either the interaction or the main effect of year in the original analysis (Section 2.4.2.4 in the 2024 MEEMP main report).



**Figure 2 Statistical power of the 2017-2024 iron concentration model at MP-05 to detect a significant temporal trend.**

### 2.2 Iron Concentrations for the MP-06 Milne Port Site, 2020-2024

The power analysis indicated that the analysis of iron concentration data collected in 2020-2024 had sufficient power ( $>0.8$ ) to detect a single-year decrease or increase in iron concentrations at effect sizes of -57% and +135%, respectively (Figure 3). Observed effect sizes (comparisons between 2023 and 2024 values) were +600% for ENE, +41% for N, -5% for Source, and +64% for WNW. Power to detect the observed effect sizes was high for ENE, but low for the remaining three sites, due to the smaller effect sizes and higher variability compared to ENE data. This is consistent with the finding of a statistically significant difference between 2023 and 2024 for ENE but no other significant differences between years (Section 2.4.2.4 in the 2024 MEEMP main report).



**Figure 3 Statistical power of the 2020-2024 iron concentration model at MP-06 to detect a significant difference between 2023 and 2024 data.**

## 3.0 POWER ANALYSIS – SUMMARY

### 3.1 Summary of Findings

- Iron concentrations, MP-05 – there was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of -60% and +120%, respectively.
- Iron concentrations, MP-06 – there was sufficient power to detect a single-year decrease or increase in iron concentrations at effect sizes of -60% and +150%, respectively.

Overall, the results of the power analysis presented here indicate that analyses of iron concentrations at MP-05 and MP-06 had low power to detect effect sizes that would be large enough to be ecologically relevant. Therefore, the temporal effects should be assessed using effect sizes rather than a strict adherence to statistical significance.

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## 4.0 REFERENCES

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