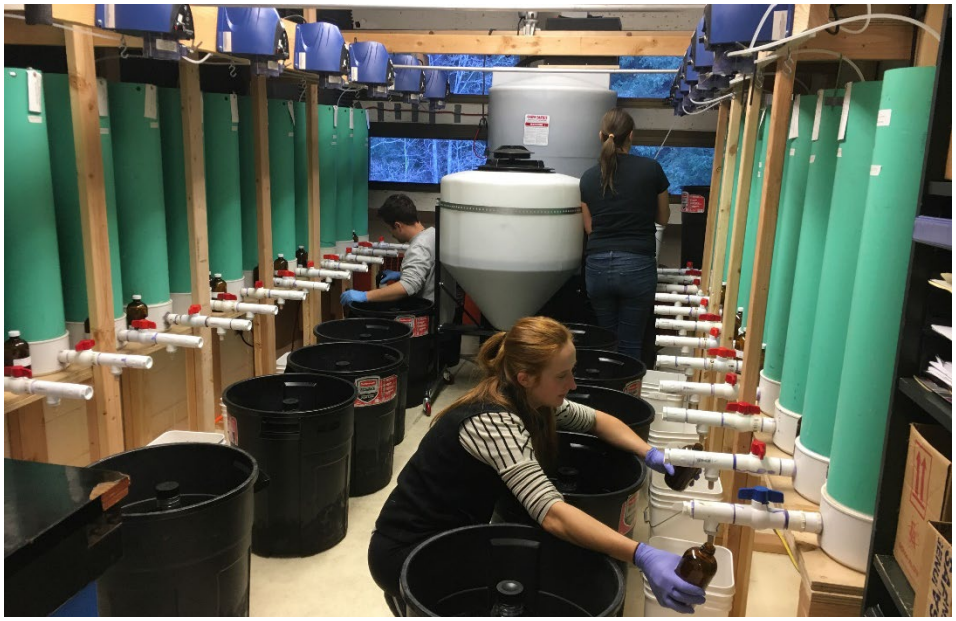
Testing Removal of 6PPD-Q and Coho Salmon Lethality by High-performance Bioretention Media Blends: Final Data Report



July 2024

King County

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Citation

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Executive Summary

Bioretention is a widely used and flexible stormwater treatment practice used for managing the volume and quality of stormwater. Washington State Department of Ecology (Ecology) has two specifications for bioretention media in Western Washington. The standard specification that has been widely used for decades is a mixture of 60% sand and 40% compost by volume (i.e., 60:40 BSM). While the default 60:40 BSM effectively infiltrates stormwater, removes select contaminants (e.g., suspended solids, hydrocarbons), and supports plants, it has also been implicated as a source of nutrient and metals pollution. Therefore, stormwater managers sought a different soil mix that treats the most problematic pollutants while limiting the release of nutrients and metals.

In response, Ecology, King County, Herrera Environmental Consultants, and several other jurisdictions and researchers began a nearly 10-year effort to develop specifications for a high-performance bioretention soil mix (HPBSM). They completed this work in 2020. Shortly after, researchers in Washington identified a tire-derived chemical, 6PPD-Quinone (6PPD-Q), as the cause Urban Runoff Mortality Syndrome (URMS) in coho salmon, which has been decimating populations in urban streams of Western Washington for decades.

In response to the discovery of 6PPD-Q, King County conducted a study to determine whether this new HPBSM effectively removes 6PPD-Q from stormwater runoff and protects coho salmon from its toxic effects. Three configurations of HPBSM and the 60:40 BSM were tested in a laboratory setting during three simulated storm events, using acutely toxic stormwater collected from Interstate 5. All tested medias protected coho and substantially reduced 6PPD-Q concentrations in stormwater. The HPBSMs yielded small but significant improvements in 6PPD-Q treatment compared with the 60:40 BSM. HPBSMs Types containing a polishing layer provided the best overall 6PPD-Q treatment. Notably, filtering stormwater through the HPBSMs always reduced 6PPD-Q concentrations to below Ecology's proposed aquatic life criteria for 6PPD-Q (0.008 µg/L). In contrast, stormwater filtered through the 60:40 BSM sometimes exceeded this proposed threshold.

The results of this study demonstrate that, in a laboratory setting, bioretention using HPBSMs is a highly effective treatment for 6PPD-Q, providing superior treatment to the standard 60:40 BSM. Field tests in-situ are now warranted to verify that HPBSMs are similarly effective when used in stormwater treatment facilities.

1 Introduction

Bioretention is a widely used and flexible stormwater treatment practice used for managing the volume and quality of stormwater. It consists of a shallow depression in the landscape where stormwater is collected and filtered through engineered soil mixtures that rapidly infiltrate water, diverting runoff from the stormwater conveyance network. Washington State Department of Ecology (Ecology) has two specifications for bioretention media in Western Washington. The default specification that has been widely used for decades is a mixture of 60% sand and 40% compost by volume (i.e., 60:40 BSM). While the standard 60:40 BSM effectively infiltrates stormwater, removes select contaminants (e.g., suspended solids, hydrocarbons), and supports plants, it has also been implicated as a source of nutrient and metals pollution.

Ecology issued guidance in 2013 documenting the release of nitrogen, phosphorus, and dissolved copper from the 60:40 BSM, and recommended this media not be used in areas with phosphorus-sensitive receiving waters. In 2016, Ecology updated this guidance, recommending that the 60:40 BSM should not be used within one quarter mile of phosphorus sensitive receiving waters (Ecology, 2016). In 2019, Ecology updated the stormwater manual to reflect this guidance.

King County's Surface Water Design Manual (SWDM) allows the use of bioretention as a flow-control Best Management Practice (BMP). However, bioretention that is under drained and diverts water back into the stormwater conveyance network has previously not been allowed as a water quality treatment in King County because of the potential for compost to act as a pollution source. This pollutant export is particularly impactful in watersheds where nutrient and metals loading in stormwater runoff is relatively low, such as in the less-urbanized areas of unincorporated King County.

In 2020, Ecology, King County, Herrera Environmental Consultants, and several other jurisdictions and researchers completed a nearly 10-year effort to design a high-performance bioretention soil mix (HPBSM) that provides water quality treatment for the most problematic stormwater pollutants while minimizing the release of nutrients and metals associated with compost (King County and Herrera Environmental Consultants, Inc., 2020). Specifications for the HPBSM configurations tested in this study were published by Ecology (2021) and will be included in the next update to King County's SWDM as options for water quality treatment.

Shortly after completion of this work in 2020, researchers in Washington identified a tire-derived chemical, 6PPD-Quinone (6PPD-Q), that was determined to be the cause of coho salmon Urban Runoff Mortality Syndrome (URMS) (Tian et al., 2021), which has been killing returning coho salmon spawners in Western Washington for decades (Scholz et al., 2011). Before the discovery of 6PPD-Q, the 60:40 BSM was shown to protect coho from the acute toxicity of stormwater runoff (McIntyre et al., 2015; Spromberg et al., 2016). Prior to the present study, HPBSM had not been tested for efficacy in protecting coho from stormwater.

In response to the discovery of 6PPD-Q, King County conducted the study described in this report to determine whether this new HPBSM would provide effective 6PPD-Q treatment and protect coho salmon from the toxic effects of stormwater runoff. Three configurations (i.e., types) of HPBSM and the 60:40 BSM were tested in a laboratory setting during three simulated storm events.

The original timeframe for this project was December 2022 to June 2023. However, spring of 2023 was unusually dry, limiting our ability to collect stormwater and fulfill the contract within the timeline. The project timeline was extended by 1 year with an amendment in June 2023 at no additional cost. To accommodate the original funding deadline for this project, Ecology and King County agreed that this final report deliverable would be a minimal report on the project data with little interpretation and all raw data included as appendices. We have provided minimal interpretation by comparing 6PPD-Q concentrations to Washington's proposed surface water quality standard and performing non-parametric statistical tests to evaluate differences in treatment effectiveness. King County will be preparing a full report with interpretation later this year, outside of this grant contract. King County can provide this full report to Ecology when it is available.

2 Methods

2.1 Methods Overview

King County's Field Science Unit (FSU) collected stormwater runoff from a WSDOT Technology Assessment Protocol Ecology (TAPE) site at the I-5 Ship Canal Bridge during three storm events (04/18/2023, 09/25/2023, 03/10/2024). Stormwater (455 L per storm event) was then transported to the Bioretention Media Lab at Western Washington University (WWU) and used to dose PVC columns (n = 12) each filled with either 60:40 BSM, HPBSM Type 1, HPBSM Type 2, or HPBSM Type 3. Samples of stormwater influent and treated bioretention effluent were collected for each storm event at various timepoints throughout each storm cycle (Table 1). The King County Environmental Lab (KCEL) measured 6PPD-Q and basic water quality parameters (temperature, conductivity, pH, Redox potential, and dissolved oxygen) in influent and effluent samples. Coho toxicity tests (static, 24-hour acute) were conducted on untreated stormwater and composites of treated bioretention effluents. Detailed study design and methodology are document in the Quality Assurance Project Plan (QAPP) associated with this project (King County, 2023).

As part of our minimal interpretation of the data, the 6PPD-Q treatment effectiveness of 60:40 BSM and HPBSMs were statistically compared using non-parametric Kruskal-Wallis tests ($\alpha = 0.05$) followed by pairwise Wilcoxon Tests ($\alpha = 0.05$) with a correction for multiple comparisons (Benjamini & Hochberg, 1995) to identify mixes with significant differences in treatment effectiveness. The same statistical approach was used to test for differences in effluent 6PPD-Q concentrations among the bioretention mixes. All statistical tests were performed using the R statistical programming language (R Core Team, 2023).

To provide the appropriate level of data interpretation for this minimal data report, we have discussed the extent to which project goals (section 2.1 King County, 2023) and data quality objectives (DQOs, section 5.1 King County, 2023) were met in section 3 Project Data Summary.

Table 1. Time point definitions (from King County, 2023)

Time Point	Definition	Location
T_0	Time stormwater was collected	Sampling location in Seattle
T_1	Time that stormwater sample was composited and homogenized	Bioretention Laboratory
T_2	Time that treatment was complete and effluents were sampled	Bioretention Laboratory
T_3	Time all samples arrived at KCEL	KCEL Receiving
T_4	Time that toxicity tests were conducted	KCEL Toxicity and Chemistry Labs

2.2 Summary of QAPP Deviations

All deviations from the QAPP are summarized below for field procedures, bioretention media lab, chemistry, and toxicology and further documented in appendices specific to each of these categories.

2.2.1 Field procedures

- The QAPP stated that stormwater would be collected from a tap at the I-5 sampling site (King County, 2023). This process proved to be overly time-consuming due to the low-flow rate at the tap, so the Field Science Unit (FSU) employed Contingency Plan Situation 1 (described in the QAPP, Appendix B: Field Sampling Plan) for all sampling events. This involved using a heavy-duty submersible bilge pump to pump water from the flow splitting vault into the stormwater sample containers.
- The QAPP stated that storms with at least 0.25 inches of rain would be targeted for sampling. However, constraints around scheduling and transportation necessitated a more opportunistic sampling approach. Thus, sampling did not always follow 0.25 inches of rain, but always targeted rain events that produced flow at the sampling site.
- A minor deviation was made for the handling of stormwater collected at timepoint T_0 (Table 1) where we separated aliquots used for 6PPD-Q analysis and the measuring of water quality characteristics through the storm cycle. This adjustment was made after storm one to minimize the exposure of the 6PPD-Q analysis aliquot to air while water quality measurements were taken.
- Three grab samples of the influent (untreated stormwater composite) were collected, at the beginning, middle, and end of the process of delivering influent to the bioretention columns (n = 3 for each influent parameter). The QAPP did not specify any specific timing of these samples.

2.2.2 Bioretention media lab

- Field parameters (temperature, conductivity, pH, Redox potential, and dissolved oxygen) were scheduled to be collected for dosing events with sampling when compositing the three replicates for each treatment (Timepoint T_2, Table 1). Field scientists forgot to take these measurements for the second dosing event with sampling on 09/26/2023. Field parameters were instead measured from the composite samples when the Aquatic Toxicology lab started their toxicity analysis. We expect this omission to have little to no effect on interpretation of results.
- Before blending, the quality of the media components was tested using the Synthetic Precipitation Leaching Procedure (EPA, 1994) described in the HPBSM specifications (Ecology, 2021). The coconut coir exceeded the ortho- and total phosphorus thresholds. The high carbon wood ash exceeded the

threshold for ortho-phosphorus. After review, the team decided to proceed with the materials acquired and tested for the following reasons:

  - The materials were acquired from a reputable vendor and the same manufacturer that supplied components for developing the HPBSM;
  - These components have exceeded phosphorus thresholds in previous testing and still performed well to meet guidelines for filter media;
  - Phosphorus was not considered as an important element impacting our planned coho toxicity testing.

- The QAPP stated that samples will be collected from the untreated influent for the aging stormwater at the 3rd, 5th, 7th, and 9th dosing events. Aging stormwater samples were collected at the 3rd, 4th, 7th, and 8th dosing events. The purpose of analyzing these samples was to qualitatively characterize the representativeness of one Seattle water year. This deviation did not impact the study because the 6PPD-Q data obtained still characterize stormwater from the Bellingham collection site across a similar time period. The reasons for this deviation are:
  - The 5th event was mistakenly switched for the 4th event.
  - The courier responsible for transporting samples from Bellingham to Seattle was only available on specific dates for the 8th event but was free during the 9th event.

2.2.3 Chemistry

- None. See Chemistry Report Appendix C, section 1: Chemistry report cover letter, for data anomalies and corrections from KCEL.

2.2.4 Toxicology

- As expected and stated in section 7.2 of the QAPP (King County, 2023), fish exposed to samples from storm event two were older and had higher loading rates than specified in EPA Test Method 2019.0. Details on fish age and loading rates are summarized below (Table 2).

Table 2. Age, size, and loading rate of juvenile coho used in exposure tests.

Event #	Age (days-post swim-up at start of test)	Mean Standard Length (cm)	Mean Weight (grams)	Loading Wt./Vol. (g/L)
EPA 2019.0	Rainbow Trout:15-30 Brook Trout: 30-60	–	–	–
Event 1	58	3.9	0.69	0.69
Event 2	290	5.66	2.64	2.64
Event 3	35	3.26	0.31	0.31

- To further account for fish size and increasing loading rates, replication was 4 replicates of 5 fish. A total of 20 fish per treatment.
- Because of dry weather in spring 2023, additional time was needed to capture the three storm events required by the QAPP (King County, 2023). While enough juvenile coho were obtained for the original project schedule, the extended project timeline required additional reference tests as the juvenile coho aged and led to the cohort being depleted prior to the third storm's toxicity testing.
- Additional coho were obtained for this third event. This deviation is described in Appendix – D, section 1: Corrective actions to meet QAPP requirements.

3 Project Data Summary

3.1 Achieving Project Goals

1) ***Primary goal:*** *Determine if, and measure the extent to which, 60:40 BSM and HPBSM configurations reduce concentration of 6PPD-Q in stormwater below toxic levels to coho, eliminate coho mortality, or both. Do any of the HPBSM configurations perform better than 60:40 BSM?*

   This goal was achieved. Data from the three-column dosing events showed that all tested bioretention mixes protected coho from stormwater, resulting in 100% survival across all three events for coho exposed to treated stormwater. Untreated stormwater from these storms killed nearly all exposed coho, resulting in 0–5% survival across the three events. Non-parametric Kruskal-Wallis tests (α =0.05) followed by post-hoc pairwise Wilcoxon Test comparisons (α =0.05) showed that all three HPBSM configurations achieved small but significant increases in % removal of 6PPD-Q compared with the 60:40 BSM. The same statistical approach determined that effluent samples from the HPBSM mixes had significantly lower 6PPD-Q concentrations than the 60:40 BSM. All effluent samples from the HPBSM mixes had 6PPD-Q concentrations below Washington's proposed aquatic life criteria of 8 ng/L, while the 60:40 BSM effluent 6PPD-Q concentrations exceeded 8 ng/L in three of the nine samples.

2) ***Secondary goal:*** *Identify and measure stormwater constituents and conditions that may be dynamic in stormwater and affected by these bioretention media types. Determine if these parameters affect the outcome of toxicity tests (e.g., through binding 6PPD-Q).*

   This goal was achieved. Dissolved organic carbon (DOC) and total suspended solids (TSS) were measured in stormwater samples at timepoints throughout the storm cycle and in filtered bioretention effluents from individual columns as well as bioretention effluent composites used in the coho toxicity tests. Conductivity, dissolved oxygen (DO), pH, temperature, and Redox potential were also measured in all samples at all timepoints in the storm cycle.

3.2 Meeting Data Quality Objectives (DQOs)

3.2.1 DQO-1. 6PPD-Q reduction effectiveness

1. Is the concentration of 6PPD-Q in untreated stormwater influent ≥ the concentration of 6PPD-Q in treated effluent for 60:40 BSM and HPBSMx?

   Yes, filtering the stormwater influent through the tested bioretention medias resulted in at least a 10-fold decrease in 6PPD-Q concentration. The concentration range for 6PPD-Q in untreated stormwater influent was 0.226 µg/L to 0.808 µg/L, while the concentration range for 6PPD-Q in treated bioretention effluents was <0.002 µg/L (MDL) to 0.0225 µg/L.

2. *Which BSM or HPBSMx generates the greatest reduction in the concentration of 6PPD-Q?*

   Mean 6PPD-Q concentration reduction (%) values are shown in Table 3. All tested HPBSMs achieved significantly greater 6PPD-Q concentration reduction than the 60:40 BSM (p-values ≤ 0.05 for all pairwise comparisons between HPBSMs and 60:40 BSM). No significant differences in 6PPD-Q concentration reduction between HPBSM types were detected.

Table 3. Mean and standard error 6PPD-Q concentration reduction (%) for each tested bioretention mix.

Bioretention Mix	6PPD-Q Concentration Reduction (%)	
	Mean	*Standard error (n = 9)*
60:40 BSM	98.4	0.346
HPBSM Type 1	99.5	0.170
HPBSM Type 2	99.8	0.089
HPBSM Type 3	99.8	0.098

3. *Does treatment of stormwater with BSM or HPBSMx generate effluent with the concentration of 6PPD-Q ≤ 0.060 µg/L? Does treatment of stormwater with BSM or HPBSMx generate effluent with the concentration of 6PPD-Q < the method detection limit (MDL)?*

   Yes, all treated bioretention effluent samples had 6PPD-Q concentrations below the estimated LC20[1] of 0.060 µg/L (Tian et al., 2022) that was used as the toxicity threshold in the QAPP. Mean 6PPD-Q effluent concentrations are shown in Table 4. All treated effluent samples from the HPBSM mixes had significantly lower 6PPD-Q concentrations than the 60:40 BSM (p-values ≤ 0.05 for all pairwise comparisons between HPBSMs and 60:40 BSM). No significant differences in 6PPD-Q concentrations between HPBSM effluents were detected.

   The 6PPD-Q MDL for this study was 0.002 µg/L. All 60:40 BSM effluent samples had detectable 6PPD-Q concentrations. HPBSM Type 1 had three samples where 6PPD-Q concentrations were below the MDL, while the HPBSMs Types 2 and 3 had six of nine samples where 6PPD-Q concentrations were below the MDL.

[1] The LC20 is the 20% lethal concentration, indicating the concentration estimated to kill 20% of exposed test organisms. This value is interpolated from the dose-response curve in Tian et al. (2022). More recent studies published since the completion of this study's QAPP have indicated lower LC20s for coho exposed to 6PPD-q (Lo et al., 2023; Greer et al., 2023).

Table 4. Mean and standard error 6PPD-Q concentration in effluents of tested bioretention mixes.

Bioretention Mix	Number of Effluent Samples with 6PPD-Q Concentrations Below the MDL	Effluent 6PPD-Q Concentration (µg/L)	
		Mean	*Standard error (n = 9)*
60:40 BSM	0	0.00878	0.00269
HPBSM Type 1	3	0.00213	0.000613
HPBSM Type 2	6	0.00124	0.000653
HPBSM Type 3	6	0.00141	0.000723

4. *Is the overall performance of the HPBSMx in removing 6PPD-Q as good or better than that of 60:40 BSM?*

   Yes, all three HPBSM configurations achieved small but significant increases in % removal of 6PPD-Q and had significantly lower 6PPD-Q concentrations in their effluents compared with the 60:40 BSM. HPBSM Types 2 and 3 (which contain the polishing layer) performed slightly better than HPBSM Type 1 in terms of % 6PPD-Q concentration reduction (Table 3), 6PPD-Q effluent concentrations (Table 4), and frequency of samples below the MDL for 6PPD-Q (Table 4). Notably, in every HPBSM effluent sample, 6PPD-Q concentrations were below Ecology's proposed aquatic life criteria of 0.008 µg/L. Effluent samples from the 60:40 BSM exceeded this criterion for three of nine samples and had a mean effluent 6PPD-Q concentration of 0.00878 µg/L (Table 4).

3.3 DQO-2. Stormwater Toxicity Removal or Reduction Effectiveness

1. *Is treated stormwater effluent from 60:40 BSM and HPBSMx Types 1 and 3 acutely toxic to coho?*

   No, we observed 100% coho survival in all treated effluents (Table 5).

Table 5. Coho survival and 6PPD-Q concentrations in coho exposure waters for toxicity tests.

Exposure Treatment n = 20	Coho Survival (%)			6PPD-Q Concentration (µg/L)		
	Storm 1	Storm 2	Storm 3	Storm 1	Storm 2	Storm 3
Well water control	100	100	100	< MDL	<MDL	<MDL
Untreated stormwater influent	5	0	5	0.754	0.225	0.6402
60:40 BSM (composite)	100	100	100	0.0044	0.003	0.0268
HPBSM Type 1 (composite)	100	100	100	0.0025	<MDL	0.0078
HPBSM Type 3 (composite)	100	100	100	<MDL	<MDL	0.0047

2. *Is untreated stormwater influent more or less acutely toxic to coho than treated stormwater effluents?*

   Untreated stormwater influent was acutely toxic to exposed coho during all three storms. Coho survival was 0–5 % in untreated stormwater influent compared to 100% survival across all treated effluents (Table 5).

3. *What are the concentrations of 6PPD-Q measured in toxic stormwater and in non-toxic stormwater? (see DQO-1)*

   Untreated stormwater from all three storms was acutely toxic to coho, with only 0–5 % survival in 24-hour static exposure tests. The concentration range for 6PPD-Q in untreated stormwater influent was 0.226 µg/L to 0.808 µg/L. See Appendix D for all stormwater concentrations.

4. *Do certain constituents of treated stormwater effluent (DOC and TSS) co-vary with toxicity to coho? These constituents may affect toxicity by binding to 6PPD-Q.*

   Because 100% of coho exposed to treated effluents survived, and 0–5% of coho exposed to untreated stormwater survived, there was not sufficient variability in survival to determine whether DOC or TSS co-varied with toxicity.

4 Findings

- All tested bioretention mixes showed high 6PPD-Q removal rates with > 96% concentration reduction achieved for all samples.
- While only 0–5% of juvenile coho exposed to untreated stormwater survived, 100% of coho exposed to stormwater filtered through the bioretention mixes survived, regardless of the mix.
- HPBSMs provided small but significant 6PPD-Q treatment improvements over the 60:40 BSM. No significant differences in 6PPD-Q treatment were detected between the three types of HPBSM.
- While 6PPD-Q concentrations in effluents from the HPBSMs were always below Ecology's proposed aquatic life criterion for 6PPD-Q (8 ng/L), 6PPD-Q concentrations in the 60:40 BSM effluent were below this proposed criterion in storm events one and two, but above this criterion in storm event three. =

5 Acknowledgements

Thank you to all who contributed to this project. Jenée Colton reviewed this report for accuracy and completeness of content. Tina Loucks-Jaret provided a review of the technical writing in this document. Jennifer White completed the QAPP and managed the first phase of the project and we appreciate her efforts. The King County Environmental Laboratory (KCEL) carried out nearly all the chemistry and all toxicology analyses for this study. KCEL's Field Science Unit collected the stormwater and transported all samples between Bellingham and Seattle for this study. Curtis Hinman & Associates prepared the bioretention media lab and carried out all column dosing and testing. Ecology provided funding for this project.

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Appendix – A: D3.1 Field Procedures Report

Author: Christopher Barnes, King County Environmental Lab

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Testing Removal of 6PPD-Q and Coho Salmon Lethality by High Performance Bioretention Media Blends

Field Procedures Report

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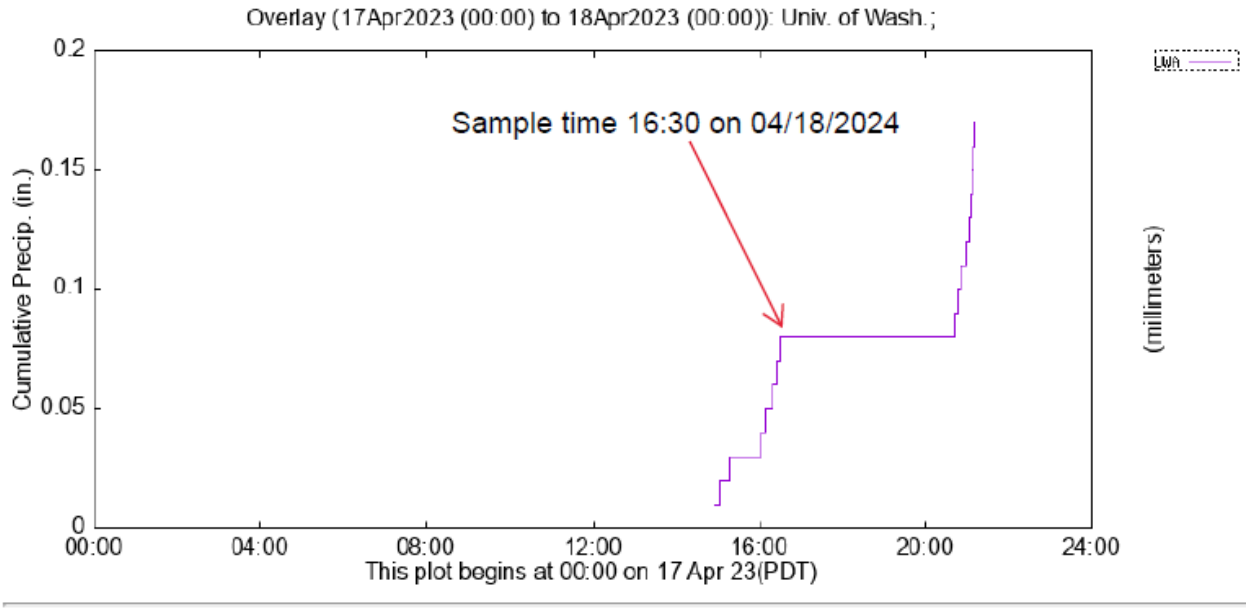
Summary

This report includes details about atmospheric conditions during each storm, sample collection methods, and any changes or deviations from the QAPP or SOPs.

Field Conditions

Storm 1 - 04/18/2023 at 16:30 – Storm conditions for the first event - a series of strong showery storm cells moving through region resulted in quick bursts of intense rain across the region. This is typical for spring conditions. Field crew were on site when one of these cells moved through and it rained very hard at a rate of 0.10 inches per hour. The water in the system went from moderate flow to high flow and we commenced sampling. Samples were dark in color and turbid, typical of dirty urban stormwater.

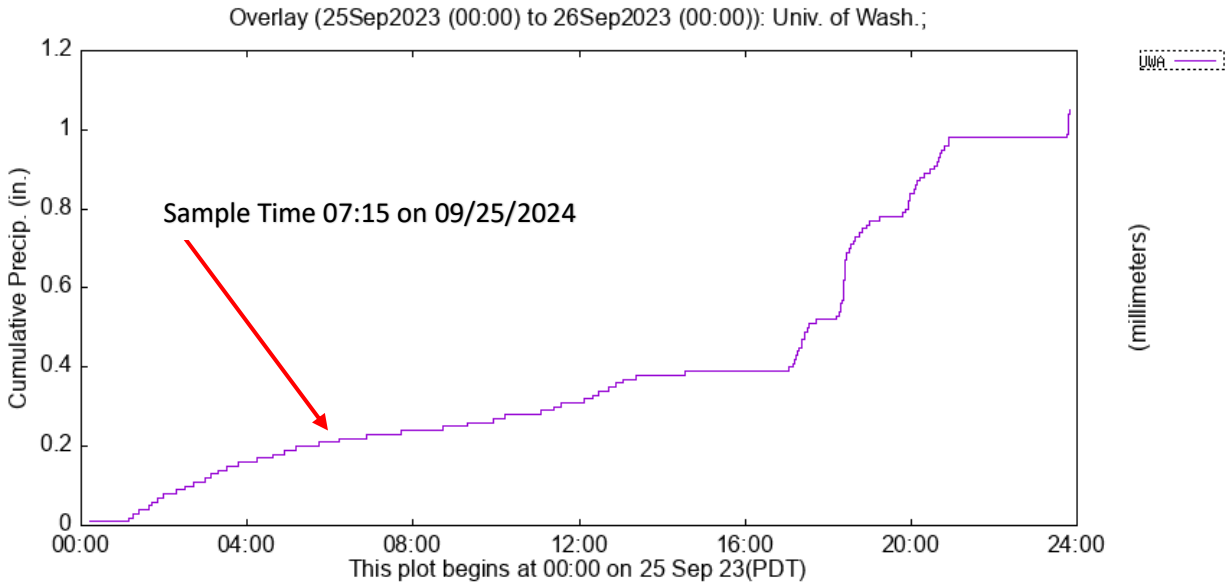
Cumulative Rain



Once sample collection began, twenty-three 20L carboys (455 L total) were filled in approximately 25 minutes. We collected our grab samples, took field measurements, and returned to KCEL to ice down samples. Carboys were kept in black plastic bags and on ice overnight at KCEL. Samples were taken to the Hinman Lab in Bellingham early the next day, 4/19/2023, for the dosing experiment. Chain of custody for all carboys and samples was maintained by KCEL staff for the entire duration of transport to Bellingham, processing at the Hinman lab and transport back to KCEL.

Storm 2 – 09/25/2023 at 07:15 - Storm conditions for the second event - a moderate intensity storm system moved through the region resulting in steady rain across the region. We arrived on site first thing in the morning to sample. The water in the system was running with good flow upon arrival and this continued while sampling. Samples were dark in color and turbid, typical of dirty urban stormwater.

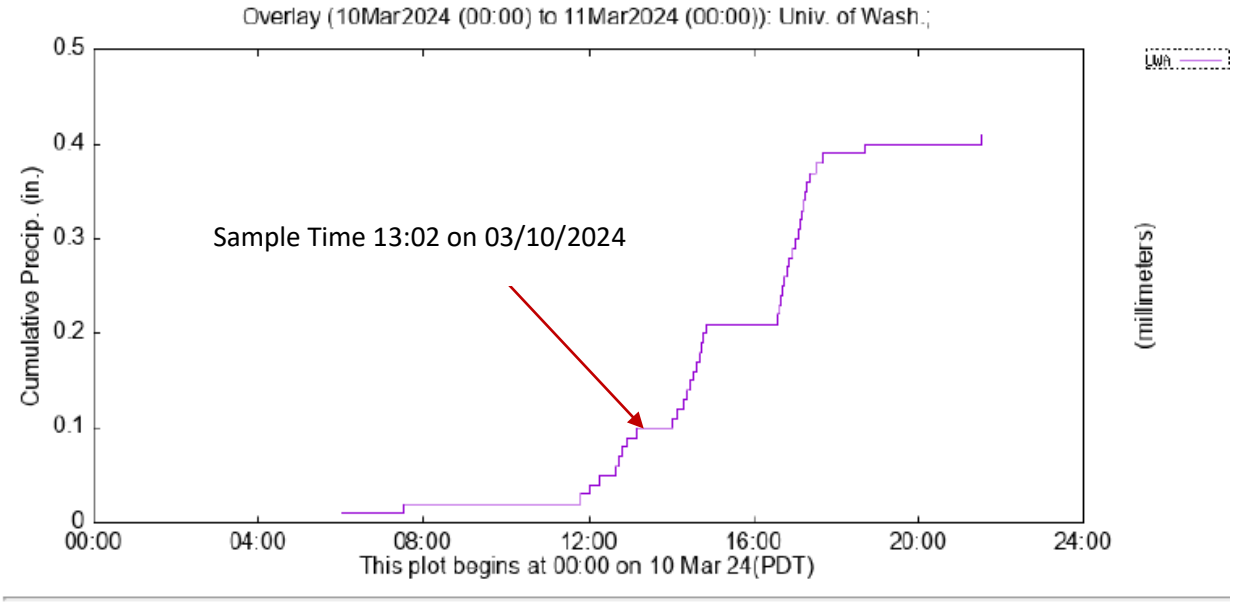
Cumulative Rain



Once sample collection began, twenty-three 20L carboys (455 L total) were filled in approximately 25 minutes. We collected our grab samples, took field measurements, and returned to KCEL to ice down samples. Carboys were kept in black plastic bags and on ice overnight at KCEL. Samples were taken to the Hinman Lab in Bellingham early the next day for the dosing experiment. Chain of custody for all carboys and samples was maintained by KCEL staff for the entire duration of transport to Bellingham, processing at Hinman lab and transport back to KCEL.

Storm 3 – 03/10/2024 at 13:02 - Storm conditions for the third event – a showery system with high intensity rain moved through resulting in scattered rain across the region. We arrived on site during a large squall. The water in the system was running with good flow upon arrival and this continued while sampling. Samples were dark in color and turbid typical of urban stormwater.

Cumulative Rain



Once sample collection began, twenty-three 20L carboys (455L total) were filled in approximately 25 minutes. We collected our grab samples, took field measurements, and returned to KCEL to ice down samples. Carboys were kept in black plastic bags and on ice overnight at KCEL. Samples were taken to the Hinman Lab in Bellingham early the next day for the dosing experiment. Chain of custody for all carboys and samples was maintained by KCEL staff for the entire duration of transport to Bellingham, processing at Hinman lab and transport back to KCEL.

Sample collection method for all storms

Filling carboys from the tap at the sampling site was going to be too slow and potentially compromising, so Contingency Plan Situation 1 (described in the QAPP, Appendix B: Field Sampling Plan) was employed for all sampling events. Therefore, rather than filling from a tap, a heavy-duty submersible bilge pump was lowered into the flow splitting vault and water was pumped into the stormwater sample containers. This proved to be an efficient and acceptable method and did not compromise the samples in any way.

Date, time, locator, pre-login number and ID of QC samples collected – see scanned Field Sheets provided from KCEL LPM.

Unusual circumstances that might affect interpretation of results – none.

Any changes or deviations from the QAPP or SOPs

- **No significant deviations, but the following are worth noting.**
- **Carboy filling -** As previously mentioned, we employed a contingency method for filling sample containers outlined in Appendix B of the QAPP.
- **Rainfall totals -**Timing for storm sampling was a challenge for each event due to the transportation restraints, multiple labs involved, workload management and weather. Therefore we had to be incredibly opportunistic about collection timing. We did not always sample after 0.25 in of rain, but we did always sample when it had been raining and there was obvious flow at the sampling site. Stormwater was sufficiently dirty and toxic based on 6ppd-q results.
- **Section 3.1.5 of the QAPP** describes collection of a stormwater grab collected at T0 and split into three aliquots – 1) one wide-mouth bottle for measuring water quality characteristics at T0, 2) one amber glass bottle for 6PPD-q analysis , and 3) the remaining volume in a 2L FHDPE container to be transported with the other stormwater, for periodic water quality measurements and 6PPD-q analysis at the end of the storm cycle. This procedure described in the QAPP was followed for storm 1. For storms 2 and 3, two 2 L FHPDE containers and one 250 mL amber glass were collected for aliquot 3 described above and in the QAPP. The 250 mL amber glass bottle was used for T0 6PPD-Q measurement, one 2 L FHDPE bottle was used for T0 water quality characteristics and the final 2 L FHPDE bottle was used for T4 water quality characteristics and splitting off an aliquot for T4 6PPD-Q analysis. This change minimized exposure of aliquot 3 to air during water quality measurements.
- **T1 sample timing at Hinman Lab-** Three replicates of the influent samples (untreated stormwater composite) were collected, at the beginning, middle, and end of the process of delivering influent to the bioretention columns (N= 3 for each influent parameter).

Appendix – B: D4.1 Bioretention Media Lab Report

Author: Curtis Hinman & Associates, LLC

Page

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TESTING REMOVAL OF 6PPD-Q AND COHO SALMON LETHALITY BY HIGH PERFORMANCE BIORETENTION MEDIA BLENDS

Project budget: $90,915 (bioretention lab study only)

Grant recipient: King County Department of Natural Resources and Parks

Bioretention media lab technical lead: Curtis Hinman & Associates

Project duration: Initial scope of work: November 2022—June 2023

Final: November 2022—June 2024

The following provides a final report summarizing the final status of project tasks, products and budget for the bioretention media lab component of this study.

The primary goal of this laboratory study was to determine if, and measure the extent to which: 1) 60/40 bioretention soil media (60/40) and the three Ecology-approved high-performance bioretention soil media (HPBSM) configurations reduce the concentration of 6PPD-Q in stormwater to below levels toxic to coho, eliminate coho toxicity, or both; and 2) if any of the Ecology-approved HPBSM blends perform better or worse at this function than 60/40 BSM.

A secondary goal of the study was to identify and measure stormwater constituents and conditions, including dissolved organic carbon (DOC), total suspended solids (TSS), oxidation-reduction potential (ORP), pH, and dissolved oxygen (DO) in untreated and treated stormwater effluents to evaluate whether these parameters affect the outcome of toxicity tests, (e.g., through binding 6PPD-Q).

For the media testing component of the study there were three tasks:

- Task 1. – Project Management
- Task 4. – Laboratory Preparation and Column Testing
- Task 6. – Reporting

Summary of project inputs and outputs

Clean and calibrate bioretention media column array (Sub-task 4.1)

The bioretention media column array (column array) used to test the HPBSM and 60/40 is located in a laboratory at Western Washington University's (WWU) Institute for Environmental Toxicology in Bellingham. The array consists of a HDPE mixing tank (200-gallon cone bottom), HDPE distribution tank (20-gallon cone bottom), PVC distribution manifold, Teflon delivery lines (1/8in ID), peristaltic pumps (Pulsafeeder Chem-tech XP Series) and PVC columns (20.3cm [8in] diameter by 91.4cm [36in] tall).

To prepare the media columns, old media from previous studies was removed. Columns were then washed with potable water, scrubbed, washed with Liquinox soap, and rinsed with deionized water. Each column was inspected for leaks or other defects.

The mixing and distribution tanks were pressure washed to remove residue from previous experiments then washed with Liquinox and rinsed with deionized water. The distribution manifold was disassembled, washed with potable water and Liquinox, and rinsed with deionized water. All delivery lines from the distribution manifold to peristaltic pumps were replaced with new Teflon tubing. Finally, each peristaltic pump was cleaned, lubricated, and calibrated. Maximum error recorded for peristaltic pumps was +3.84 percent and maximum spread of error was +3.84 to -3.57 percent at operating volume. See Peristaltic Pump Accuracy Checks and Calibration spreadsheet for pump accuracy.

Column array pre-testing (Sub-task 4.2)

Before placing media, two quality assurance tests were conducted on the column array: 6PPD-Q loss to equipment; and equipment rinsate blanks. For loss to equipment, a 20-liter sample consisting of deionized water spiked with 6PPD-Q was run through a single distribution line, peristaltic pump and column. The spiked influent water concentration was 0.336μg/L and the effluent water concentration 0.273μg/L, resulting in a loss to equipment of approximately 19 percent.

For the rinsate blank, 20 liters of deionized water was run through the column array (including tanks, manifold, delivery lines, and pumps), the same column used for the spike test, and each of three other randomly selected columns. An additional rinse blank using deionized water was collected from the 20-liter carboys used to transport samples from the media laboratory to King County Environmental Laboratory (KCEL)in Seattle. Results from the rinsate blanks for 6PPD-Q are as follows:

- Column used for spike test: 0.003μg/L
- Randomly selected, unused columns: <MDL
- 20-liter fluorinated carboy: <MDL

Minimum detection limit (MDL) is 0.002μg/L.

Media flushing (Sub-task 4.3)

Once the column array was tested and met requirements in the Quality Assurance Project Plan (QAPP), the columns were packed with media. The quality of the media components was first tested using Synthetic Precipitation Leaching Procedure (EPA Method 1312) described in Department of Ecology's *Guidance on using new high performance bioretention soil mixes,* May 2021 (HPBSM specification, 2021). Consistent measurement (by volume) and packing methods were used on all columns. Individual media components were measured in graduated containers and the same vibration method used to attain specified volumes. The components were placed in large plastic containers and mixed thoroughly to create specific blends. The media blends were placed in the columns and compacted using a graduated plunger every six inches. This method was used to approximate typical field compaction rates of 80 percent by penetrometer.

The media in the columns were then flushed with deionized water. The purpose of this test is to determine if specific contaminants (ortho phosphorous, nitrate nitrogen, and dissolved copper and zinc) are within threshold limits provided in the HPBSM specification, 2021. All 12 columns (four treatments replicated three times) were flushed with the equivalent of one Seattle water year (378 liters/column). Fourteen flushing events at 27 liters per column per event were conducted over an seven-month period. One-liter samples were collected from the primary collection container (24-liter, glass carboys) at the first and last flushing events.

Media dosing (Sub-task 4.4)

After the flushing phase of the study was complete the columns were dosed with highway runoff from Interstate 5 (I-5) in Seattle and Bellingham. The highway runoff from Seattle (collected directly off the highway) had high concentrations of 6PPD-Q, was sampled for 6PPD-Q plus other parameters, and was used for toxicity testing on coho salmon. The Bellingham runoff was collected from a Washington Department of Transportation (WSDOT) stormwater pond adjacent to I-5 and was only sampled for 6PPD-Q and not used for toxicity tests on the coho salmon. The Bellingham stormwater was used to age the media columns and attain the target dosing volume of 81 percent of a Seattle water year as prescribed in the QAPP. See Table 1 for the dosing schedule.

Table 1. Dosing and sample schedule

Record Number	Type of Event	Date	Volume Applied (liters/column)	Collection Location and Sample Parameters
1	1st dosing	4/18/23	27	I-5 Seattle (6PPD-Q, TSS, DOC, pH, temperature, DO, ORP, conductivity, toxicity)
2	1st aging	4/25/23	27	I-5 Bellingham (no samples)
3	2nd aging	4/26/23	27	I-5 Bellingham (no samples)
4	3rd aging	5/3/23	27	I-5 Bellingham (6PPD-Q)
5	2nd dosing	9/26/23	27	I-5 Seattle (6PPD-Q, TSS, DOC, pH, temperature, DO, ORP, conductivity, toxicity)
6	4th aging	10/16/23	27	I-5 Bellingham (6PPD-Q)
7	5th aging	10/17/23	27	I-5 Bellingham (no samples)
8	6th aging	10/25/23	27	I-5 Bellingham(no samples)
9	7th aging	10/26/23	27	I-5 Bellingham (6PPD-Q)
10	8th aging	11/6/23	27	I-5 Bellingham (6PPD-Q)
11	9th aging	11/7/23	27	I-5 Bellingham (no samples)
12	3rd dosing	3/13/24	27	I-5 Seattle (6PPD-Q, TSS, DOC, pH, temperature, DO, ORP, conductivity, toxicity)

Stormwater was collected in Seattle by KCEL staff in 20-liter, fluorinated HDPE carboys, iced and driven to the bioretention media lab in Bellingham. The 20-liter containers were poured into the HDPE mixing tank and experiments would begin at approximately 9AM. Subsamples to evaluate 6PPD-Q concentrations were taken at the point of collection (Seattle) and at the beginning, mid-point and end of the dosing experiment. The purpose of the 6PPD-Q influent subsamples was to determine if concentrations decreased over the sampling process. The 27-liter volume for each dosing experiment was collected in 24-liter glass carboys placed in ice under each of the 12 media

columns. A 13th glass carboy collected untreated influent directly from the delivery system (did not run through a column). At the end of dosing experiments (2.5 hours) the glass carboys were stirred on a large stir plate, pressurized, and sub-samples taken from each column for 6PPD-Q (see Photo 1). The 12 subsamples were iced, transported to KCEL and analyzed for 6PPD-Q, DOC, and TSS. For toxicity testing the three 24-liter carboys from each treatment were composited into 20-liter fluorinated carboys (the 20-liter carboy filled 1/3 from each column sample), iced and transported to KCEL. Finally, the following parameters were measured from subsamples for each column using sondes: pH, temperature, DO, ORP, and conductivity. Two sondes were used for measurements: 1) YSI EXO 1s (temperature, DO, pH and conductivity); and 2) Hanna HI98190 (ORP).

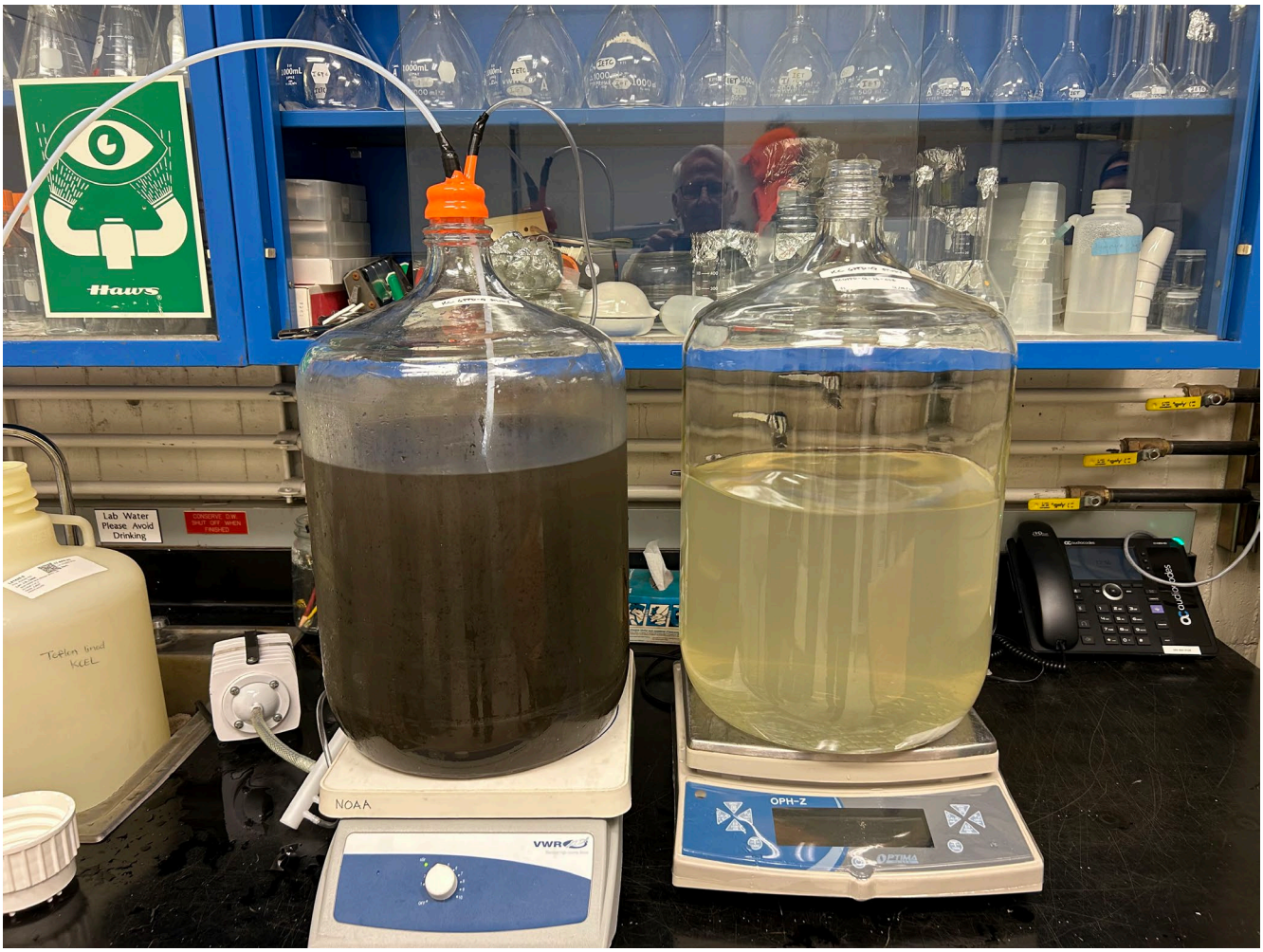


Photo 1. Sub-sampling apparatus

For the aging events, stormwater was pumped from a WSDOT stormwater pond into a 280-gallon HDPE tank and transported to the WWU bioretention media laboratory. The water was pumped up to the lab from the collection to the mixing tank. The same volume (27 liters/column) and time frame (2.5 hours) was used for the aging events as for the dosing experiments. Subsamples were collected from the influent sampling pump for 6PPD-Q at the 3rd, 4th, 7th and 8th aging event.

Deviations from QAPP

Field parameters

Field parameters (pH, Cond, Temp, DO and Redox) were scheduled to be collected for dosing events with sampling when compositing the three replicates for each treatment. Those field parameters were not taken for the second dosing event with sampling on 09/26/2023. The reason for this omission is that the field scientists did not remember to take measurements. Field parameters were taken from the composite samples at the time when Aquatox started their toxicity analysis.

Testing media components

Before blending, the quality of the media components was tested using EPA Method 1312 described in the HPBSM specification, 2021. The threshold contaminant levels in the specification and test results are as follows.

	Specification Thresholds				EPA Method 1312 Test Results			
	Total Cu	**Nitrate-Nitrite**	**Ortho-Phosphorus**	**Total Phosphorus**	**Total Cu**	**Nitrate-Nitrite**	**Ortho-Phosphorus**	**Total Phosphorus**
Sand	≤10µg/L	≤0.5µg/L	≤0.15mg/L	≤0.5mg/L	6.27µg/L	0.05mg/L	0.083mg-P/L	0.023mg-P/L
C. Coir	≤10µg/L	≤0.5µg/L	≤0.15mg/L	≤0.5mg/L	5.17µg/L	0.05mg/L	1.74 mg-P/L	1.72 mg-P/L
HCWA	≤10µg/L	≤0.5µg/L	≤0.15mg/L	≤0.5mg/L	2.27µg/L	0.05mg/L	0.274mg-P/L	0.271mg-P/L

C. Coir = coconut coir
HCWA = high carbon wood ash

The coconut coir exceeded the ortho- and total phosphorus thresholds. The high carbon wood ash exceeded the threshold for ortho-phosphorus. After review, the team decided to proceed with the materials acquired and tested for the following reasons: the materials were acquired from a reputable vendor and the same manufacturer that supplied components for developing the HPBSM; these components have exceeded phosphorus thresholds in previous test and still performed well to meet guidelines for filter media; and phosphorus was not considered as an important element impacting coho toxicity testing.

Aging water samples

The QAPP stated that samples will be collected from the untreated influent for the aging stormwater at the 3rd, 5th, 7th and 9th dosing events. Aging stormwater samples were actually collected at the 3rd, 4th, 7th and 8th dosing events. The reason for the deviation was two-fold; first the lab manager mistakenly switched the 5th for the 4th event, and second the courier for transporting samples from Bellingham to Seattle was only available on specific dates for the 8th event but not the 9th.

Analytical Resources, LLC
Analytical Chemists and Consultants

16 February 2023

Curtis Hinman
Curtis Hinman and Associates
1412 Wilson Avenue
Bellingham, WA 98225

RE: KC 6PPD-Q Study (SPLP Leachate)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
23A0324	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC



Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Accredited in accordance with nelac
Cert# 100006-012

23A0324

CHAIN OF CUSTODY RECORD: KC 6PPD-Q Study

Sample Collection by:
Walrath
11405 24th Ave E
Tacoma, WA 98445
Contact: Jamie Burke
Tel: (C) 253-606-4101

Project:
KC 6PPD-Q Study
Client: King County. Technical Lead: Curtis Hinman and Associates
Contact: Curtis Hinman
Tel: (C) 253-330-9878

Page: 1 of 1
Project Name: KC 6PPD-Q Study
Project code: KC6PPDQ-23-000
Sampling location: Walrath
Please provide 3 copies of this record

Laboratory
Analytical Resources Inc.
4611 S 134th Pl #100 Tukwila, WA 98168-3212
Contact: Susan Dunnihoo
Tel: 206-695-6200

Curtis Hinman and Associates
1412 Wilson Ave
Bellingham, Washington | 98225
p 253 330 9878

15.6°

Analysis Requested

Sample ID	Date Collected	Time Collected	# of containers	matrix	SPLP (Total Phosphorus)	SPLP (Ortho-Phosphorus)	SPLP (NO2+NO3 Nitrogen)	SPLP (Total copper)
KC6PPDQ-23-001 State Sand	1-17-23	1:00p	1	media	x	x	x	x
KC6PPDQ-23-002 Coco Coir botanicals	1-17-23	1:00p	1	media	x	x	x	x
KC6PPDQ-23-003 High carbon Wood ash	1-17-23	1:00p	1	media	x	x	x	x

Comments/Special Notes:
*Conduct SPLP extraction on all samples for listed paramenters
*SPLP Method 1312
*Metals: weak acid (H2SO4, HNO3) extraction using pH recommended for western U.S.
*Nutrients: deionized water

Relinquished by:		Relinquished by:
Signature		Signature
Company	Walrath	Company
Date/Time	1-17-23 13:58	Date/Time
Received by:		Received by:
Signature		Signature
Company	ARI	Company
Date/Time	1/17/23 1358	Date/Time

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KC6PPDQ-23-001 State Sand - leached	23A0324-02	Water	17-Jan-2023 13:00	17-Jan-2023 13:58
KC6PPDQ-23-002 Cococoir botanicare - leached	23A0324-04	Water	17-Jan-2023 13:00	17-Jan-2023 13:58
KC6PPDQ-23-003 High Carbon Wood Ash - leached	23A0324-06	Water	17-Jan-2023 13:00	17-Jan-2023 13:58

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Work Order Case Narrative

Client: Curtis Hinman and Associates
Project: KC 6PPD-Q Study
Work Order: 23A0324

Sample receipt

Samples as listed on the preceding page were received 17-Jan-2023 13:58 under ARI work order 23A0324. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Samples were leached following SPLP protocols using DI water and analyzed for targets listed below.

Total Metals - EPA Method 200.8 (Copper)

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recovery was low of advisory limits and flagged on the summary sheet. The duplicate (DUP) relative percent difference (RPD) were high of advisory control limits and flagged on the summary sheet.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits. The leachate blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: KC

Project Name: KC 6PPD-Q Study

COC No(s): NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 23AJ324

Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1358 — 15.6°

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: ~~0478~~ 9078

Cooler Accepted by: R~ Date: 1/17/23 Time: 1358

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: R~ Date: 1/17/23 Time: 1433 Labels checked by:

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 23A0324

Cooler#: _____ **Temperature(°C):** 5.6°

Sample ID	Bottle Count	Bottle Type
Samples received above 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: _____ Date: 1/12/22 Time: 1358

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-001 State Sand - leached

23A0324-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED — Sampled: 01/17/2023 13:00
Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/02/2023 23:47

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SPN Digestion of EPA 1312 Elutriate — Extract ID: 23A0324-02 A 01
Preparation Batch: BLA0623 — Sample Size: 25 mL
Prepared: 01/26/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	2	0.346	1.00	63.4	ug/L	B, D

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-001 State Sand - leached

23A0324-02 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 01/17/2023 13:00

Instrument: IC930 Analyst: KLD — Analyzed: 01/26/2023 21:36

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23A0324-02 C

Preparation Batch: BLA0647 — Sample Size: 10 mL

Prepared: 01/26/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-001 State Sand - leached

23A0324-02 (Water)

Wet Chemistry

Method: SM 4500-P E-99
Instrument: UV1800-1 Analyst: KLD

Sampled: 01/17/2023 13:00
Analyzed: 01/27/2023 11:57

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP
Preparation Batch: BLA0643
Prepared: 01/27/2023
Sample Size: 50 mL
Final Volume: 50 mL

Extract ID: 23A0324-02 C 01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0830	mg-P/L	

Sample Preparation: Preparation Method: SM 4500-P B-5 Persulfate
Preparation Batch: BLA0729
Prepared: 01/31/2023
Sample Size: 50 mL
Final Volume: 50 mL

Extract ID: 23A0324-02 D

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Phosphorus	7723-14-0	1	0.0080	0.0080	0.0230	mg-P/L	

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-002 Cococoir botanicare - leached

23A0324-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED — Sampled: 01/17/2023 13:00
Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/02/2023 23:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SPN Digestion of EPA 1312 Elutriate — Extract ID: 23A0324-04 A 01
Preparation Batch: BLA0623 — Sample Size: 25 mL
Prepared: 01/26/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	2	0.346	1.00	5.17	ug/L	B, D

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-002 Cococoir botanicare - leached

23A0324-04 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 01/17/2023 13:00
Instrument: IC930 Analyst: KLD — Analyzed: 01/26/2023 22:36

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23A0324-04 C
Preparation Batch: BLA0647 — Sample Size: 10 mL
Prepared: 01/26/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-002 Cococoir botanicare - leached

23A0324-04 (Water)

Wet Chemistry

Method: SM 4500-P E-99 — Sampled: 01/17/2023 13:00
Instrument: UV1800-1 Analyst: KLD — Analyzed: 01/27/2023 11:59

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 23A0324-04 C 01
Preparation Batch: BLA0643 — Sample Size: 50 mL
Prepared: 01/27/2023 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	10	0.0400	0.0400	1.74	mg-P/L	D

Sample Preparation: Preparation Method: SM 4500-P B-5 Persulfate — Extract ID: 23A0324-04 D
Preparation Batch: BLA0729 — Sample Size: 50 mL
Prepared: 01/31/2023 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Phosphorus	7723-14-0	20	0.160	0.160	1.72	mg-P/L	D

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-003 High Carbon Wood Ash - leached

23A0324-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED — Sampled: 01/17/2023 13:00
Instrument: ICPMS2 Analyst: MCB — Analyzed: 02/02/2023 23:43

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SPN Digestion of EPA 1312 Elutriate — Extract ID: 23A0324-06 A 01
Preparation Batch: BLA0623 — Sample Size: 25 mL
Prepared: 01/26/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	2	0.346	1.00	2.27	ug/L	B, D

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-003 High Carbon Wood Ash - leached

23A0324-06 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 01/17/2023 13:00
Instrument: IC930 Analyst: KLD — Analyzed: 01/26/2023 22:56

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 23A0324-06 C
Preparation Batch: BLA0647 — Sample Size: 10 mL
Prepared: 01/26/2023 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

KC6PPDQ-23-003 High Carbon Wood Ash - leached

23A0324-06 (Water)

Wet Chemistry

Method: SM 4500-P E-99 — Sampled: 01/17/2023 13:00
Instrument: UV1800-1 Analyst: KLD — Analyzed: 01/27/2023 11:59

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 23A0324-06 C 01
Preparation Batch: BLA0643 — Sample Size: 50 mL
Prepared: 01/27/2023 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.274	mg-P/L	

Sample Preparation: Preparation Method: SM 4500-P B-5 Persulfate — Extract ID: 23A0324-06 D
Preparation Batch: BLA0729 — Sample Size: 50 mL
Prepared: 01/31/2023 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Phosphorus	7723-14-0	1	0.0080	0.0080	0.271	mg-P/L	

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BLA0623 - EPA 200.8 UCT-KED

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLA0623-BLK1)						Prepared: 26-Jan-2023 Analyzed: 02-Feb-2023 23:33						
Copper	63	5.52	0.346	1.00	ug/L							D
LCS (BLA0623-BS1)						Prepared: 26-Jan-2023 Analyzed: 02-Feb-2023 23:36						
Copper	63	59.7	0.346	1.00	ug/L	50.0		119	80-120			D, B
Duplicate (BLA0623-DUP1)			**Source: 23A0324-02**			Prepared: 26-Jan-2023 Analyzed: 02-Feb-2023 23:50						
Copper	63	6.01	0.346	1.00	ug/L		63.4			165.00	20	*, D, B
Matrix Spike (BLA0623-MS1)			**Source: 23A0324-02**			Prepared: 26-Jan-2023 Analyzed: 02-Feb-2023 23:54						
Copper	63	62.6	0.346	1.00	ug/L	50.0	63.4	-1.53	75-125			*, D, B

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLA0643 - SM 4500-P E-99

Instrument: UV1800-1 Analyst: KLD

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLA0643-BLK1)				Prepared: 26-Jan-2023 Analyzed: 27-Jan-2023 11:55							
Orthophosphorus	ND	0.0040	0.0040	mg-P/L							U
LCS (BLA0643-BS1)				Prepared: 26-Jan-2023 Analyzed: 27-Jan-2023 11:56							
Orthophosphorus	0.149	0.0040	0.0040	mg-P/L	0.150		99.3	90-110			
Leach Fluid Blank (BLA0643-LBK1)				Prepared: 26-Jan-2023 Analyzed: 27-Jan-2023 11:57							
Orthophosphorus	ND	0.0040	0.0040	mg-P/L							U

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLA0647 - EPA 300.0

Instrument: IC930 Analyst: KLD

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLA0647-BLK1)					Prepared: 26-Jan-2023 Analyzed: 26-Jan-2023 20:36						
Nitrate-N	ND	0.100	0.100	mg/L							U
Nitrite-N	ND	0.100	0.100	mg/L							U
LCS (BLA0647-BS1)					Prepared: 26-Jan-2023 Analyzed: 26-Jan-2023 20:56						
Nitrate-N	5.45	0.100	0.100	mg/L	5.00		109	90-110			
Nitrite-N	5.10	0.100	0.100	mg/L	5.00		102	90-110			
Duplicate (BLA0647-DUP1)		**Source: 23A0324-02**			Prepared: 26-Jan-2023 Analyzed: 26-Jan-2023 21:56						
Nitrate-N	ND	0.100	0.100	mg/L		ND					U
Nitrite-N	ND	0.100	0.100	mg/L		ND					U
Leach Fluid Blank (BLA0647-LBK1)					Prepared: 26-Jan-2023 Analyzed: 26-Jan-2023 21:16						
Nitrate-N	ND	0.100	0.100	mg/L							U
Nitrite-N	ND	0.100	0.100	mg/L							U
Matrix Spike (BLA0647-MS1)		**Source: 23A0324-02**			Prepared: 26-Jan-2023 Analyzed: 26-Jan-2023 22:16						
Nitrate-N	2.11	0.100	0.100	mg/L	1.98	ND	106	75-125			
Nitrite-N	1.91	0.100	0.100	mg/L	2.03	ND	93.9	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLA0729 - SM 4500-P E-99

Instrument: UV1800-1 Analyst: KLD

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLA0729-BLK1)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 18:56							
Total Phosphorus	ND	0.0080	0.0080	mg-P/L							U
Blank (BLA0729-BLK2)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 19:02							
Total Phosphorus	ND	0.0080	0.0080	mg-P/L							U
Blank (BLA0729-BLK3)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 19:38							
Total Phosphorus	ND	0.0080	0.0080	mg-P/L							U
LCS (BLA0729-BS1)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 18:57							
Total Phosphorus	0.147	0.0080	0.0080	mg-P/L	0.150		98.0	90-110			
LCS (BLA0729-BS2)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 19:03							
Total Phosphorus	0.147	0.0080	0.0080	mg-P/L	0.150		98.0	90-110			
LCS (BLA0729-BS3)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 19:39							
Total Phosphorus	0.147	0.0080	0.0080	mg-P/L	0.150		98.0	90-110			
Leach Fluid Blank (BLA0729-LBK1)				Prepared: 31-Jan-2023 Analyzed: 01-Feb-2023 18:58							
Total Phosphorus	ND	0.0080	0.0080	mg-P/L							U

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 UCT-KED in Water	
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 300.0 in Water	
Nitrate-N	DoD-ELAP,WADOE,WA-DW,NELAP
Nitrite-N	DoD-ELAP,WADOE,WA-DW,NELAP
SM 4500-P E-99 in Water	
Orthophosphorus	WADOE,NELAP
Total Phosphorus	WADOE,NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023
WADOE	WA Dept of Ecology	C558	06/30/2023
WA-DW	Ecology - Drinking Water	C558	06/30/2023

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	16-Feb-2023 13:36

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
L	Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to +/- RL instead of 20% RPD
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, LLC
Analytical Chemists and Consultants

14 March 2023

Curtis Hinman
Curtis Hinman and Associates
1412 Wilson Avenue
Bellingham, WA 98225

RE: KC 6PPD-Q Study (SPLP Leachate)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
23A0324	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC



Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Accredited in accordance with nelac
Cert# 100006-012

23A0324

CHAIN OF CUSTODY RECORD: KC 6PPD-Q Study

Sample Collection by:
Walrath
11405 24th Ave E
Tacoma, WA 98445
Contact: Jamie Burke
Tel: (C) 253-606-4101

Project:
KC 6PPD-Q Study
Client: King County. Technical Lead: Curtis Hinman and Associates
Contact: Curtis Hinman
Tel: (C) 253-330-9878

Page: ___1___ of ___1___
Project Name: KC 6PPD-Q Study
Project code: KC6PPDQ-23-000
Sampling location: Walrath
Please provide 3 copies of this record

Laboratory
Analytical Resources Inc.
4611 S 134th Pl #100 Tukwila, WA 98168-3212
Contact: Susan Dunnihoo
Tel: 206-695-6200

Curtis Hinman and Associates
1412 Wilson Ave
Bellingham, Washington | 98225
p 253 330 9878

15.6°

Analysis Requested

Sample ID	Date Collected	Time Collected	# of containers	matrix	SPLP (Total Phosphorus)	SPLP (Ortho-Phosphorus)	SPLP (NO2+NO3 Nitrogen)	SPLP (Total copper)
KC6PPDQ-23-001 State Sand	1-17-23	1:00p	1	media	x	x	x	x
KC6PPDQ-23-002 Coco Coir botanicals	1-17-23	1:00p	1	media	x	x	x	x
KC6PPDQ-23-003 High carbon Wood ash	1-17-23	1:00p	1	media	x	x	x	x

Comments/Special Notes:
*Conduct SPLP extraction on all samples for listed paramenters
*SPLP Method 1312
*Metals: weak acid (H2SO4, HNO3) extraction using pH recommended for western U.S.
*Nutrients: deionized water

Relinquished by:		Relinquished by:
Signature		Signature
Company	Walrath	Company
Date/Time	1-17-23 13:58	Date/Time
Received by:		Received by:
Signature		Signature
Company	ARI	Company
Date/Time	1/17/23 1358	Date/Time

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
KC6PPDQ-23-001 State Sand - leached	23A0324-02	Water	17-Jan-2023 13:00	17-Jan-2023 13:58

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

Work Order Case Narrative

Client: Curtis Hinman and Associates
Project: KC 6PPD-Q Study
Work Order: 23A0324

Sample receipt

Samples as listed on the preceding page were received 17-Jan-2023 13:58 under ARI work order 23A0324. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Samples were leached following SPLP protocols using DI water and analyzed for targets listed below .

Per request from the client and because of a high outlier, one sample was reanalyzed for copper and dissolved copper in the leachate. Only those results are reported here.

Total and Dissolved Metals - EPA Method 200.8 (Copper)

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: KC

Project Name: KC 6PPD-Q Study

COC No(s): NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 23AJ324

Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1358 — 15.6°

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: ~~0478~~ 9078

Cooler Accepted by: R~ Date: 1/17/23 Time: 1358

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: R~ Date: 1/17/23 Time: 1433 Labels checked by:

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 23A0324

Cooler#: _____ **Temperature(°C):** 5.6°

Sample ID	Bottle Count	Bottle Type
Samples received above 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: _____ Date: 1/12/22 Time: 1358

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

KC6PPDQ-23-001 State Sand - leached

23A0324-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 01/17/2023 13:00
Instrument: ICPMS2 Analyst: SKD — Analyzed: 03/01/2023 22:37

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SPN Digestion of EPA 1312 Elutriate — Extract ID: 23A0324-02 A 03
Preparation Batch: BLB0724 — Sample Size: 25 mL — Filtration Batch: BLB0713
Prepared: 02/28/2023 — Final Volume: 25 mL — Filtration Date: 02/28/2023 09:28

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper, Dissolved	7440-50-8	2	0.346	1.00	0.748	ug/L	D, J

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

KC6PPDQ-23-001 State Sand - leached

23A0324-02RE1 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED — Sampled: 01/17/2023 13:00
Instrument: ICPMS2 Analyst: SKD — Analyzed: 03/01/2023 23:19

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: SPN Digestion of EPA 1312 Elutriate — Extract ID: 23A0324-02RE1 A 03
Preparation Batch: BLB0716 — Sample Size: 25 mL
Prepared: 02/28/2023 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	2	0.346	1.00	6.27	ug/L	D

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BLB0716 - EPA 200.8 UCT-KED

Instrument: ICPMS2 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0716-BLK1)						Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 23:09						
Copper	63	0.888	0.346	1.00	ug/L							J, D
LCS (BLB0716-BS1)						Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 23:14						
Copper	63	25.2	0.346	1.00	ug/L	25.0		101	80-120			D
Duplicate (BLB0716-DUP1)			**Source: 23A0324-02RE1**			Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 23:23						
Copper	63	6.80	0.346	1.00	ug/L		6.27			8.14	20	D
Matrix Spike (BLB0716-MS1)			**Source: 23A0324-02RE1**			Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 23:28						
Copper	63	33.2	0.346	1.00	ug/L	25.0	6.27	108	75-125			D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLB0724 - EPA 200.8 UCT-KED

Instrument: ICPMS2 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BLB0724-BLK1)						Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 22:13						
Copper, Dissolved	63	ND	0.346	1.00	ug/L							U
LCS (BLB0724-BS1)						Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 22:18						
Copper, Dissolved	63	24.7	0.346	1.00	ug/L	25.0		98.9	80-120			D
Duplicate (BLB0724-DUP1)			**Source: 23A0324-02**			Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 22:42						
Copper, Dissolved	63	0.704	0.346	1.00	ug/L		0.748			6.06	20	J, D
Matrix Spike (BLB0724-MS1)			**Source: 23A0324-02**			Prepared: 28-Feb-2023 Analyzed: 01-Mar-2023 22:47						
Copper, Dissolved	63	25.8	0.346	1.00	ug/L	25.0	0.748	100	75-125			D

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 UCT-KED in Water	
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-63	NELAP,WADOE,WA-DW,DoD-ELAP
Copper-65	NELAP,WADOE,WA-DW,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023
WADOE	WA Dept of Ecology	C558	06/30/2023
WA-DW	Ecology - Drinking Water	C558	06/30/2023

Curtis Hinman and Associates	Project: KC 6PPD-Q Study	
1412 Wilson Avenue	Project Number: SPLP Leachate	**Reported:**
Bellingham WA, 98225	Project Manager: Curtis Hinman	14-Mar-2023 12:07

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Appendix – C: D5.1-1 Chemistry Report

Author: Susannah Rowles, King County Environmental Lab

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King County
Department of Natural Resources and Parks
Water and Land Resources Division
Environmental Laboratory
LAB-NR0100
322 West Ewing Street
Seattle, WA 98119-1507
206-477-7200 Fax 206-684-2395
TTY Relay: 711
http://dnr.metrokc.gov/wlr/envlab/

Susannah Rowles
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Fax: 206.684.9123

King County Environmental Laboratory

June 27, 2024

Chelsea Mitchell
King County Department of Natural Resources
Water and Land Resources Division
King Street Center
201 S. Jackson Street
Seattle, Washington 98104-3855

RE: 6PPD-Q Bioretention Study Phase I

Dear Chelsea Mitchell,

Enclosed please find a laboratory data deliverables package for all samples for chemistry analyses collected for the execution of the 6PPD-Q Bioretention Study Phase I detailed in the QAPP, “Testing Removal of 6PPD-Q and Coho Salmon Lethality by High Performance Bioretention Media Blends.” All analyses included in this report were performed by the King County Environmental Lab (KCEL).

Sample ID	Client Locator	Collect Date	Login Date
L80976-1	EquipBlank_SpikedColumn	2/7/2023	2/8/2023
L80976-2	EquipBlankk_CleanColumn	2/7/2023	2/8/2023
L80975-1	SpikeTest_I	2/8/2023	2/8/2023
L80975-2	SpikeTest_E	2/8/2023	2/8/2023
L80993-1	EquipBlank_20L FLPE carboy	2/8/2023	2/8/2023
L81204-1	FI_60:40_NA	3/16/2023	3/16/2023
L81204-2	FI_HP1_NA	3/16/2023	3/16/2023
L81204-3	FI_HP2_NA	3/16/2023	3/16/2023
L81204-4	FI_HP3_NA	3/16/2023	3/16/2023
L81297-1	FF_60:40_NA	3/29/2023	3/29/2023
L81297-2	FF_HP1_NA	3/29/2023	3/29/2023
L81297-3	FF_HP2_NA	3/29/2023	3/29/2023
L81297-4	FF_HP3_NA	3/29/2023	3/29/2023
L81298-1	FF_60:40_NA	3/29/2023	3/29/2023
L81298-2	FF_Lab Dilution Water	3/29/2023	3/29/2023
L81425-1	S1T0_U_I5_G	4/17/2023	4/17/2023
L81425-2	S1T1_U_I5_G	4/18/2023	4/19/2023
L81425-3	S1T3_U_I5_G	4/19/2023	4/19/2023
L81426-1	S1T1A_U_INF_G	4/18/2023	4/19/2023
L81426-2	S1T1B_U_INF_G	4/18/2023	4/19/2023
L81426-3	S1T1C_U_INF_G	4/18/2023	4/19/2023
L81426-4	S1T3_U_INF_G	4/18/2023	4/19/2023
L81426-5	S1T4_U_INF_E	4/19/2023	4/19/2023
L81426-6	S1T4_Lab Dilution Water	4/19/2023	4/19/2023
L81427-1	S1T2_T_60:40_A_E	4/18/2023	4/19/2023
L81427-2	S1T2_T_60:40_B_E	4/18/2023	4/19/2023
L81427-3	S1T2_T_60:40_C_E	4/18/2023	4/19/2023
L81427-4	S1T2_T_HP1_A_E	4/18/2023	4/19/2023
L81427-5	S1T2_T_HP1_B_E	4/18/2023	4/19/2023
L81427-6	S1T2_T_HP1_C_E	4/18/2023	4/19/2023
L81427-7	S1T2_T_HP2_A_E	4/18/2023	4/19/2023
L81427-8	S1T2_T_HP2_B_E	4/18/2023	4/19/2023

L81427-9	S1T2_T_HP2_C_E	4/18/2023	4/19/2023
L81427-10	S1T2_T_HP3_A_E	4/18/2023	4/19/2023
L81427-11	S1T2_T_HP3_B_E	4/18/2023	4/19/2023
L81427-12	S1T2_T_HP3_C_E	4/18/2023	4/19/2023
L81428-1	S1T3_T_60:40_EC	4/18/2023	4/19/2023
L81428-2	S1T4_T_60:40_EC	4/19/2023	4/19/2023
L81429-1	S1T3_T_HP1_EC	4/18/2023	4/19/2023
L81429-2	S1T4_T_HP1_EC	4/19/2023	4/19/2023
L81430-1	S1T3_T_HP2_EC	4/18/2023	4/19/2023
L81430-2	S1T4_T_HP2_EC	4/19/2023	4/19/2023
L81431-1	S1T3_T_HP3_EC	4/18/2023	4/19/2023
L81431-2	S1T4_T_HP3_EC	4/19/2023	4/19/2023
L81466-1	Dose3	5/3/2023	5/3/2023
L82562-1	S2T0_U_I5_G	9/25/2023	9/25/2023
L82562-2	S2T1_U_I5_G	9/26/2023	9/27/2023
L82562-3	S2T3_U_I5_G	9/26/2023	9/27/2023
L82563-1	S2T1A_U_INF_G	9/26/2023	9/27/2023
L82563-2	S2T1B_U_INF_G	9/26/2023	9/27/2023
L82563-3	S2T1C_U_INF_G	9/26/2023	9/27/2023
L82563-4	S2T3_U_INF_G	9/26/2023	9/27/2023
L82563-5	S2T4_U_INF_E	9/27/2023	9/29/2023
L82563-6	S2T4_Lab Dilution Water	9/27/2023	9/29/2023
L82564-1	S2T2_T_60:40_A_E	9/26/2023	9/27/2023
L82564-2	S2T2_T_60:40_B_E	9/26/2023	9/27/2023
L82564-3	S2T2_T_60:40_C_E	9/26/2023	9/27/2023
L82564-4	S2T2_T_HP1_A_E	9/26/2023	9/27/2023
L82564-5	S2T2_T_HP1_B_E	9/26/2023	9/27/2023
L82564-6	S2T2_T_HP1_C_E	9/26/2023	9/27/2023
L82564-7	S2T2_T_HP2_A_E	9/26/2023	9/27/2023
L82564-8	S2T2_T_HP2_B_E	9/26/2023	9/27/2023
L82564-9	S2T2_T_HP2_C_E	9/26/2023	9/27/2023
L82564-10	S2T2_T_HP3_A_E	9/26/2023	9/27/2023
L82564-11	S2T2_T_HP3_B_E	9/26/2023	9/27/2023
L82564-12	S2T2_T_HP3_C_E	9/26/2023	9/27/2023

L82565-1	S2T3_T_60:40_EC	9/26/2023	9/29/2023
L82565-2	S2T4_T_60:40_EC	9/27/2023	9/29/2023
L82566-1	S2T3_T_HP1_EC	9/26/2023	9/29/2023
L82566-2	S2T4_T_HP1_EC	9/27/2023	9/29/2023
L82567-1	S2T3_T_HP2_EC	9/26/2023	9/27/2023
L82567-2	S2T4_T_HP2_EC	9/26/2023	9/27/2023
L82568-1	S2T3_T_HP3_EC	9/26/2023	9/29/2023
L82568-2	S2T4_T_HP3_EC	9/27/2023	9/29/2023
L82735-2	Dose7	10/16/2023	10/16/2023
L82735-4	Dose9	10/26/2023	10/26/2023
L82827-1	Dose11	11/6/2023	11/6/2023
L83407-1	S3T0_U_I5_G	3/10/2024	3/12/2024
L83407-2	S3T1_U_I5_G	3/11/2024	3/12/2024
L83407-3	S3T3_U_I5_G	3/11/2024	3/12/2024
L83408-1	S3T1A_U_INF_G	3/11/2024	3/12/2024
L83408-2	S3T1B_U_INF_G	3/11/2024	3/12/2024
L83408-3	S3T1C_U_INF_G	3/11/2024	3/12/2024
L83408-4	S3T3_U_INF_G	3/11/2024	3/12/2024
L83408-5	S3T4_U_INF_E	3/12/2024	3/12/2024
L83408-6	S3T4_Lab Dilution Water	3/12/2024	3/12/2024
L83409-1	S3T2_T_60:40_A_E	3/11/2024	3/12/2024
L83409-2	S3T2_T_60:40_B_E	3/11/2024	3/12/2024
L83409-3	S3T2_T_60:40_C_E	3/11/2024	3/12/2024
L83409-4	S3T2_T_HP1_A_E	3/11/2024	3/12/2024
L83409-5	S3T2_T_HP1_B_E	3/11/2024	3/12/2024
L83409-6	S3T2_T_HP1_C_E	3/11/2024	3/12/2024
L83409-7	S3T2_T_HP2_A_E	3/11/2024	3/12/2024
L83409-8	S3T2_T_HP2_B_E	3/11/2024	3/12/2024
L83409-9	S3T2_T_HP2_C_E	3/11/2024	3/12/2024
L83409-10	S3T2_T_HP3_A_E	3/11/2024	3/12/2024
L83409-11	S3T2_T_HP3_B_E	3/11/2024	3/12/2024
L83409-12	S3T2_T_HP3_C_E	3/11/2024	3/12/2024
L83410-1	S3T3_T_60:40_EC	3/11/2024	3/12/2024
L83410-2	S3T4_T_60:40_EC	3/12/2024	3/12/2024

L83411-1	S3T3_T_HP1_EC	3/11/2024	3/12/2024
L83411-2	S3T4_T_HP1_EC	3/12/2024	3/12/2024
L83412-1	S3T3_T_HP2_EC	3/11/2024	3/12/2024
L83412-2	S3T4_T_HP2_EC	3/11/2024	3/12/2024
L83413-1	S3T3_T_HP3_EC	3/11/2024	3/12/2024
L83413-2	S3T4_T_HP3_EC	3/12/2024	3/12/2024

Sample Receiving Comments

For Storm 2, samples were delivered to Sample Login 1 day past the 1-day preservation holding time for ammonia (samples L82563-5, L82563-6, L82565-2, L82566-2, L82568-2) and DOC (samples L82563-5, L82565-2, L82566-2, L82568-2).
For Storm 2, the Sample Receipt Record for L82562-2 and L82562-3 was misplaced. These samples were collected 9/26/2023 and received by KCEL 9/27/2023.

No other sample receiving anomalies were noted.

Aquatic Toxicology QC Information – 6PPD-Q

All QC results for aquatic toxicology parameters were within laboratory control limits.

Please note, during the first three months of this project, KCEL was updating their database to incorporate reporting of data for 6PPD-Q and did not load surrogate recoveries to their database. The surrogate recoveries for several analytical batches are included in this report, after the QC results.

For Storm 3, there was a large discrepancy between the **Conductivity** readings taken by the Field Science Unit (FSU) at T3 at the Hinman lab at Western Washington University (WWU) and the readings taken by Aquatic Toxicology at T4 at KCEL. This discrepancy was investigated and it was determined that the Aquatic Toxicology instrument was not performing accurately due to instrument settings. The conductivity readings for this storm were 2-3 times higher than previous storms. The T4 Aquatic Toxicology conductivity measurements for samples L83408-5, L83410-2, L83411-2 and L83413-2 were rejected and there is no reported numerical result, the qualifier R and TA were added for these samples. In the Aquatic Toxicology report for Storm 3, the conductivity measurements taken at T3 were used.

Aquatic Toxicology reports were provided separately.

Conventionals QC Information

All QC results for conventionals parameters were within laboratory control limits.

The **Ammonia** results for samples L82563-5, L82563-6, L82565-2, L82566-2, L82568-2 were filtered 1-day past the 1-day filtration holding time. The ammonia results for samples L82563-5, L82563-6, L82565-2, L82566-2, L82568-2 were qualified H based on this holding time exceedance.

The **DOC** results for samples L82563-5, L82565-2, L82566-2, L82568-2 were filtered and preserved 1 day beyond the 1-day holding time for filtration and preservation. The DOC results for these samples were qualified H and SH based on this holding time exceedance.

The **DOC** results for sample L82827-1 were filtered and preserved 1 day beyond the 1-day holding time for filtration and preservation. The DOC results for sample L82827-1 was qualified H and SH based on this holding time exceedance.

Field Science Unit QC Information

All QC results for field science unit parameters were within laboratory control limits.

For Storm 2, water quality characteristic data (pH, conductivity, temperature, dissolved oxygen and redox potential) were not collected in the field at timepoint T3 due to analyst oversight. The text “Not recorded” was uploaded to the KCEL database for these analytes.

Metals QC Information

All calculable QC results for metals parameters included in this report were within laboratory control limits.

This package includes sample data, laboratory Quality Control data, and copies of fieldsheets, sample receipt records and chain of custody records.

Please let me know if you have any questions regarding this report.

Sincerely,



Susannah Rowles
Laboratory Project Manager/Water Quality Planner III
King County Environmental Laboratory
206.477.7158

Sample Data

King County Environmental Lab Analytical Report

	Project:	422040-100				Project:	422040-100				Project:	422040-100			
	Locator:	NONE				Locator:	NONE				Locator:	NONE			
	Descrip:	NONE				Descrip:	NONE				Descrip:	NONE			
	Sample:	L80975-1				Sample:	L80975-2				Sample:	L80976-1			
	Matrix:	LA OTHR WTR				Matrix:	LA OTHR WTR				Matrix:	LA OTHR WTR			
	ColDate:	2/8/23 10:00				ColDate:	2/8/23 10:15				ColDate:	2/7/23 9:00			
	ClientLoc:	EquipBlank_SpikedColumn				ClientLoc:	EquipBlankk_CleanColumn				ClientLoc:	SpikeTest_I			
	WET Weight Basis					**WET Weight Basis**					**WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.003	<RDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L	0.336		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids															
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field															
Dissolved Oxygen, Field															
pH, Field															
Sample Temperature, Field															
ES NONE															
Oxidation Reduction Potential, Field															
Sample Information															
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

King County Environmental Lab Analytical Report

	Project: 422040-100 Locator: NONE Descrip: NONE Sample: L80976-2 Matrix: LA OTHR WTR ColDate: 2/7/23 11:00 ClientLoc: SpikeTest_E **WET Weight Basis**					Project: 422040-100 Locator: NONE Descrip: NONE Sample: L80993-1 Matrix: LA OTHR WTR ColDate: 2/8/23 7:15 ClientLoc: EquipBlank_20L FLPE carboy **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L81204-1 Matrix: LA OTHR WTR ColDate: 3/16/23 14:15 ClientLoc: FI_60:40_NA **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.273		0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L					
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids															
CV SM5310-B															
Dissolved Organic Carbon											73.3		5	20	mg/L
ES KCEL SOP# 245															
Conductivity, Field															
Dissolved Oxygen, Field															
pH, Field															
Sample Temperature, Field															
ES NONE															
Oxidation Reduction Potential, Field															
Sample Information															
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

King County Environmental Lab Analytical Report

	Project:	422040-100					Project:	422040-100					Project:	422040-100				
	Locator:	HP1 COMP					Locator:	HP2 COMP					Locator:	HP3 COMP				
	Descrip:	HPBSM1 composite					Descrip:	HPBSM2 composite					Descrip:	HPBSM3 composite				
	Sample:	L81204-2					Sample:	L81204-3					Sample:	L81204-4				
	Matrix:	LA OTHR WTR					Matrix:	LA OTHR WTR					Matrix:	LA OTHR WTR				
	ColDate:	3/16/23 13:00					ColDate:	3/16/23 13:30					ColDate:	3/16/23 14:00				
	ClientLoc:	FI_HP1_NA					ClientLoc:	FI_HP2_NA					ClientLoc:	FI_HP3_NA				
	WET Weight Basis						**WET Weight Basis**						**WET Weight Basis**					
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**		**Value**	**Qual**	**MDL**	**RDL**	**Units**		**Value**	**Qual**	**MDL**	**RDL**	**Units**	
AQ EPA821-R-02-012																		
LC50																		
Survival in 100% Sample																		
Survival NOEC																		
AQ KCEL SOP 4077: 6PPDQ by LCMS																		
6ppd-quinone																		
CV KEROUEL & AMINOT 1997																		
Ammonia Nitrogen																		
CV SM2320-B																		
Total Alkalinity																		
CV SM2540-D																		
Total Suspended Solids																		
CV SM5310-B																		
Dissolved Organic Carbon	1.6	<RDL	0.5	2	mg/L		1.1	<RDL	0.5	2	mg/L		3.13		0.5	2	mg/L	
ES KCEL SOP# 245																		
Conductivity, Field																		
Dissolved Oxygen, Field																		
pH, Field																		
Sample Temperature, Field																		
ES NONE																		
Oxidation Reduction Potential, Field																		
Sample Information																		
MT EPA 200.8 (MOD)																		
Calcium, Total, ICP-MS																		
Magnesium, Total, ICP-MS																		
MT EPA 200.8 (MOD)*SM2340B																		
Hardness, Calc																		

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	Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L81297-1 Matrix: LA OTHR WTR ColDate: 3/29/23 12:00 ClientLoc: FF_60:40_NA **WET Weight Basis**					Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L81297-2 Matrix: LA OTHR WTR ColDate: 3/29/23 13:00 ClientLoc: FF_HP1_NA **WET Weight Basis**					Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L81297-3 Matrix: LA OTHR WTR ColDate: 3/29/23 13:20 ClientLoc: FF_HP2_NA **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50		TA			%sample										
Survival in 100% Sample															
Survival NOEC	100				%sample										
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids															
CV SM5310-B															
Dissolved Organic Carbon	7.47		0.5	2	mg/L	1.1	<RDL	0.5	2	mg/L	0.63	<RDL	0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field															
Dissolved Oxygen, Field															
pH, Field															
Sample Temperature, Field															
ES NONE															
Oxidation Reduction Potential, Field															
Sample Information															
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP3 COMP Descrip: HPBSM3 composite Sample: L81297-4 Matrix: LA OTHR WTR ColDate: 3/29/23 13:40 ClientLoc: FF_HP3_NA **WET Weight Basis**					Project: 422040-100 Locator: LAB Descrip: LAB LOCATOR Sample: L81298-1 Matrix: LA OTHR WTR ColDate: 3/29/23 12:00 ClientLoc: FF_60:40_NA **WET Weight Basis**					Project: 422040-100 Locator: LAB Descrip: LAB LOCATOR Sample: L81298-2 Matrix: LA OTHR WTR ColDate: 3/29/23 15:30 ClientLoc: FF_Lab Dilution Water **WET Weight Basis**					
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L										
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen						0.0799		0.002	0.01	mg/L	0.0933		0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity						80.4		1	5	mg CaCO3/L	68.5		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids															
CV SM5310-B															
Dissolved Organic Carbon	1	<RDL	0.5	2	mg/L										
ES KCEL SOP# 245															
Conductivity, Field															
Dissolved Oxygen, Field															
pH, Field															
Sample Temperature, Field															
ES NONE															
Oxidation Reduction Potential, Field															
Sample Information															
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS						13000		50	50	ug/L	24600		50	50	ug/L
Magnesium, Total, ICP-MS						4560		50	50	ug/L	8070		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc						51.3		0.331	0.331	mg CaCO3/L	94.7		0.331	0.331	mg CaCO3/L

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	Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L81425-1 Matrix: LG STORM WTR ColDate: 4/17/23 16:30 ClientLoc: S1T0_U_I5_G **WET Weight Basis**					Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L81425-2 Matrix: LG STORM WTR ColDate: 4/18/23 11:02 ClientLoc: S1T1_U_I5_G **WET Weight Basis**					Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L81425-3 Matrix: LG STORM WTR ColDate: 4/19/23 6:15 ClientLoc: S1T3_U_I5_G **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.856		0.002	0.01	ug/L						1.19		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids															
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	557		0.5	10	umhos/cm	558		0.5	10	umhos/cm	564		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.69		0.5	1	mg/L	10.7		0.5	1	mg/L	11.2		0.5	1	mg/L
pH, Field	7.68				pH	7.54				pH	7.51				pH
Sample Temperature, Field	10.11				deg C	4.59				deg C	2.494				deg C
ES NONE															
Oxidation Reduction Potential, Field	-36.5				mV	-19.2				mV	-20.4				mV
Sample Information	Stormwater Grab T0 ; Field Parms Taken at I5 site at time of filling 23 carboys.					Stormwater Grab T1 ; Field Parms Taken at WWU ; L81425-1.					Stormwater Grab T3 ; Field Parms Taken at KCEL ; L81425-1				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L81426-1 Matrix: LG STORM WTR ColDate: 4/18/23 10:40 ClientLoc: S1T1A_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L81426-2 Matrix: LG STORM WTR ColDate: 4/18/23 11:50 ClientLoc: S1T1B_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L81426-3 Matrix: LG STORM WTR ColDate: 4/18/23 13:10 ClientLoc: S1T1C_U_INF_G **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.715		0.002	0.01	ug/L	0.801		0.002	0.01	ug/L	0.785		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	179		7.9	31.7	mg/L	185		5.6	22.5	mg/L	194		6.4	25.6	mg/L
CV SM5310-B															
Dissolved Organic Carbon	8.42		0.5	2	mg/L	8.8		0.5	2	mg/L	9.13		0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field	469		0.5	10	umhos/cm	473.4		0.5	10	umhos/cm	473.2		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.49		0.5	1	mg/L	10.94		0.5	1	mg/L	10.98		0.5	1	mg/L
pH, Field	7.47				pH	7.57				pH	7.59				pH
Sample Temperature, Field	8.349				deg C	8.762				deg C	9.155				deg C
ES NONE															
Oxidation Reduction Potential, Field	-14.3				mV	-17.9				mV	-17.4				mV
Sample Information	Stormwater Composite ; Field Parms taken at WWU at start of dosing experiment.					Stormwater Composite ; Field Parms taken at WWU at middle of dosing experiment.					Stormwater Composite ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L81426-4 Matrix: LG STORM WTR ColDate: 4/18/23 15:57 ClientLoc: S1T3_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L81426-5 Matrix: LG STORM WTR ColDate: 4/19/23 9:02 ClientLoc: S1T4_U_INF_E **WET Weight Basis**					Project: 422040-100 Locator: LAB Descrip: LAB LOCATOR Sample: L81426-6 Matrix: LN BLANK WTR ColDate: 4/19/23 0:00 ClientLoc: **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample						5				%					
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone						0.754		0.002	0.01	ug/L					
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen						0.164		0.01	0.05	mg/L	0.0528		0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity						60.4		1	5	mg CaCO3/L	69.4		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids						384		8.8	35.1	mg/L					
CV SM5310-B															
Dissolved Organic Carbon						8.52		0.5	2	mg/L					
ES KCEL SOP# 245															
Conductivity, Field	471.5		0.5	10	umhos/cm	457.6		0.5	10	umhos/cm					
Dissolved Oxygen, Field	11.18		0.5	1	mg/L	10.28		0.5	1	mg/L					
pH, Field	7.59				pH	7.52				pH					
Sample Temperature, Field	6.295				deg C	11.9				deg C					
ES NONE															
Oxidation Reduction Potential, Field	-20.2				mV										
Sample Information	Stormwater Composite T3 ; Field Parms taken at WWU at end of dosing experiment.					Stormwater Composite T4 ; Field Parms taken at KCEL at start time of Aquatox test.									
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS						32800		50	50	ug/L	25200		50	50	ug/L
Magnesium, Total, ICP-MS						8810		50	50	ug/L	8210		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc						118		0.331	0.331	mg CaCO3/L	96.7		0.331	0.331	mg CaCO3/L

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Project:	422040-100	422040-100	422040-100
Locator:	LAB	60_40 COL A	60_40 COL B
Descrip:	LAB LOCATOR	60 40 BSM Column A	60 40 BSM Column B
Sample:	L81426-6	L81427-1	L81427-2
Matrix:	LA OTHR WTR	LG STORM WTR	LG STORM WTR
ColDate:	4/19/23 10:00	4/18/23 15:19	4/18/23 15:28
ClientLoc:	S1T4_Lab Dilution Water	S1T2_T_60:40_A_E	S1T2_T_60:40_B_E
	WET Weight Basis	**WET Weight Basis**	**WET Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone						0.0028	<RDL	0.002	0.01	ug/L	0.0029	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids						9.78		0.7	2.79	mg/L	11.8		0.76	3.02	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field						458.4		0.5	10	umhos/cm	458.4		0.5	10	umhos/cm
Dissolved Oxygen, Field						9.76		0.5	1	mg/L	9.94		0.5	1	mg/L
pH, Field						6.78				pH	6.89				pH
Sample Temperature, Field						8.771				deg C	8.705				deg C
ES NONE															
Oxidation Reduction Potential, Field						16.8				mV	12.6				mV
Sample Information						Treated LG_60_40_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_024_41 ; Field Parms taken at WWU at end of dosing experiment.						Treated LG_60_40_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_024_42 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: 60_40 COL C Descrip: 60 40 BSM Column C Sample: L81427-3 Matrix: LG STORM WTR ColDate: 4/18/23 15:41 ClientLoc: S1T2_T_60:40_C_E **WET Weight Basis**					Project: 422040-100 Locator: HP1 COL A Descrip: HP1 BSM Column A Sample: L81427-4 Matrix: LG STORM WTR ColDate: 4/18/23 13:30 ClientLoc: S1T2_T_HP1_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP1 COL B Descrip: HP1 BSM Column B Sample: L81427-5 Matrix: LG STORM WTR ColDate: 4/18/23 13:47 ClientLoc: S1T2_T_HP1_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0034	<RDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	12.7		0.5	2	mg/L	5.18		1.1	4.51	mg/L	8.7		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	459.4		0.5	10	umhos/cm	390.9		0.5	10	umhos/cm	388.6		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.86		0.5	1	mg/L	10.7		0.5	1	mg/L	10.58		0.5	1	mg/L
pH, Field	6.86				pH	7.11				pH	7.26				pH
Sample Temperature, Field	8.46				deg C	9.977				deg C	9.559				deg C
ES NONE															
Oxidation Reduction Potential, Field	13.1				mV	5.4				mV	-3.4				mV
Sample Information	Treated LG_60_40_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_024_43 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP1_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_021_11 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP1_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_021_12 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP1 COL C Descrip: HP1 BSM Column C Sample: L81427-6 Matrix: LG STORM WTR ColDate: 4/18/23 13:59 ClientLoc: S1T2_T_HP1_C_E **WET Weight Basis**					Project: 422040-100 Locator: HP2 COL A Descrip: HP2 BSM Column A Sample: L81427-7 Matrix: LG STORM WTR ColDate: 4/18/23 14:14 ClientLoc: S1T2_T_HP2_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP2 COL B Descrip: HP2 BSM Column B Sample: L81427-8 Matrix: LG STORM WTR ColDate: 4/18/23 14:24 ClientLoc: S1T2_T_HP2_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0022	<RDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	6.5		0.5	2	mg/L	7.9		0.5	2	mg/L	8.7		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	388		0.5	10	umhos/cm	335.7		0.5	10	umhos/cm	337.4		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.66		0.5	1	mg/L	9.01		0.5	1	mg/L	9.35		0.5	1	mg/L
pH, Field	7.21				pH	7.84				pH	7.73				pH
Sample Temperature, Field	9.82				deg C	9.776				deg C	8.876				deg C
ES NONE															
Oxidation Reduction Potential, Field	-2.8				mV	-26.5				mV	-25.2				mV
Sample Information	Treated LG_HP1_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_021_13 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP2_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_022_21 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP2_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_022_22 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP2 COL C Descrip: HP2 BSM Column C Sample: L81427-9 Matrix: LG STORM WTR ColDate: 4/18/23 14:33 ClientLoc: S1T2_T_HP2_C_E **WET Weight Basis**					Project: 422040-100 Locator: HP3 COL A Descrip: HP3 BSM Column A Sample: L81427-10 Matrix: LG STORM WTR ColDate: 4/18/23 14:45 ClientLoc: S1T2_T_HP3_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP3 COL B Descrip: HP3 BSM Column B Sample: L81427-11 Matrix: LG STORM WTR ColDate: 4/18/23 14:55 ClientLoc: S1T2_T_HP3_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	15		0.5	2	mg/L	10.4		0.5	2	mg/L	12.9		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	309.8		0.5	10	umhos/cm	348.6		0.5	10	umhos/cm	342.6		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.02		0.5	1	mg/L	8.86		0.5	1	mg/L	7.97		0.5	1	mg/L
pH, Field	7.69				pH	7.58				pH	7.52				pH
Sample Temperature, Field	9.198				deg C	9.163				deg C	9.186				deg C
ES NONE															
Oxidation Reduction Potential, Field	-24.3				mV	-20.2				mV	-18.3				mV
Sample Information	Treated LG_HP2_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_022_23 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP3_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_023_31 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP3_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_023_32 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP3 COL C Descrip: HP3 BSM Column C Sample: L81427-12 Matrix: LG STORM WTR ColDate: 4/18/23 15:08 ClientLoc: S1T2_T_HP3_C_E **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L81428-1 Matrix: LA OTHR WTR ColDate: 4/18/23 15:47 ClientLoc: S1T3_T_60:40_EC **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L81428-2 Matrix: LA OTHR WTR ColDate: 4/19/23 9:29 ClientLoc: S1T4_T_60:40_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample											100				%
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L						0.0044	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen											0.141		0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity											67.4		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	13.6		0.5	2	mg/L						12.3		1.1	4.46	mg/L
CV SM5310-B															
Dissolved Organic Carbon											12.1		1	4	mg/L
ES KCEL SOP# 245															
Conductivity, Field	344.3		0.5	10	umhos/cm	461		0.5	10	umhos/cm	442.6		0.5	10	umhos/cm
Dissolved Oxygen, Field	8.73		0.5	1	mg/L	10.06		0.5	1	mg/L	9.68		0.5	1	mg/L
pH, Field	7.53				pH	6.88				pH	7.35				pH
Sample Temperature, Field	9.038				deg C	8.488				deg C	11.9				deg C
ES NONE															
Oxidation Reduction Potential, Field	-18.2				mV					mV					
Sample Information	Treated LG_HP3_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_023_33 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_60_40_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_024 ; Field Parms taken at WWU at time of composite.					Treated LG_60_40_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_024 ; Field Parms taken at KCEL of L81428-1 at start time of Aquatox test.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS											27500		50	50	ug/L
Magnesium, Total, ICP-MS											9480		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc											108		0.331	0.331	mg CaCO3/L

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	Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L81429-1 Matrix: LA OTHR WTR ColDate: 4/18/23 14:05 ClientLoc: S1T3_T_HP1_EC **WET Weight Basis**					Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L81429-2 Matrix: LA OTHR WTR ColDate: 4/19/23 9:25 ClientLoc: S1T4_T_HP1_EC **WET Weight Basis**					Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L81430-1 Matrix: LA OTHR WTR ColDate: 4/18/23 14:38 ClientLoc: S1T3_T_HP2_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample						100				%					
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone						0.0025	<RDL	0.002	0.01	ug/L					
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen							<MDL	0.002	0.01	mg/L					
CV SM2320-B															
Total Alkalinity						45.4		1	5	mg CaCO3/L					
CV SM2540-D															
Total Suspended Solids						5.2		0.5	2	mg/L					
CV SM5310-B															
Dissolved Organic Carbon						3.14		0.5	2	mg/L					
ES KCEL SOP# 245															
Conductivity, Field	391.7		0.5	10	umhos/cm	376.3		0.5	10	umhos/cm	330.7		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.76		0.5	1	mg/L	10.42		0.5	1	mg/L	9.27		0.5	1	mg/L
pH, Field	7.27				pH	7.94				pH	7.7				pH
Sample Temperature, Field	9.679				deg C	12.2				deg C	9.545				deg C
ES NONE															
Oxidation Reduction Potential, Field	-3.2				mV						-25				mV
Sample Information	Treated LG_HP1_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_021 ; Field Parms taken at WWU at time of composite.					Treated LG_HP1_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_021 ; Field Parms taken at KCEL of L81429-1 at start time of Aquatox test.					Treated LG_HP2_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_022 ; Field Parms taken at WWU at time of composite.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS						14700		50	50	ug/L					
Magnesium, Total, ICP-MS						6600		50	50	ug/L					
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc						63.9		0.331	0.331	mg CaCO3/L					

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	Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L81430-2 Matrix: LA OTHR WTR ColDate: 4/19/23 6:40 ClientLoc: S1T4_T_HP2_EC **WET Weight Basis**					Project: 422040-100 Locator: HP3 COMP Descrip: HPBSM3 composite Sample: L81431-1 Matrix: LA OTHR WTR ColDate: 4/18/23 15:12 ClientLoc: S1T3_T_HP3_EC **WET Weight Basis**					Project: 422040-100 Locator: HP3 COMP Descrip: HPBSM3 composite Sample: L81431-2 Matrix: LA OTHR WTR ColDate: 4/19/23 9:17 ClientLoc: S1T4_T_HP3_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample											100				%
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L							<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen											0.0061	<RDL	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity											31.5		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	11.4		0.5	2	mg/L						13.3		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon	1.3	<RDL	0.5	2	mg/L						1.9	<RDL	0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field	333.9		0.5	10	umhos/cm	346.4		0.5	10	umhos/cm	329		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.97		0.5	1	mg/L	8.79		0.5	1	mg/L	9.53		0.5	1	mg/L
pH, Field	7.46				pH	7.58				pH	8.14				pH
Sample Temperature, Field	3.189				deg C	9.001				deg C	11.8				deg C
ES NONE															
Oxidation Reduction Potential, Field	-12.4				mV	-19.6				mV					
Sample Information	Treated LG_HP2_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_022 ; Field Parms taken at KCEL of L81430-1 at start time of Aquatox test.					Treated LG_HP3_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_023 ; Field Parms taken at WWU at time of composite.					Treated LG_HP3_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_023 ; Field Parms taken at KCEL of L81431-1 at start time of Aquatox test.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS											8200		50	50	ug/L
Magnesium, Total, ICP-MS											2890		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc											32.4		0.331	0.331	mg CaCO3/L

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	Project: 422040-100 Locator: NONE Descrip: NONE Sample: L81466-1 Matrix: LA OTHR WTR ColDate: 5/3/23 9:00 ClientLoc: Dose3 **WET Weight Basis**					Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Ca Sample: L82562-1 Matrix: LG STORM WTR ColDate: 9/25/23 7:15 ClientLoc: S2T0_U_I5_G **WET Weight Basis**					Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L82562-2 Matrix: LG STORM WTR ColDate: 9/26/23 9:43 ClientLoc: S2T1_U_I5_G **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0502		0.002	0.01	ug/L	0.286		0.002	0.01	ug/L	0.252		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	40.9		5.7	22.7	mg/L										
CV SM5310-B															
Dissolved Organic Carbon	7.98		0.5	2	mg/L										
ES KCEL SOP# 245															
Conductivity, Field						289.7		0.5	10	umhos/cm	289.3		0.5	10	umhos/cm
Dissolved Oxygen, Field						9.26		0.5	1	mg/L	9.58		0.5	1	mg/L
pH, Field						7.33				pH	7.26				pH
Sample Temperature, Field						17.25				deg C	9.472				deg C
ES NONE															
Oxidation Reduction Potential, Field						-19.9				mV	-35.8				mV
Sample Information						Stormwater Grab T0 ; Field Parms Taken at I5 site at time of filling 23 carboys.					Stormwater Grab T1 ; Field Parms Taken at WWU ; L82562-1.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L82562-3 Matrix: LG STORM WTR ColDate: 9/26/23 17:31 ClientLoc: S2T3_U_I5_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L82563-1 Matrix: LG STORM WTR ColDate: 9/26/23 10:15 ClientLoc: S2T1A_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L82563-2 Matrix: LG STORM WTR ColDate: 9/26/23 11:36 ClientLoc: S2T1B_U_INF_G **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.259		0.002	0.01	ug/L	0.226		0.002	0.01	ug/L	0.229		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids						26.5		2.5	10	mg/L	14.5		1.8	7.09	mg/L
CV SM5310-B															
Dissolved Organic Carbon						10.8		0.5	2	mg/L	9.63		0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field	290		0.5	10	umhos/cm	365.1		0.5	10	umhos/cm	277.2		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.53		0.5	1	mg/L	9.51		0.5	1	mg/L	9.2		0.5	1	mg/L
pH, Field	7.32				pH	7.49				pH	7.23				pH
Sample Temperature, Field	6.184				deg C	15.013				deg C	16.205				deg C
ES NONE															
Oxidation Reduction Potential, Field	-23.7				mV	-29.9				mV	-26.9				mV
Sample Information	Stormwater Grab T3 ; Field Parms Taken at KCEL ; L82562-1					Stormwater Composite ; Field Parms taken at WWU at start of dosing experiment.					Stormwater Composite ; Field Parms taken at WWU at middle of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L82563-3 Matrix: LG STORM WTR ColDate: 9/26/23 12:40 ClientLoc: S2T1C_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L82563-4 Matrix: LG STORM WTR ColDate: 9/26/23 14:45 ClientLoc: S2T3_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L82563-5 Matrix: LG STORM WTR ColDate: 9/27/23 7:00 ClientLoc: S2T4_U_INF_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.231		0.002	0.01	ug/L	0.259		0.002	0.01	ug/L	0.225		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen											0.0121	H	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity											65.1		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	17.1		0.95	3.81	mg/L	15.9		0.53	2.11	mg/L	20.3		1.6	6.56	mg/L
CV SM5310-B															
Dissolved Organic Carbon	9.67		0.5	2	mg/L	9.8		0.5	2	mg/L	9.72	SH,H	0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field	348.7		0.5	10	umhos/cm	290		0.5	10	umhos/cm	161.1		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.42		0.5	1	mg/L	10.53		0.5	1	mg/L	9.8		0.5	1	mg/L
pH, Field	7.62				pH	7.32				pH	7.32				pH
Sample Temperature, Field	15.543				deg C	6.184				deg C	11.9				deg C
ES NONE															
Oxidation Reduction Potential, Field	-32				mV	-23.7				mV	-23.5				mV
Sample Information	Stormwater Composite ; Field Parms taken at WWU at end of dosing experiment.					Stormwater Composite T3 ; Field Parms taken at WWU at end of dosing experiment.					Stormwater Composite T4 ; Field Parms taken at KCEL at start time of Aquatox test.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS											18300		50	50	ug/L
Magnesium, Total, ICP-MS											5490		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc											68.4		0.331	0.331	mg CaCO3/L

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	Project: 422040-100 Locator: LAB Descrip: LAB LOCATOR Sample: L82563-6 Matrix: LA OTHR WTR ColDate: 9/27/23 7:00 ClientLoc: S2T4_Lab Dilution Water **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COL A Descrip: 60 40 BSM Column A Sample: L82564-1 Matrix: LG STORM WTR ColDate: 9/26/23 14:11 ClientLoc: S2T2_T_60:40_A_E **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COL B Descrip: 60 40 BSM Column B Sample: L82564-2 Matrix: LG STORM WTR ColDate: 9/26/23 14:20 ClientLoc: S2T2_T_60:40_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone						0.0038	<RDL	0.002	0.01	ug/L	0.0034	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen	0.0413	H	0.002	0.01	mg/L										
CV SM2320-B															
Total Alkalinity	39.9		1	5	mg CaCO3/L										
CV SM2540-D															
Total Suspended Solids						24.7		0.5	2	mg/L	13.7		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field						546		0.5	10	umhos/cm	626		0.5	10	umhos/cm
Dissolved Oxygen, Field						9.82		0.5	1	mg/L	9.69		0.5	1	mg/L
pH, Field						6.85				pH	6.85				pH
Sample Temperature, Field						12.38				deg C	12.425				deg C
ES NONE															
Oxidation Reduction Potential, Field						-16.2				mV	-9				mV
Sample Information						Treated LG_60_40_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_029 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_60_40_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_029 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS	9600		50	50	ug/L										
Magnesium, Total, ICP-MS	3110		50	50	ug/L										
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc	36.8		0.331	0.331	mg CaCO3/L										

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	Project: 422040-100 Locator: 60_40 COL C Descrip: 60 40 BSM Column C Sample: L82564-3 Matrix: LG STORM WTR ColDate: 9/26/23 14:29 ClientLoc: S2T2_T_60:40_C_E **WET Weight Basis**					Project: 422040-100 Locator: HP1 COL A Descrip: HP1 BSM Column A Sample: L82564-4 Matrix: LG STORM WTR ColDate: 9/26/23 13:04 ClientLoc: S2T2_T_HP1_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP1 COL B Descrip: HP1 BSM Column B Sample: L82564-5 Matrix: LG STORM WTR ColDate: 9/26/23 12:48 ClientLoc: S2T2_T_HP1_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0054	<RDL	0.002	0.01	ug/L	0.0029	<RDL	0.002	0.01	ug/L	0.0022	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	11.1		0.5	2	mg/L	2.2		0.5	2	mg/L	2.2		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	543		0.5	10	umhos/cm	406.1		0.5	10	umhos/cm	409.5		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.69		0.5	1	mg/L	9.7		0.5	1	mg/L	9.71		0.5	1	mg/L
pH, Field	6.79				pH	7.11				pH	7.17				pH
Sample Temperature, Field	12.248				deg C	13.149				deg C	13.985				deg C
ES NONE															
Oxidation Reduction Potential, Field	-11.2				mV	-14.4				mV	-16.2				mV
Sample Information	Treated LG_60_40_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_029 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP1_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_026 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP1_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_026 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP1 COL C Descrip: HP1 BSM Column C Sample: L82564-6 Matrix: LG STORM WTR ColDate: 9/26/23 13:14 ClientLoc: S2T2_T_HP1_C_E **WET Weight Basis**					Project: 422040-100 Locator: HP2 COL A Descrip: HP2 BSM Column A Sample: L82564-7 Matrix: LG STORM WTR ColDate: 9/26/23 13:24 ClientLoc: S2T2_T_HP2_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP2 COL B Descrip: HP2 BSM Column B Sample: L82564-8 Matrix: LG STORM WTR ColDate: 9/26/23 13:31 ClientLoc: S2T2_T_HP2_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0027	<RDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	3.5		0.5	2	mg/L	2.6		0.5	2	mg/L	3	<RDL	1	4	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	405.6		0.5	10	umhos/cm	426		0.5	10	umhos/cm	419.5		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.82		0.5	1	mg/L	8.28		0.5	1	mg/L	8.14		0.5	1	mg/L
pH, Field	7.14				pH	7.16				pH	7.04				pH
Sample Temperature, Field	13.936				deg C	13.252				deg C	12.52				deg C
ES NONE															
Oxidation Reduction Potential, Field	-18.3				mV	-25.8				mV	-23.2				mV
Sample Information	Treated LG_HP1_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_026 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP2_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_027 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP2_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_027 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP2 COL C Descrip: HP2 BSM Column C Sample: L82564-9 Matrix: LG STORM WTR ColDate: 9/26/23 13:36 ClientLoc: S2T2_T_HP2_C_E **WET Weight Basis**					Project: 422040-100 Locator: HP3 COL A Descrip: HP3 BSM Column A Sample: L82564-10 Matrix: LG STORM WTR ColDate: 9/26/23 13:44 ClientLoc: S2T2_T_HP3_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP3 COL B Descrip: HP3 BSM Column B Sample: L82564-11 Matrix: LG STORM WTR ColDate: 9/26/23 13:52 ClientLoc: S2T2_T_HP3_B_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	1.2	<RDL	0.5	2	mg/L	5.3		0.5	2	mg/L	7.16		0.53	2.11	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	421.5		0.5	10	umhos/cm	436.1		0.5	10	umhos/cm	452		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.42		0.5	1	mg/L	7.77		0.5	1	mg/L	7.52		0.5	1	mg/L
pH, Field	7.13				pH	7.27				pH	7.16				pH
Sample Temperature, Field	12.706				deg C	12.3				deg C	12.139				deg C
ES NONE															
Oxidation Reduction Potential, Field	-26.9				mV	-32.3				mV	-30.8				mV
Sample Information	Treated LG_HP2_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_027 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP3_Column A_T2 ; Hinman Lab ID _ KC6PPD_Q_23_028 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP3_Column B_T2 ; Hinman Lab ID _ KC6PPD_Q_23_028 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP3 COL C Descrip: HP3 BSM Column C Sample: L82564-12 Matrix: LG STORM WTR ColDate: 9/26/23 14:00 ClientLoc: S2T2_T_HP3_C_E **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L82565-1 Matrix: LA OTHR WTR ColDate: 9/26/23 14:11 ClientLoc: S2T3_T_60:40_EC **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L82565-2 Matrix: LA OTHR WTR ColDate: 9/27/23 7:00 ClientLoc: S2T4_T_60:40_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L						0.0033	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen											0.0124	H	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity											58.7		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	7.7		0.5	2	mg/L						23.4		1	4	mg/L
CV SM5310-B															
Dissolved Organic Carbon											16.9	SH,H	1	4	mg/L
ES KCEL SOP# 245															
Conductivity, Field	434.1		0.5	10	umhos/cm		TA	0.5	10	umhos/cm	173.4		0.5	10	umhos/cm
Dissolved Oxygen, Field	8.62		0.5	1	mg/L		TA	0.5	1	mg/L	10.1		0.5	1	mg/L
pH, Field	7.2				pH		TA			pH	7.13				pH
Sample Temperature, Field	12.922				deg C		TA			deg C	11.5				deg C
ES NONE															
Oxidation Reduction Potential, Field	-35.7				mV		TA			mV	-13				mV
Sample Information	Treated LG_HP3_Column C_T2 ; Hinman Lab ID _ KC6PPD_Q_23_028 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_60_40_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_029 ; Field Parms not taken.					Treated LG_60_40_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_029 ; Field Parms taken at KCEL of L82565-1 at start time of Aquatox test.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS											22800		50	50	ug/L
Magnesium, Total, ICP-MS											6530		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc											83.8		0.331	0.331	mg CaCO3/L

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	Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L82566-1 Matrix: LA OTHR WTR ColDate: 9/26/23 12:48 ClientLoc: S2T3_T_HP1_EC **WET Weight Basis**					Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L82566-2 Matrix: LA OTHR WTR ColDate: 9/27/23 7:00 ClientLoc: S2T4_T_HP1_EC **WET Weight Basis**					Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L82567-1 Matrix: LA OTHR WTR ColDate: 9/26/23 17:25 ClientLoc: S2T3_T_HP2_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone							<MDL	0.002	0.01	ug/L					
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen						0.0037	<RDL,H	0.002	0.01	mg/L					
CV SM2320-B															
Total Alkalinity						56.9		1	5	mg CaCO3/L					
CV SM2540-D															
Total Suspended Solids						9.9		0.5	2	mg/L					
CV SM5310-B															
Dissolved Organic Carbon						7.17	SH,H	0.5	2	mg/L					
ES KCEL SOP# 245															
Conductivity, Field		TA	0.5	10	umhos/cm	200.2		0.5	10	umhos/cm	412.7		0.5	10	umhos/cm
Dissolved Oxygen, Field		TA	0.5	1	mg/L	9.8		0.5	1	mg/L	9.49		0.5	1	mg/L
pH, Field		TA			pH	7.22				pH	7.03				pH
Sample Temperature, Field		TA			deg C	11.8				deg C	12.459				deg C
ES NONE															
Oxidation Reduction Potential, Field		TA			mV	-14				mV	-7.1				mV
Sample Information	Treated LG_HP1_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_026 ; Field Parms not taken.					Treated LG_HP1_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_026 ; Field Parms taken at KCEL of L82566-1 at start time of Aquatox test.					Treated LG_HP2_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_027 ; Field Parms taken at WWU at time of composite.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS						14500		50	50	ug/L					
Magnesium, Total, ICP-MS						4490		50	50	ug/L					
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc						54.7		0.331	0.331	mg CaCO3/L					

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	Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L82567-2 Matrix: LA OTHR WTR ColDate: 9/26/23 17:26 ClientLoc: S2T4_T_HP2_EC **WET Weight Basis**					Project: 422040-100 Locator: HP3 COMP Descrip: HPBSM3 composite Sample: L82568-1 Matrix: LA OTHR WTR ColDate: 9/26/23 13:44 ClientLoc: S2T3_T_HP3_EC **WET Weight Basis**					Project: 422040-100 Locator: HP3 COMP Descrip: HPBSM3 composite Sample: L82568-2 Matrix: LA OTHR WTR ColDate: 9/27/23 7:00 ClientLoc: S2T4_T_HP3_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone		<MDL	0.002	0.01	ug/L							<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen											0.0087	<RDL,H	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity											56.8		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	3	<RDL	1	4	mg/L						3.3		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon	2.88		0.5	2	mg/L						3.58	SH,H	0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field	412.9		0.5	10	umhos/cm		TA	0.5	10	umhos/cm	144.3		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.47		0.5	1	mg/L		TA	0.5	1	mg/L	10.1		0.5	1	mg/L
pH, Field	7.03				pH		TA			pH	7.14				pH
Sample Temperature, Field	12.459				deg C		TA			deg C	12				deg C
ES NONE															
Oxidation Reduction Potential, Field	-7.1				mV		TA			mV	-28				mV
Sample Information	Treated LG_HP2_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_027 ; Field Parms taken at KCEL of L82567-1 at start time of Aquatox test.					Treated LG_HP3_Composite_T3 ; Hinman Lab ID _ KC6PPD_Q_23_028 ; Field Parms not taken.					Treated LG_HP3_Composite_T4 ; Hinman Lab ID _ KC6PPD_Q_23_028 ; Field Parms taken at KCEL of L82568-1 at start time of Aquatox test.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS											12700		50	50	ug/L
Magnesium, Total, ICP-MS											5310		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc											53.6		0.331	0.331	mg CaCO3/L

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	Project:	422040-100				Project:	422040-100				Project:	422040-100			
	Locator:	NONE				Locator:	NONE				Locator:	NONE			
	Descrip:	NONE				Descrip:	NONE				Descrip:	NONE			
	Sample:	L82735-2				Sample:	L82735-4				Sample:	L82827-1			
	Matrix:	LA OTHR WTR				Matrix:	LA OTHR WTR				Matrix:	LA OTHR WTR			
	ColDate:	10/16/23 9:00				ColDate:	10/26/23 9:00				ColDate:	11/6/23 9:00			
	ClientLoc:	Dose7				ClientLoc:	Dose9				ClientLoc:	Dose11			
	WET Weight Basis					**WET Weight Basis**					**WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0128		0.002	0.01	ug/L	0.0099	<RDL	0.002	0.01	ug/L	0.0103		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	14.3		1.1	4.54	mg/L	9.83		1.7	6.78	mg/L	12.4		1.4	5.65	mg/L
CV SM5310-B															
Dissolved Organic Carbon	13.2		0.5	2	mg/L	10.8		0.5	2	mg/L	10.1	H,SH	0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field															
Dissolved Oxygen, Field															
pH, Field															
Sample Temperature, Field															
ES NONE															
Oxidation Reduction Potential, Field															
Sample Information															
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L83407-1 Matrix: LG STORM WTR ColDate: 3/10/24 13:02 ClientLoc: S3T0_U_I5_G **WET Weight Basis**					Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L83407-2 Matrix: LG STORM WTR ColDate: 3/11/24 10:25 ClientLoc: S3T1_U_I5_G **WET Weight Basis**					Project: 422040-100 Locator: I-5 TAPE Descrip: Lake Union Ship Canal TAPE Sample: L83407-3 Matrix: LG STORM WTR ColDate: 3/11/24 18:23 ClientLoc: S3T3_U_I5_G **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.787		0.002	0.01	ug/L	0.829		0.002	0.01	ug/L	0.762		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids															
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	1887		0.5	10	umhos/cm	1931		0.5	10	umhos/cm	1931		0.5	10	umhos/cm
Dissolved Oxygen, Field	11		0.5	1	mg/L	11.02		0.5	1	mg/L	11.05		0.5	1	mg/L
pH, Field	7.25				pH	7.3				pH	7.49				pH
Sample Temperature, Field	9.192				deg C	3.878				deg C	3.943				deg C
ES NONE															
Oxidation Reduction Potential, Field	-0.7				mV	-12.6				mV	-21.5				mV
Sample Information	Stormwater Grab T0 ; Field Parms Taken at I5 site at time of filling 23 carboys.					Stormwater Grab T1 ; Field Parms Taken at WWU ; L83407-1					Stormwater Grab T3 ; Field Parms Taken at KCEL ; L83407-1				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L83408-1 Matrix: LG STORM WTR ColDate: 3/11/24 10:41 ClientLoc: S3T1A_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L83408-2 Matrix: LG STORM WTR ColDate: 3/11/24 11:48 ClientLoc: S3T1B_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L83408-3 Matrix: LG STORM WTR ColDate: 3/11/24 12:54 ClientLoc: S3T1C_U_INF_G **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.808		0.002	0.01	ug/L	0.611		0.002	0.01	ug/L	0.781		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	96.8		5.4	21.5	mg/L	100		3.6	14.5	mg/L	106		4.4	17.7	mg/L
CV SM5310-B															
Dissolved Organic Carbon	12.3		0.5	2	mg/L	10.3		1	4	mg/L	11		0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field	1472		0.5	10	umhos/cm	1470		0.5	10	umhos/cm	1472		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.5		0.5	1	mg/L	9.99		0.5	1	mg/L	10.2		0.5	1	mg/L
pH, Field	7.53				pH	7.57				pH	7.61				pH
Sample Temperature, Field	10.72				deg C	11.39				deg C	11.814				deg C
ES NONE															
Oxidation Reduction Potential, Field	-11.3				mV	-11.9				mV	-19.9				mV
Sample Information	Stormwater Composite ; Field Parms taken at WWU at start of dosing experiment.					Stormwater Composite ; Field Parms taken at WWU at middle of dosing experiment.					Stormwater Composite ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L83408-4 Matrix: LG STORM WTR ColDate: 3/11/24 15:08 ClientLoc: S3T3_U_INF_G **WET Weight Basis**					Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hinman WWU Lab Sample: L83408-5 Matrix: LG STORM WTR ColDate: 3/12/24 9:15 ClientLoc: S3T4_U_INF_E **WET Weight Basis**					Project: 422040-100 Locator: LAB Descrip: LAB LOCATOR Sample: L83408-6 Matrix: LA OTHR WTR ColDate: 3/12/24 9:00 ClientLoc: S3T4_Lab Dilution Water **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone						0.64		0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen						0.314		0.008	0.04	mg/L	0.0058	<RDL	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity						56.2		1	5	mg CaCO3/L	43.2		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids						76.4		2.6	10.5	mg/L					
CV SM5310-B															
Dissolved Organic Carbon						11.3		0.5	2	mg/L					
ES KCEL SOP# 245															
Conductivity, Field	1474		0.5	10	umhos/cm		TA,R	0.5	10	umhos/cm					
Dissolved Oxygen, Field	10.93		0.5	1	mg/L	10.21		0.5	1	mg/L					
pH, Field	7.69				pH	7.42				pH					
Sample Temperature, Field	6.397				deg C	9.91				deg C					
ES NONE															
Oxidation Reduction Potential, Field	-34.7				mV	-14.6				mV					
Sample Information	Stormwater Composite T3 ; Field Parms taken at WWU at end of dosing experiment.					Stormwater Composite T4 ; Field Parms taken at KCEL at start time of Aquatox test.									
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS						28200		50	50	ug/L	11100		50	50	ug/L
Magnesium, Total, ICP-MS						5830		50	50	ug/L	3630		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc						94.4		0.331	0.331	mg CaCO3/L	42.8		0.331	0.331	mg CaCO3/L

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	Project: 422040-100 Locator: 60_40 COL A Descrip: 60 40 BSM Column A Sample: L83409-1 Matrix: LG STORM WTR ColDate: 3/11/24 13:16 ClientLoc: S3T2_T_60:40_A_E **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COL B Descrip: 60 40 BSM Column B Sample: L83409-2 Matrix: LG STORM WTR ColDate: 3/11/24 13:28 ClientLoc: S3T2_T_60:40_B_E **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COL C Descrip: 60 40 BSM Column C Sample: L83409-3 Matrix: LG STORM WTR ColDate: 3/11/24 13:36 ClientLoc: S3T2_T_60:40_C_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0225		0.002	0.01	ug/L	0.0204		0.002	0.01	ug/L	0.0144		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	5		0.5	2	mg/L	3.79		0.53	2.11	mg/L	3		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	1409		0.5	10	umhos/cm	1410		0.5	10	umhos/cm	1456		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.65		0.5	1	mg/L	10.79		0.5	1	mg/L	10.57		0.5	1	mg/L
pH, Field	7.1				pH	7.14				pH	6.94				pH
Sample Temperature, Field	10.47				deg C	9.186				deg C	9.74				deg C
ES NONE															
Oxidation Reduction Potential, Field	2.9				mV	-0.8				mV	6.2				mV
Sample Information	Treated LG_60_40_Column A_T2 ; Hinman Lab ID _ 4-1; Field Parms taken at WWU at end of dosing experiment.					Treated LG_60_40_Column B_T2 ; Hinman Lab ID _ 4-2; Field Parms taken at WWU at end of dosing experiment.					Treated LG_60_40_Column C_T2 ; Hinman Lab ID _ 4-3; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP1 COL A Descrip: HP1 BSM Column A Sample: L83409-4 Matrix: LG STORM WTR ColDate: 3/11/24 13:49 ClientLoc: S3T2_T_HP1_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP1 COL B Descrip: HP1 BSM Column B Sample: L83409-5 Matrix: LG STORM WTR ColDate: 3/11/24 13:59 ClientLoc: S3T2_T_HP1_B_E **WET Weight Basis**					Project: 422040-100 Locator: HP1 COL C Descrip: HP1 BSM Column C Sample: L83409-6 Matrix: LG STORM WTR ColDate: 3/11/24 14:07 ClientLoc: S3T2_T_HP1_C_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0042	<RDL	0.002	0.01	ug/L	0.005	<RDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	2.1		0.5	2	mg/L	2.9		0.5	2	mg/L	2.1		0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	1309		0.5	10	umhos/cm	1312		0.5	10	umhos/cm	1300		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.62		0.5	1	mg/L	10.58		0.5	1	mg/L	10.92		0.5	1	mg/L
pH, Field	7.23				pH	7.19				pH	7.25				pH
Sample Temperature, Field	9.621				deg C	9.998				deg C	8.38				deg C
ES NONE															
Oxidation Reduction Potential, Field	-10.4				mV	-8.4				mV	-11.9				mV
Sample Information	Treated LG_HP1_Column A_T2 ; Hinman Lab ID _ 1-1 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP1_Column B_T2 ; Hinman Lab ID _ 1-2; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP1_Column C_T2 ; Hinman Lab ID _ 1-3 ; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP2 COL A Descrip: HP2 BSM Column A Sample: L83409-7 Matrix: LG STORM WTR ColDate: 3/11/24 14:19 ClientLoc: S3T2_T_HP2_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP2 COL B Descrip: HP2 BSM Column B Sample: L83409-8 Matrix: LG STORM WTR ColDate: 3/11/24 14:24 ClientLoc: S3T2_T_HP2_B_E **WET Weight Basis**					Project: 422040-100 Locator: HP2 COL C Descrip: HP2 BSM Column C Sample: L83409-9 Matrix: LG STORM WTR ColDate: 3/11/24 14:31 ClientLoc: S3T2_T_HP2_C_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0051	<RDL	0.002	0.01	ug/L	0.0031	<RDL	0.002	0.01	ug/L	0.003	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	3		0.5	2	mg/L	2.7		0.5	2	mg/L	2	RDL	0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	1254		0.5	10	umhos/cm	1242		0.5	10	umhos/cm	1287		0.5	10	umhos/cm
Dissolved Oxygen, Field	8.2		0.5	1	mg/L	8.69		0.5	1	mg/L	9.97		0.5	1	mg/L
pH, Field	7.54				pH	7.55				pH	7.52				pH
Sample Temperature, Field	9.962				deg C	9.176				deg C	8.887				deg C
ES NONE															
Oxidation Reduction Potential, Field	-21.5				mV	-22.5				mV	-22.7				mV
Sample Information	Treated LG_HP2_Column A_T2 ; Hinman Lab ID _2-1 ; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP2_Column B_T2 ; Hinman Lab ID _2-2; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP2_Column C_T2 ; Hinman Lab ID _2-3; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: HP3 COL A Descrip: HP3 BSM Column A Sample: L83409-10 Matrix: LG STORM WTR ColDate: 3/11/24 14:41 ClientLoc: S3T2_T_HP3_A_E **WET Weight Basis**					Project: 422040-100 Locator: HP3 COL B Descrip: HP3 BSM Column B Sample: L83409-11 Matrix: LG STORM WTR ColDate: 3/11/24 14:48 ClientLoc: S3T2_T_HP3_B_E **WET Weight Basis**					Project: 422040-100 Locator: HP3 COL C Descrip: HP3 BSM Column C Sample: L83409-12 Matrix: LG STORM WTR ColDate: 3/11/24 14:56 ClientLoc: S3T2_T_HP3_C_E **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0053	<RDL	0.002	0.01	ug/L	0.0039	<RDL	0.002	0.01	ug/L	0.0035	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen															
CV SM2320-B															
Total Alkalinity															
CV SM2540-D															
Total Suspended Solids	5.6		0.5	2	mg/L	4.9		0.5	2	mg/L	1.7	<RDL	0.5	2	mg/L
CV SM5310-B															
Dissolved Organic Carbon															
ES KCEL SOP# 245															
Conductivity, Field	1276		0.5	10	umhos/cm	1275		0.5	10	umhos/cm	1257		0.5	10	umhos/cm
Dissolved Oxygen, Field	8.56		0.5	1	mg/L	8.17		0.5	1	mg/L	8.83		0.5	1	mg/L
pH, Field	7.67				pH	7.62				pH	7.55				pH
Sample Temperature, Field	8.362				deg C	9.175				deg C	9.247				deg C
ES NONE															
Oxidation Reduction Potential, Field	-28.1				mV	-25.3				mV	-25.4				mV
Sample Information	Treated LG_HP3_Column A_T2 ; Hinman Lab ID _3-1; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP3_Column B_T2 ; Hinman Lab ID _3-2; Field Parms taken at WWU at end of dosing experiment.					Treated LG_HP3_Column C_T2 ; Hinman Lab ID _3-3; Field Parms taken at WWU at end of dosing experiment.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS															
Magnesium, Total, ICP-MS															
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc															

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	Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L83410-1 Matrix: LA OTHR WTR ColDate: 3/11/24 13:38 ClientLoc: S3T3_T_60:40_EC **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composite Sample: L83410-2 Matrix: LA OTHR WTR ColDate: 3/12/24 9:30 ClientLoc: S3T4_T_60:40_EC **WET Weight Basis**					Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L83411-1 Matrix: LA OTHR WTR ColDate: 3/11/24 14:10 ClientLoc: S3T3_T_HP1_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone						0.0268		0.002	0.01	ug/L					
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen						0.0035	<RDL	0.002	0.01	mg/L					
CV SM2320-B															
Total Alkalinity						44		1	5	mg CaCO3/L					
CV SM2540-D															
Total Suspended Solids						4.8		1	4	mg/L					
CV SM5310-B															
Dissolved Organic Carbon						15.4		1	4	mg/L					
ES KCEL SOP# 245															
Conductivity, Field	1410		0.5	10	umhos/cm		R,TA	0.5	10	umhos/cm	1300		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.74		0.5	1	mg/L	11.22		0.5	1	mg/L	10.76		0.5	1	mg/L
pH, Field	7.07				pH	7.3				pH	7.24				pH
Sample Temperature, Field	9.402				deg C	11.22				deg C	9.234				deg C
ES NONE															
Oxidation Reduction Potential, Field	4				mV	-12.7				mV	-9.4				mV
Sample Information	Treated LG_60_40_Composite_T3 ; Hinman Lab ID _ 4 Comp; Field Parms taken at WWU at end of dosing experiment.					Treated LG_60_40_Composite_T4 ; Hinman Lab ID _4 Comp; Field Parms taken at KCEL of L83410-1 at start time of Aquatox test.					Treated LG_HP1_Composite_T3 ; Hinman Lab ID _ 1 Comp; Field Parms taken at WWU at time of composite.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS						51800		50	50	ug/L					
Magnesium, Total, ICP-MS						14300		50	50	ug/L					
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc						188		0.331	0.331	mg CaCO3/L					

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	Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L83411-2 Matrix: LA OTHR WTR ColDate: 3/12/24 9:25 ClientLoc: S3T4_T_HP1_EC **WET Weight Basis**					Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L83412-1 Matrix: LA OTHR WTR ColDate: 3/11/24 14:36 ClientLoc: S3T3_T_HP2_EC **WET Weight Basis**					Project: 422040-100 Locator: HP2 COMP Descrip: HPBSM2 composite Sample: L83412-2 Matrix: LA OTHR WTR ColDate: 3/11/24 18:16 ClientLoc: S3T4_T_HP2_EC **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012															
LC50															
Survival in 100% Sample															
Survival NOEC															
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.0076	<RDL	0.002	0.01	ug/L							<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen		<MDL	0.002	0.01	mg/L										
CV SM2320-B															
Total Alkalinity	43.4		1	5	mg CaCO3/L										
CV SM2540-D															
Total Suspended Solids	3.1		0.5	2	mg/L						3.3	<RDL	1.1	4.44	mg/L
CV SM5310-B															
Dissolved Organic Carbon	8.46		0.5	2	mg/L						4.64		0.5	2	mg/L
ES KCEL SOP# 245															
Conductivity, Field		TA,R	0.5	10	umhos/cm	1264		0.5	10	umhos/cm	1273		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.68		0.5	1	mg/L	9.18		0.5	1	mg/L	11.25		0.5	1	mg/L
pH, Field	7.43				pH	7.56				pH	7.47				pH
Sample Temperature, Field	10.53				deg C	8.864				deg C	7.08				deg C
ES NONE															
Oxidation Reduction Potential, Field	-4.1				mV	-22.8				mV	-15.8				mV
Sample Information	Treated LG_HP1_Composite_T4 ; Hinman Lab ID _ 1 Comp; Field Parms taken at KCEL of L83411-1 at start time of Aquatox test.					Treated LG_HP2_Composite_T3 ; Hinman Lab ID _ 2 Comp; Field Parms taken at WWU at time of composite.					Treated LG_HP2_Composite_T4 ; Hinman Lab ID _ 2 Comp; Field Parms taken at KCEL of L83413-1 at start time of Aquatox test.				
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS	52200		50	50	ug/L										
Magnesium, Total, ICP-MS	20500		50	50	ug/L										
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc	215		0.331	0.331	mg CaCO3/L										

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	Project:	422040-100				Project:	422040-100				
	Locator:	HP3 COMP				Locator:	HP3 COMP				
	Descrip:	HPBSM3 composite				Descrip:	HPBSM3 composite				
	Sample:	L83413-1				Sample:	L83413-2				
	Matrix:	LA OTHR WTR				Matrix:	LA OTHR WTR				
	ColDate:	3/11/24 14:59				ColDate:	3/12/24 9:20				
	ClientLoc:	S3T3_T_HP3_EC				ClientLoc:	S3T4_T_HP3_EC				
	WET Weight Basis					**WET Weight Basis**					
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ EPA821-R-02-012										
LC50										
Survival in 100% Sample										
Survival NOEC										
AQ KCEL SOP 4077: 6PPDQ by LCMS										
6ppd-quinone						0.0047	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997										
Ammonia Nitrogen						0.0174		0.002	0.01	mg/L
CV SM2320-B										
Total Alkalinity						45.1		1	5	mg CaCO3/L
CV SM2540-D										
Total Suspended Solids						2.2		0.5	2	mg/L
CV SM5310-B										
Dissolved Organic Carbon						4.79		0.5	2	mg/L
ES KCEL SOP# 245										
Conductivity, Field	1273		0.5	10	umhos/cm		TA,R	0.5	10	umhos/cm
Dissolved Oxygen, Field	8.88		0.5	1	mg/L	8.9		0.5	1	mg/L
pH, Field	7.6				pH	7.31				pH
Sample Temperature, Field	8.912				deg C	10.19				deg C
ES NONE										
Oxidation Reduction Potential, Field	-25.6				mV	-4.3				mV
Sample Information	Treated LG_HP3_Composite_T3 ; Hinman Lab ID _ 3 Comp ; Field Parms taken at WWU at time of composite.					Treated LG_HP3_Composite_T4 ; Hinman Lab ID _ 3 Comp ; Field Parms taken at KCEL of L83413-1 at start time of Aquatox test.				
MT EPA 200.8 (MOD)										
Calcium, Total, ICP-MS						42300		50	50	ug/L
Magnesium, Total, ICP-MS						15300		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B										
Hardness, Calc						168		0.331	0.331	mg CaCO3/L

WG186249 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L80971-1	423800-100	Chinook Wind Duwamish Restoration Site	AQ6PPDQ-LCMS	STORM WTR	2/7/2023 14:23	2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	
L80976-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	2/7/2023 9:00	2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	
L80976-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	2/7/2023 11:00	2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	
WG186249-1	MB		AQ6PPDQ-LCMS	OTHR WTR		2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	
WG186249-2	SB		AQ6PPDQ-LCMS	OTHR WTR		2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	WG186249-1
WG186249-3	MS		AQ6PPDQ-LCMS	STORM WTR		2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	L80971-1
WG186249-4	MSD		AQ6PPDQ-LCMS	STORM WTR		2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	WG186249-3 L80971-1
WG186249-5	LD		AQ6PPDQ-LCMS	STORM WTR		2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	L80971-1
WG186249-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		2/8/2023 7:00	2/8/2023 10:45	WG186249-1,-2,-3,-4,-5,-6	

WG186270 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L80975-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	2/8/2023 10:00	2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	
L80975-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	2/8/2023 10:15	2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	
L80993-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	2/8/2023 7:15	2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	
WG186270-1	MB		AQ6PPDQ-LCMS	OTHR WTR		2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	
WG186270-2	SB		AQ6PPDQ-LCMS	OTHR WTR		2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	WG186270-1
WG186270-3	MS		AQ6PPDQ-LCMS	STORM WTR		2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	L80975-2
WG186270-4	MSD		AQ6PPDQ-LCMS	STORM WTR		2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	WG186270-3 L80975-2
WG186270-5	LD		AQ6PPDQ-LCMS	STORM WTR		2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	L80975-1
WG186270-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		2/9/2023 8:00	2/9/2023 12:30	WG186270-1,-2,-3,-4,-5,-6	

WG187029 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81297-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/29/2023 12:00	3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	
L81297-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/29/2023 13:00	3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	
L81297-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/29/2023 13:20	3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	
L81297-4	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/29/2023 13:40	3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	
WG187029-1	MB		AQ6PPDQ-LCMS	OTHR WTR		3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	
WG187029-2	SB		AQ6PPDQ-LCMS	OTHR WTR		3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	WG187029-1
WG187029-3	MS		AQ6PPDQ-LCMS	OTHR WTR		3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	L81297-4
WG187029-4	MSD		AQ6PPDQ-LCMS	OTHR WTR		3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	WG187029-3 L81297-4
WG187029-5	LD		AQ6PPDQ-LCMS	OTHR WTR		3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	L81297-1
WG187029-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		3/30/2023 7:00	3/30/2023 11:00	WG187029-1,-2,-3,-4,-5,-6	

WG187099 () Department: 4 - Aquatic Toxicology Move Date: 13-DEC-23

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81297-1	422040-100	SWS Bioretention 6PPDQ	AQFATHEAD-ACUTE	OTHR WTR	3/29/2023 12:00	3/29/2023 16:55	3/31/2023 16:55		

WG187385 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81425-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/17/2023 16:30	4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6	
WG187385-1	MB		AQ6PPDQ-LCMS	OTHR WTR		4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6	
WG187385-2	SB		AQ6PPDQ-LCMS	OTHR WTR		4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6	WG187385-1
WG187385-3	MS		AQ6PPDQ-LCMS	STORM WTR		4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6	L81425-1
WG187385-4	MSD		AQ6PPDQ-LCMS	STORM WTR		4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6	WG187385-3 L81425-1
WG187385-5	LD		AQ6PPDQ-LCMS	STORM WTR		4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6	L81425-1

WG187385-6	CCC		AQ6PPDQ-LCMS	OTHR WTR	4/18/2023 7:00	4/25/2023 10:00	WG187385-1,-2,-3,-4,-5,-6

WG187386 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81427-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 15:19	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 15:28	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 15:41	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-4	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 13:30	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-5	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 13:47	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-6	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 13:59	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-7	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 14:14	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-8	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 14:24	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-9	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 14:33	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-10	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 14:45	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-11	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 14:55	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
L81427-12	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 15:08	4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
WG187386-1	MB		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	
WG187386-2	SB		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	WG187386-1
WG187386-3	MS		AQ6PPDQ-LCMS	STORM WTR		4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	L81427-12
WG187386-4	MSD		AQ6PPDQ-LCMS	STORM WTR		4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	WG187386-3 L81427-12
WG187386-5	LD		AQ6PPDQ-LCMS	STORM WTR		4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	L81427-6
WG187386-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 10:30	4/26/2023 9:00	WG187386-1,-2,-3,-4,-5,-6	

WG187387 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81425-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/19/2023 6:15	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81426-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 10:40	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81426-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 11:50	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81426-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/18/2023 13:10	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81426-5	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	4/19/2023 9:02	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81428-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	4/19/2023 9:29	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81429-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	4/19/2023 9:25	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81430-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	4/19/2023 6:40	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
L81431-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	4/19/2023 9:17	4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
WG187387-1	MB		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	
WG187387-2	SB		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	WG187387-1
WG187387-3	MS		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	L81429-2
WG187387-4	MSD		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	WG187387-3 L81429-2
WG187387-5	LD		AQ6PPDQ-LCMS	STORM WTR		4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	L81426-5
WG187387-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		4/19/2023 15:00	4/25/2023 13:00	WG187387-1,-2,-3,-4,-5,-6	

WG187754 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81466-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	5/3/2023 9:00	5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6	
WG187754-1	MB		AQ6PPDQ-LCMS	OTHR WTR		5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6	
WG187754-2	SB		AQ6PPDQ-LCMS	OTHR WTR		5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6	WG187754-1
WG187754-3	MS		AQ6PPDQ-LCMS	OTHR WTR		5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6	L81466-1
WG187754-4	MSD		AQ6PPDQ-LCMS	OTHR WTR		5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6	WG187754-3 L81466-1

WG187754-5	LD		AQ6PPDQ-LCMS	OTHR WTR		5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6 L81466-1
WG187754-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		5/9/2023 6:00	5/9/2023 10:00	WG187754-1,-2,-3,-4,-5,-6

WG190254 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81565-1	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	8/31/2023 9:25	9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	
L81565-2	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	8/31/2023 11:57	9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	
L82562-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/25/2023 7:15	9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	
WG190254-1	MB		AQ6PPDQ-LCMS	OTHR WTR		9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	
WG190254-2	SB		AQ6PPDQ-LCMS	OTHR WTR		9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	WG190254-1
WG190254-3	MS		AQ6PPDQ-LCMS	STORM WTR		9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	L81565-2
WG190254-4	MSD		AQ6PPDQ-LCMS	STORM WTR		9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	WG190254-3 L81565-2
WG190254-5	LD		AQ6PPDQ-LCMS	STORM WTR		9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	L81565-1
WG190254-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		9/25/2023 8:00	9/25/2023 14:00	WG190254-1,-2,-3,-4,-5,-6	MED

WG190345 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82564-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 14:11	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 14:20	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 14:29	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-4	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:04	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-5	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 12:48	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-6	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:14	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-7	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:24	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	

L82564-8	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:31	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-9	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:36	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-10	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:44	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-11	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 13:52	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82564-12	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 14:00	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
L82567-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	9/26/2023 17:26	9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
WG190345-1	MB		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	
WG190345-2	SB		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	WG190345-1
WG190345-3	MS		AQ6PPDQ-LCMS	STORM WTR		9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	L82564-12
WG190345-4	MSD		AQ6PPDQ-LCMS	STORM WTR		9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	WG190345-3 L82564-12
WG190345-5	LD		AQ6PPDQ-LCMS	STORM WTR		9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	L82564-4
WG190345-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 7:00	9/27/2023 10:00	WG190345-1,-2,-3,-4,-5,-6	MED

WG190346 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82562-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 9:43	9/27/2023 10:00	9/28/2023 10:00	WG190346-1,-2,-3,-4,-5,-6	
L82562-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 17:31	9/27/2023 10:00	9/28/2023 10:00	WG190346-1,-2,-3,-4,-5,-6	
L82563-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 10:15	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	
L82563-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 11:36	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	
L82563-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 12:40	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	
L82563-4	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/26/2023 14:45	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	
WG190346-1	MB		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	
WG190346-2	SB		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	WG190346-1
WG190346-3	MS		AQ6PPDQ-LCMS	STORM WTR		9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	L82562-3

WG190346-4	MSD		AQ6PPDQ-LCMS	STORM WTR	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	WG190346-3 L82562-3
WG190346-5	LD		AQ6PPDQ-LCMS	STORM WTR	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	L82563-4
WG190346-6	CCC		AQ6PPDQ-LCMS	OTHR WTR	9/27/2023 10:00	9/27/2023 14:00	WG190346-1,-2,-3,-4,-5,-6	

WG190709 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82563-5	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	9/27/2023 7:00	9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	
L82565-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	9/27/2023 7:00	9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	
L82566-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	9/27/2023 7:00	9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	
L82568-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	9/27/2023 7:00	9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	
WG190709-1	MB		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	
WG190709-2	SB		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	WG190709-1
WG190709-3	LD		AQ6PPDQ-LCMS	STORM WTR		9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	L82563-5
WG190709-4	CCC		AQ6PPDQ-LCMS	OTHR WTR		9/27/2023 9:00	9/27/2023 11:00	WG190709-1,-2,-3,-4	MED

WG190857 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82735-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	10/16/2023 9:00	10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	
WG190857-1	MB		AQ6PPDQ-LCMS	OTHR WTR		10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	
WG190857-2	SB		AQ6PPDQ-LCMS	OTHR WTR		10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	WG190857-1
WG190857-3	MS		AQ6PPDQ-LCMS	OTHR WTR		10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	L82735-2
WG190857-4	MSD		AQ6PPDQ-LCMS	OTHR WTR		10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	WG190857-3 L82735-2
WG190857-5	LD		AQ6PPDQ-LCMS	OTHR WTR		10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	L82735-2
WG190857-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		10/24/2023 12:00	10/25/2023 7:00	WG190857-1,-2,-3,-4,-5,-6	MED

WG190926 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments

L82735-4	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	10/26/2023 9:00	10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	
WG190926-1	MB		AQ6PPDQ-LCMS	OTHR WTR		10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	
WG190926-2	SB		AQ6PPDQ-LCMS	OTHR WTR		10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	WG190926-1
WG190926-3	MS		AQ6PPDQ-LCMS	OTHR WTR		10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	L82735-4
WG190926-4	MSD		AQ6PPDQ-LCMS	OTHR WTR		10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	WG190926-3 L82735-4
WG190926-5	LD		AQ6PPDQ-LCMS	OTHR WTR		10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	L82735-4
WG190926-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		10/30/2023 9:00	10/30/2023 11:00	WG190926-1,-2,-3,-4,-5,-6	MED

WG191124 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82371-5	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	11/6/2023 13:05	11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
L82371-6	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	11/6/2023 13:06	11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
L82371-11	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	11/6/2023 15:03	11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
L82371-12	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	11/6/2023 15:04	11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
L82371-13	421520-200	WDOE Stormwater BMP Research	AQ6PPDQ-LCMS	STORM WTR	11/6/2023 13:05	11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
L82827-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	11/6/2023 9:00	11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
WG191124-1	MB		AQ6PPDQ-LCMS	OTHR WTR		11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	
WG191124-2	SB		AQ6PPDQ-LCMS	OTHR WTR		11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	WG191124-1
WG191124-3	MS		AQ6PPDQ-LCMS	STORM WTR		11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	L82371-6
WG191124-4	MSD		AQ6PPDQ-LCMS	STORM WTR		11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	WG191124-3 L82371-6
WG191124-5	LD		AQ6PPDQ-LCMS	STORM WTR		11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	L82371-5
WG191124-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		11/8/2023 13:00	11/8/2023 15:30	WG191124-1,-2,-3,-4,-5,-6	MED

WG191698 () Department: 4 - Aquatic Toxicology Move Date: 13-DEC-23

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81426-5	422040-100	SWS Bioretention 6PPDQ	AQTROUT-ACUTE	STORM WTR	4/19/2023 9:02	4/19/2023 10:00	4/20/2023 10:00		
L81428-2	422040-100	SWS Bioretention 6PPDQ	AQTROUT-ACUTE	OTHR WTR	4/19/2023 9:29	4/19/2023 10:00	4/20/2023 10:00		
L81429-2	422040-100	SWS Bioretention 6PPDQ	AQTROUT-ACUTE	OTHR WTR	4/19/2023 9:25	4/19/2023 10:00	4/20/2023 10:00		
L81431-2	422040-100	SWS Bioretention 6PPDQ	AQTROUT-ACUTE	OTHR WTR	4/19/2023 9:17	4/19/2023 10:00	4/20/2023 10:00		

WG192989 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83407-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/10/2024 13:02	3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	
WG192989-1	MB		AQ6PPDQ-LCMS	OTHR WTR		3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	
WG192989-2	SB		AQ6PPDQ-LCMS	OTHR WTR		3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	WG192989-1
WG192989-3	MS		AQ6PPDQ-LCMS	STORM WTR		3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	L83407-1
WG192989-4	MSD		AQ6PPDQ-LCMS	STORM WTR		3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	WG192989-3 L83407-1
WG192989-5	LD		AQ6PPDQ-LCMS	STORM WTR		3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	L83407-1
WG192989-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		3/11/2024 7:00	3/11/2024 11:00	WG192989-1,-2,-3,-4,-5,-6	MED

WG193000 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83407-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 10:25	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83407-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 18:23	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83408-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 10:41	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83408-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 11:48	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83408-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 12:54	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83408-5	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/12/2024 9:15	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83410-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/12/2024 9:30	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	

L83411-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/12/2024 9:25	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
L83413-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/12/2024 9:20	3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
WG193000-1	MB		AQ6PPDQ-LCMS	OTHR WTR		3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	
WG193000-2	SB		AQ6PPDQ-LCMS	OTHR WTR		3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	WG193000-1
WG193000-3	MS		AQ6PPDQ-LCMS	OTHR WTR		3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	L83413-2
WG193000-4	MSD		AQ6PPDQ-LCMS	OTHR WTR		3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	WG193000-3 L83413-2
WG193000-5	LD		AQ6PPDQ-LCMS	STORM WTR		3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	L83408-5
WG193000-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		3/12/2024 9:30	3/13/2024 9:00	WG193000-1,-2,-3,-4,-5,-6	MED

WG193001 6PPDQ by LCMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83408-6	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/12/2024 9:00	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-1	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 13:16	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 13:28	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-3	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 13:36	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-4	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 13:49	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-5	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 13:59	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-6	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:07	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-7	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:19	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-8	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:24	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-9	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:31	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-10	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:41	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-11	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:48	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
L83409-12	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	STORM WTR	3/11/2024 14:56	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	

L83412-2	422040-100	SWS Bioretention 6PPDQ	AQ6PPDQ-LCMS	OTHR WTR	3/11/2024 18:16	3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
WG193001-1	MB		AQ6PPDQ-LCMS	OTHR WTR		3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	
WG193001-2	SB		AQ6PPDQ-LCMS	OTHR WTR		3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	WG193001-1
WG193001-3	MS		AQ6PPDQ-LCMS	STORM WTR		3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	L83409-6
WG193001-4	MSD		AQ6PPDQ-LCMS	STORM WTR		3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	WG193001-3 L83409-6
WG193001-5	LD		AQ6PPDQ-LCMS	STORM WTR		3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	L83409-1
WG193001-6	CCC		AQ6PPDQ-LCMS	OTHR WTR		3/13/2024 6:00	3/13/2024 11:30	WG193001-1,-2,-3,-4,-5,-6	MED

WG186903 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81047-1	423368-60	Dexter Source Tracing	CVDOC	STORM WTR	3/13/2023 0:00	3/22/2023 13:10	3/22/2023 23:03	WG186781-2,-9,-10,WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	
L81047-1	423368-60	Dexter Source Tracing	CVTOC	STORM WTR	3/13/2023 0:00	3/21/2023 21:23	3/21/2023 21:23	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20	
L81047-2	423368-60	Dexter Source Tracing	CVDOC	BLANK WTR	3/13/2023 0:00	3/22/2023 13:10	3/23/2023 0:22	WG186781-2,-9,-10,WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	
L81119-1	421250ON	Ambient Offshore Water Column-North	CVDOC	FRESH WTR	3/20/2023 9:35	3/21/2023 9:00	3/22/2023 9:43	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	
L81119-1	421250ON	Ambient Offshore Water Column-North	CVTOC	FRESH WTR	3/20/2023 9:35	3/21/2023 16:50	3/21/2023 16:50	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20	
L81119-2	421250ON	Ambient Offshore Water Column-North	CVDOC	FRESH WTR	3/20/2023 8:07	3/21/2023 9:00	3/22/2023 11:01	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	
L81119-2	421250ON	Ambient Offshore Water Column-North	CVTOC	FRESH WTR	3/20/2023 8:07	3/21/2023 18:10	3/21/2023 18:10	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20	
L81119-3	421250ON	Ambient Offshore Water Column-North	CVDOC	FRESH WTR	3/20/2023 8:40	3/21/2023 9:00	3/22/2023 11:26	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	
L81119-3	421250ON	Ambient Offshore Water Column-North	CVTOC	FRESH WTR	3/20/2023 8:40	3/21/2023 19:41	3/21/2023 19:41	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20	
L81120-1	421250ON	Ambient Offshore Water Column-North	CVDOC	SALT WTR	3/20/2023 9:34	3/21/2023 9:00	3/22/2023 11:52	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	

L81120-1	421250ON	Ambient Offshore Water Column-North	CVTOC	SALT WTR	3/20/2023 9:34	3/21/2023 20:06	3/21/2023 20:06	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81120-2	421250ON	Ambient Offshore Water Column-North	CVDOC	SALT WTR	3/20/2023 8:05	3/21/2023 9:00	3/22/2023 13:38	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22
L81120-2	421250ON	Ambient Offshore Water Column-North	CVTOC	SALT WTR	3/20/2023 8:05	3/21/2023 20:31	3/21/2023 20:31	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81120-3	421250ON	Ambient Offshore Water Column-North	CVDOC	SALT WTR	3/20/2023 8:39	3/21/2023 9:00	3/22/2023 14:04	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22
L81120-3	421250ON	Ambient Offshore Water Column-North	CVTOC	SALT WTR	3/20/2023 8:39	3/21/2023 20:56	3/21/2023 20:56	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-1	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/15/2023 12:01	3/21/2023 21:50	3/21/2023 21:50	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-3	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/15/2023 11:39	3/21/2023 23:09	3/21/2023 23:09	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-4	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/15/2023 9:31	3/21/2023 23:34	3/21/2023 23:34	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-5	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 12:20	3/22/2023 0:54	3/22/2023 0:54	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-6	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 9:40	3/22/2023 1:19	3/22/2023 1:19	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-7	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 11:22	3/22/2023 1:44	3/22/2023 1:44	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-9	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 8:23	3/22/2023 2:26	3/22/2023 2:26	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-10	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 10:25	3/22/2023 2:51	3/22/2023 2:51	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-11	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 12:39	3/22/2023 3:16	3/22/2023 3:16	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-14	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 14:26	3/22/2023 21:18	3/22/2023 21:18	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-15	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 12:50	3/22/2023 4:36	3/22/2023 4:36	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-16	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 11:00	3/22/2023 6:45	3/22/2023 6:45	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-17	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 11:00	3/22/2023 7:10	3/22/2023 7:10	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-18	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 11:47	3/22/2023 7:35	3/22/2023 7:35	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81194-19	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/20/2023 12:10	3/22/2023 8:00	3/22/2023 8:00	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20
L81204-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/16/2023 13:00	3/17/2023 8:55	3/22/2023 15:30	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22

L81204-3	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/16/2023 13:30	3/17/2023 8:55	3/22/2023 16:49	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22
L81204-4	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/16/2023 14:00	3/17/2023 8:55	3/22/2023 18:12	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22
WG186781-2	SB		CVTOC	BLANK WTR		3/14/2023 15:45	3/14/2023 15:45	WG186903-1,-2,-3,-4,-5,-6,- WG186781-17,-8,-9,-10,-19,-20
WG186781-9	LD		CVTOC	STORM WTR		3/14/2023 23:42	3/14/2023 23:42	WG186903-1,-2,-3,-4,-5,-6,- L80094-17,-8,-9,-10,-19,-20
WG186781-10	MS		CVTOC	STORM WTR		3/15/2023 1:07	3/15/2023 1:07	WG186903-1,-2,-3,-4,-5,-6,- L80094-17,-8,-9,-10,-19,-20
WG186903-1	MB		CVTOC	BLANK WTR		3/21/2023 15:07	3/21/2023 15:07	WG186903-1,-2,-3,-4,-5,-6,- MB1 2303217,-8,-9,-10,-19,-20
WG186903-2	SB		CVTOC	BLANK WTR		3/21/2023 15:33	3/21/2023 15:33	WG186903-1,-2,-3,-4,-5,-6,- WG186903-17,-8,-9,-10,-19,-20
WG186903-3	LCS		CVTOC	BLANK WTR		3/21/2023 15:59	3/21/2023 15:59	WG186903-1,-2,-3,-4,-5,-6,- LEVEL17,-8,-9,-10,-19,-20
WG186903-4	MDLCK		CVTOC	BLANK WTR		3/21/2023 16:24	3/21/2023 16:24	WG186903-1,-2,-3,-4,-5,-6,- LEVEL17,-8,-9,-10,-19,-20
WG186903-5	LD		CVTOC	FRESH WTR		3/21/2023 17:15	3/21/2023 17:15	WG186903-1,-2,-3,-4,-5,-6,- L81119-17,-8,-9,-10,-19,-20
WG186903-6	MS		CVTOC	FRESH WTR		3/21/2023 17:45	3/21/2023 17:45	WG186903-1,-2,-3,-4,-5,-6,- L81119-17,-8,-9,-10,-19,-20
WG186903-7	LD		CVTOC	GRND WTR		3/21/2023 22:16	3/21/2023 22:16	WG186903-1,-2,-3,-4,-5,-6,- L81194-17,-8,-9,-10,-19,-20
WG186903-8	MS		CVTOC	GRND WTR		3/21/2023 22:44	3/21/2023 22:44	WG186903-1,-2,-3,-4,-5,-6,- L81194-17,-8,-9,-10,-19,-20
WG186903-9	MB		CVTOC	BLANK WTR		3/22/2023 5:53	3/22/2023 5:53	WG186903-1,-2,-3,-4,-5,-6,- MB2 2303217,-8,-9,-10,-19,-20
WG186903-10	LCS		CVTOC	BLANK WTR		3/22/2023 6:20	3/22/2023 6:20	WG186903-1,-2,-3,-4,-5,-6,- LEVEL17,-8,-9,-10,-19,-20
WG186903-11	MB		CVDOC	BLANK WTR		3/21/2023 9:00	3/22/2023 8:25	WG186903-23,-24,-25,-11,- MB1 030321 0900 12,-13,-14,-15,-16,-17,-18,-21,-22
WG186903-12	SB		CVDOC	BLANK WTR		3/21/2023 9:00	3/22/2023 8:51	WG186903-23,-24,-25,-11,- WG186903-11 12,-13,-14,-15,-16,-17,-18,-21,-22
WG186903-13	LCS		CVDOC	BLANK WTR		3/22/2023 9:18	3/22/2023 9:18	WG186903-23,-24,-25,-11,- LEVEL1 12,-13,-14,-15,-16,-17,-18,-21,-22
WG186903-14	LD		CVDOC	SALT WTR		3/21/2023 9:00	3/22/2023 12:17	WG186903-23,-24,-25,-11,- L81120-1 12,-13,-14,-15,-16,-17,-18,-21,-22
WG186903-15	MS		CVDOC	SALT WTR		3/21/2023 9:00	3/22/2023 12:58	WG186903-23,-24,-25,-11,- L81120-1 12,-13,-14,-15,-16,-17,-18,-21,-22

WG186903-16	MB	CVDOC	BLANK WTR	3/17/2023 8:55	3/22/2023 14:28	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	MB1 230317 0855
WG186903-17	LD	CVDOC	OTHR WTR	3/17/2023 8:55	3/22/2023 17:19	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	L81204-3
WG186903-18	MS	CVDOC	OTHR WTR	3/17/2023 8:55	3/22/2023 17:46	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	L81204-3
WG186903-19	MB	CVTOC	BLANK WTR	3/22/2023 20:26	3/22/2023 20:26	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20	MB1 230322
WG186903-20	LCS	CVTOC	BLANK WTR	3/22/2023 20:53	3/22/2023 20:53	WG186903-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-19,-20	LEVEL1
WG186903-21	MB	CVDOC	BLANK WTR	3/22/2023 13:10	3/22/2023 21:43	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	MB2 230322 1310
WG186903-22	SB	CVDOC	BLANK WTR	3/22/2023 13:10	3/22/2023 22:10	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	WG186903-21
WG186903-23	LCS	CVDOC	BLANK WTR	3/22/2023 22:37	3/22/2023 22:37	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	LEVEL1
WG186903-24	LD	CVDOC	STORM WTR	3/22/2023 13:10	3/22/2023 23:30	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	L81047-1
WG186903-25	MS	CVDOC	STORM WTR	3/22/2023 13:10	3/22/2023 23:58	WG186903-23,-24,-25,-11,-12,-13,-14,-15,-16,-17,-18,-21,-22	L81047-1

WG187002 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L80094-1	423670	HLKK CSO System Characterization (Hanford, Lander, King, Kingdome)	CVDOC	STORM WTR	3/12/2023 22:10	3/27/2023 10:15	3/27/2023 16:38	WG186903-24,-25,-22,WG187002-4,-5	
L81194-8	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 9:59	3/28/2023 15:48	3/28/2023 15:48	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	
L81194-12	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 11:12	3/27/2023 13:01	3/27/2023 13:01	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	
L81194-13	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTOC	GRND WTR	3/16/2023 10:45	3/27/2023 13:27	3/27/2023 13:27	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	
L81204-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/16/2023 14:15	3/17/2023 8:55	3/27/2023 14:18	WG186903-16,-17,-18,-22,WG187002-4,-5	
WG186903-16	MB		CVDOC	BLANK WTR		3/17/2023 8:55	3/22/2023 14:28	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	MB1 230317 0855

WG186903-17	LD	CVDOC	OTHR WTR	3/17/2023 8:55	3/22/2023 17:19	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	L81204-3
WG186903-18	MS	CVDOC	OTHR WTR	3/17/2023 8:55	3/22/2023 17:46	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	L81204-3
WG186903-22	SB	CVDOC	BLANK WTR	3/22/2023 13:10	3/22/2023 22:10	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	WG186903-21
WG186903-24	LD	CVDOC	STORM WTR	3/22/2023 13:10	3/22/2023 23:30	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	L81047-1
WG186903-25	MS	CVDOC	STORM WTR	3/22/2023 13:10	3/22/2023 23:58	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	L81047-1
WG187002-1	MB	CVTOC	BLANK WTR	3/27/2023 11:43	3/27/2023 11:43	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	MB1 230327
WG187002-2	LCS	CVTOC	BLANK WTR	3/27/2023 12:10	3/27/2023 12:10	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	LEVEL1
WG187002-3	MDLCK	CVTOC	BLANK WTR	3/27/2023 12:35	3/27/2023 12:35	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	LEVEL1
WG187002-4	MB	CVDOC	BLANK WTR	3/27/2023 10:15	3/27/2023 15:46	WG187002-4,-5	MB2 230327
WG187002-5	LCS	CVDOC	BLANK WTR	3/27/2023 16:12	3/27/2023 16:12	WG187002-4,-5	LEVEL1
WG187002-6	MB	CVTOC	BLANK WTR	3/28/2023 13:07	3/28/2023 13:07	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	MB1 230328
WG187002-7	SB	CVTOC	BLANK WTR	3/28/2023 13:34	3/28/2023 13:34	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	WG187002-6
WG187002-8	LCS	CVTOC	BLANK WTR	3/28/2023 14:01	3/28/2023 14:01	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	LEVEL1
WG187002-9	MDLCK	CVTOC	BLANK WTR	3/28/2023 14:26	3/28/2023 14:26	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	LEVEL1
WG187002-10	LD	CVTOC	GRND WTR	3/28/2023 15:23	3/28/2023 15:23	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	L81194-8
WG187002-11	MS	CVTOC	GRND WTR	3/28/2023 16:15	3/28/2023 16:15	WG187002-1,-2,-3,-6,-7,-8,-9,-10,-11	L81194-8

WG187045 Dissolved Nutrients

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L80932-8	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	3/29/2023 13:14	3/30/2023 12:40	3/30/2023 14:11	WG187045-1,-2,-3,-4,-5,-6,-7,-8	
L80932-10	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	3/29/2023 15:13	3/30/2023 12:40	3/30/2023 14:14	WG187045-1,-2,-3,-4,-5,-6,-7,-8	
L81298-1	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	3/29/2023 12:00	3/30/2023 12:40	3/30/2023 13:47	WG187045-1,-2,-3,-4,-5,-6,-7,-8	
L81298-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	3/29/2023 15:30	3/30/2023 12:40	3/30/2023 13:44	WG187045-1,-2,-3,-4,-5,-6,-7,-8	
WG187045-1	MB		CVNH3-FL	BLANK WTR		3/30/2023 12:40	3/30/2023 13:29	WG187045-1,-2,-3,-4,-5,-6,-7,-8	MB3 03/30/23

WG187045-2	MDLCK	CVNH3-FL	BLANK WTR	3/30/2023 13:32	3/30/2023 13:32	WG187045-1,-2,-3,-4,-5,-6,-7,-8	LEVEL1
WG187045-3	SB	CVNH3-FL	BLANK WTR	3/30/2023 12:40	3/30/2023 13:38	WG187045-1,-2,-3,-4,-5,-6,-7,-8	WG187045-1
WG187045-4	LCS	CVNH3-FL	BLANK WTR	3/30/2023 13:41	3/30/2023 13:41	WG187045-1,-2,-3,-4,-5,-6,-7,-8	LEVEL1
WG187045-5	LD	CVNH3-FL	OTHR WTR	3/30/2023 12:40	3/30/2023 13:50	WG187045-1,-2,-3,-4,-5,-6,-7,-8	L81298-1
WG187045-6	MS	CVNH3-FL	OTHR WTR	3/30/2023 12:40	3/30/2023 13:53	WG187045-1,-2,-3,-4,-5,-6,-7,-8	L81298-1
WG187045-7	LD	CVNH3-FL	GRND WTR	3/30/2023 12:40	3/30/2023 14:17	WG187045-1,-2,-3,-4,-5,-6,-7,-8	L80932-10
WG187045-8	MS	CVNH3-FL	GRND WTR	3/30/2023 12:40	3/30/2023 14:20	WG187045-1,-2,-3,-4,-5,-6,-7,-8	L80932-10

WG187048 Alkalinity and Conductivity

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81271-3	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 8:18	3/30/2023 8:46	3/30/2023 8:46	WG187048-2,-1,-3,-4,-5,-6	
L81271-4	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 8:16	3/30/2023 8:54	3/30/2023 8:54	WG187048-2,-1,-3,-4,-5,-6	
L81271-5	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 8:13	3/30/2023 9:04	3/30/2023 9:04	WG187048-2,-1,-3,-4,-5,-6	
L81271-6	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 8:09	3/30/2023 9:13	3/30/2023 9:13	WG187048-2,-1,-3,-4,-5,-6	
L81271-19	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:36	3/30/2023 9:22	3/30/2023 9:22	WG187048-2,-1,-3,-4,-5,-6	
L81271-20	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:35	3/30/2023 9:29	3/30/2023 9:29	WG187048-2,-1,-3,-4,-5,-6	
L81271-21	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:35	3/30/2023 9:39	3/30/2023 9:39	WG187048-2,-1,-3,-4,-5,-6	
L81271-22	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:34	3/30/2023 9:49	3/30/2023 9:49	WG187048-2,-1,-3,-4,-5,-6	
L81271-23	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:33	3/30/2023 9:58	3/30/2023 9:58	WG187048-2,-1,-3,-4,-5,-6	
L81271-24	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:32	3/30/2023 10:08	3/30/2023 10:08	WG187048-2,-1,-3,-4,-5,-6	
L81271-25	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:31	3/30/2023 10:18	3/30/2023 10:18	WG187048-2,-1,-3,-4,-5,-6	
L81271-26	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:30	3/30/2023 10:26	3/30/2023 10:26	WG187048-2,-1,-3,-4,-5,-6	
L81271-27	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:29	3/30/2023 10:34	3/30/2023 10:34	WG187048-2,-1,-3,-4,-5,-6	
L81271-28	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:28	3/30/2023 10:51	3/30/2023 10:51	WG187048-2,-1,-3,-4,-5,-6	

L81271-29	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/27/2023 10:27	3/30/2023 10:59	3/30/2023 10:59	WG187048-2,-1,-3,-4,-5,-6	
L81271-40	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/28/2023 9:41	3/30/2023 11:07	3/30/2023 11:07	WG187048-2,-1,-3,-4,-5,-6	
L81271-41	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/28/2023 9:38	3/30/2023 11:16	3/30/2023 11:16	WG187048-2,-1,-3,-4,-5,-6	
L81271-42	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/28/2023 9:35	3/30/2023 11:26	3/30/2023 11:26	WG187048-2,-1,-3,-4,-5,-6	
L81271-43	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/28/2023 9:32	3/30/2023 11:44	3/30/2023 11:44	WG187048-2,-1,-3,-4,-5,-6	
L81271-44	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/28/2023 9:27	3/30/2023 11:52	3/30/2023 11:52	WG187048-2,-1,-3,-4,-5,-6	
L81271-45	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	3/28/2023 9:22	3/30/2023 12:02	3/30/2023 12:02	WG187048-2,-1,-3,-4,-5,-6	
L81298-1	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	3/29/2023 12:00	3/30/2023 8:31	3/30/2023 8:31	WG187048-2,-1,-3,-4,-5,-6	
L81298-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	3/29/2023 15:30	3/30/2023 8:23	3/30/2023 8:23	WG187048-2,-1,-3,-4,-5,-6	
WG187048-1	LCS		CVALK	BLANK WTR		3/30/2023 8:14	3/30/2023 8:14	WG187048-2,-1,-3,-4,-5,-6	LEVEL3
WG187048-2	LD		CVALK	OTHR WTR		3/30/2023 8:38	3/30/2023 8:38	WG187048-2,-1,-3,-4,-5,-6	L81298-1
WG187048-3	LD		CVALK	FRESH WTR		3/30/2023 10:43	3/30/2023 10:43	WG187048-2,-1,-3,-4,-5,-6	L81271-27
WG187048-4	LCS		CVALK	BLANK WTR		3/30/2023 11:35	3/30/2023 11:35	WG187048-2,-1,-3,-4,-5,-6	LEVEL3
WG187048-5	LD		CVALK	FRESH WTR		3/30/2023 12:10	3/30/2023 12:10	WG187048-2,-1,-3,-4,-5,-6	L81271-45
WG187048-6	LCS		CVALK	BLANK WTR		3/30/2023 12:40	3/30/2023 12:40	WG187048-2,-1,-3,-4,-5,-6	LEVEL3

WG187106 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81297-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/29/2023 12:00	3/30/2023 11:40	4/5/2023 11:25	WG187106-2,-1,-3,-5,-6,-7	
L81297-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/29/2023 13:00	3/30/2023 11:40	4/4/2023 19:06	WG187106-2,-1,-3,-5,-6,-7	
L81297-3	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/29/2023 13:20	3/30/2023 11:40	4/4/2023 21:24	WG187106-2,-1,-3,-5,-6,-7	
L81297-4	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/29/2023 13:40	3/30/2023 11:40	4/4/2023 21:49	WG187106-2,-1,-3,-5,-6,-7	
WG187106-1	MB		CVDOC	BLANK WTR		3/30/2023 11:40	4/4/2023 16:58	WG187106-2,-1,-3,-5,-6,-7	MB1 230330 1140
WG187106-2	SB		CVDOC	BLANK WTR		3/30/2023 11:40	4/4/2023 17:24	WG187106-2,-1,-3,-5,-6,-7	WG187106-1

WG187106-3	LCS	CVDOC	BLANK WTR	4/4/2023 17:51	4/4/2023 17:51	WG187106-2,-1,-3,-5,-6,-7	LEVEL1
WG187106-4	MDLCK	CVTOC	BLANK WTR	4/4/2023 18:16	4/4/2023 18:16	WG187106-4	LEVEL1
WG187106-5	LD	CVDOC	OTHR WTR	3/30/2023 11:40	4/4/2023 19:36	WG187106-2,-1,-3,-5,-6,-7	L81297-2
WG187106-6	MS	CVDOC	OTHR WTR	3/30/2023 11:40	4/4/2023 20:02	WG187106-2,-1,-3,-5,-6,-7	L81297-2
WG187106-7	LCS	CVDOC	BLANK WTR	4/5/2023 10:58	4/5/2023 10:58	WG187106-2,-1,-3,-5,-6,-7	LEVEL1

WG187374 Alkalinity and Conductivity

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81339-1	422018-100	SWS Boise Creek Add-on to Routine Streams	CVALK	FRESH WTR	4/12/2023 9:13	4/19/2023 9:47	4/19/2023 9:47	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81342-11	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	4/12/2023 11:54	4/19/2023 9:54	4/19/2023 9:54	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-1	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 7:34	4/19/2023 10:02	4/19/2023 10:02	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-2	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 7:48	4/19/2023 10:12	4/19/2023 10:12	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-3	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 8:08	4/19/2023 10:21	4/19/2023 10:21	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-4	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 8:34	4/19/2023 10:38	4/19/2023 10:38	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-5	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 8:52	4/19/2023 10:44	4/19/2023 10:44	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-6	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 9:15	4/19/2023 10:53	4/19/2023 10:53	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-7	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 9:34	4/19/2023 11:03	4/19/2023 11:03	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-8	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 10:15	4/19/2023 11:21	4/19/2023 11:21	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-9	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 9:57	4/19/2023 11:30	4/19/2023 11:30	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	

L81345-10	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 10:42	4/19/2023 11:39	4/19/2023 11:39	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-11	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 10:52	4/19/2023 11:49	4/19/2023 11:49	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-12	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 11:48	4/19/2023 11:57	4/19/2023 11:57	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81345-14	422019	WRIA 7 Streams Ambient Monitoring	CVALK	FRESH WTR	4/17/2023 7:50	4/19/2023 12:06	4/19/2023 12:06	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	FREP @ L81345-2
L81360-19	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 11:12	4/19/2023 12:15	4/19/2023 12:15	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-20	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 11:11	4/19/2023 12:23	4/19/2023 12:23	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-21	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 11:07	4/19/2023 12:31	4/19/2023 12:31	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-22	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 11:04	4/19/2023 12:48	4/19/2023 12:48	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-23	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 11:01	4/19/2023 12:55	4/19/2023 12:55	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-24	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 10:56	4/19/2023 13:03	4/19/2023 13:03	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-25	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 10:51	4/19/2023 13:11	4/19/2023 13:11	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-26	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 10:46	4/19/2023 13:19	4/19/2023 13:19	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-27	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 10:41	4/19/2023 13:27	4/19/2023 13:27	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-28	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 10:34	4/19/2023 13:34	4/19/2023 13:34	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81360-29	421235	MAJOR LAKES (wtr col)	CVALK	FRESH WTR	4/13/2023 10:27	4/19/2023 13:44	4/19/2023 13:44	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81394-9	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVALK	GRND WTR	4/13/2023 11:26	4/19/2023 7:58	4/19/2023 7:58	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	

L81394-9	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVCOND	GRND WTR	4/13/2023 11:26	4/19/2023 7:58	4/19/2023 7:58	WG187374-2,-3,-4,-5,-6
L81394-10	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVALK	GRND WTR	4/13/2023 9:40	4/19/2023 8:08	4/19/2023 8:08	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81394-10	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVCOND	GRND WTR	4/13/2023 9:40	4/19/2023 8:08	4/19/2023 8:08	WG187374-2,-3,-4,-5,-6
L81394-11	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVALK	GRND WTR	4/13/2023 9:02	4/19/2023 8:17	4/19/2023 8:17	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81394-11	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVCOND	GRND WTR	4/13/2023 9:02	4/19/2023 8:17	4/19/2023 8:17	WG187374-2,-3,-4,-5,-6
L81394-12	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVALK	GRND WTR	4/13/2023 10:45	4/19/2023 8:28	4/19/2023 8:28	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81394-12	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVCOND	GRND WTR	4/13/2023 10:45	4/19/2023 8:28	4/19/2023 8:28	WG187374-2,-3,-4,-5,-6
L81394-13	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVALK	GRND WTR	4/13/2023 12:43	4/19/2023 8:38	4/19/2023 8:38	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81394-13	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVCOND	GRND WTR	4/13/2023 12:43	4/19/2023 8:38	4/19/2023 8:38	WG187374-2,-3,-4,-5,-6
L81410-1	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK	GRND WTR	4/18/2023 10:30	4/19/2023 8:49	4/19/2023 8:49	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81410-1	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK-BI	GRND WTR	4/18/2023 10:30	4/19/2023 8:49	4/19/2023 8:49	WG187374-4
L81410-1	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVCOND	GRND WTR	4/18/2023 10:30	4/19/2023 8:49	4/19/2023 8:49	WG187374-2,-3,-4,-5,-6
L81410-2	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK	GRND WTR	4/18/2023 11:14	4/19/2023 8:57	4/19/2023 8:57	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81410-2	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK-BI	GRND WTR	4/18/2023 11:14	4/19/2023 8:57	4/19/2023 8:57	WG187374-4
L81410-2	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVCOND	GRND WTR	4/18/2023 11:14	4/19/2023 8:57	4/19/2023 8:57	WG187374-2,-3,-4,-5,-6
L81410-4	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK	GRND WTR	4/17/2023 12:03	4/19/2023 9:12	4/19/2023 9:12	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12
L81410-4	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK-BI	GRND WTR	4/17/2023 12:03	4/19/2023 9:12	4/19/2023 9:12	WG187374-4

L81410-4	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVCOND	GRND WTR	4/17/2023 12:03	4/19/2023 9:12	4/19/2023 9:12	WG187374-2,-3,-4,-5,-6	
L81410-5	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK	GRND WTR	4/17/2023 12:03	4/19/2023 9:19	4/19/2023 9:19	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81410-5	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK-BI	GRND WTR	4/17/2023 12:03	4/19/2023 9:19	4/19/2023 9:19	WG187374-4	
L81410-5	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVCOND	GRND WTR	4/17/2023 12:03	4/19/2023 9:19	4/19/2023 9:19	WG187374-2,-3,-4,-5,-6	
L81410-7	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK	GRND WTR	4/17/2023 13:34	4/19/2023 9:26	4/19/2023 9:26	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81410-7	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK-BI	GRND WTR	4/17/2023 13:34	4/19/2023 9:26	4/19/2023 9:26	WG187374-4	
L81410-7	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVCOND	GRND WTR	4/17/2023 13:34	4/19/2023 9:26	4/19/2023 9:26	WG187374-2,-3,-4,-5,-6	
L81410-11	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK	GRND WTR	4/18/2023 9:48	4/19/2023 9:35	4/19/2023 9:35	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81410-11	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVALK-BI	GRND WTR	4/18/2023 9:48	4/19/2023 9:35	4/19/2023 9:35	WG187374-4	
L81410-11	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVCOND	GRND WTR	4/18/2023 9:48	4/19/2023 9:35	4/19/2023 9:35	WG187374-2,-3,-4,-5,-6	
L81426-5	422040-100	SWS Bioretention 6PPDQ	CVALK	STORM WTR	4/19/2023 9:02	4/19/2023 13:54	4/19/2023 13:54	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81426-6	422040-100	SWS Bioretention 6PPDQ	CVALK	BLANK WTR	4/19/2023 0:00	4/19/2023 14:14	4/19/2023 14:14	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81428-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	4/19/2023 9:29	4/19/2023 14:39	4/19/2023 14:39	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81429-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	4/19/2023 9:25	4/19/2023 14:54	4/19/2023 14:54	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
L81431-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	4/19/2023 9:17	4/19/2023 15:02	4/19/2023 15:02	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	
WG187374-1	LCS		CVALK	BLANK WTR		4/19/2023 7:45	4/19/2023 7:45	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	LEVEL3

WG187374-2	LCS	CVCOND	BLANK WTR	4/19/2023 7:55	4/19/2023 7:55	WG187374-2,-3,-4,-5,-6	LEVEL1
WG187374-3	LCS	CVCOND	BLANK WTR	4/19/2023 7:56	4/19/2023 7:56	WG187374-2,-3,-4,-5,-6	LEVEL2
WG187374-4	LD	CVALK	GRND WTR	4/19/2023 9:05	4/19/2023 9:05	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	L81410-2
WG187374-4	LD	CVALK-BI	GRND WTR	4/19/2023 9:05	4/19/2023 9:05	WG187374-4	L81410-2
WG187374-4	LD	CVCOND	GRND WTR	4/19/2023 9:05	4/19/2023 9:05	WG187374-2,-3,-4,-5,-6	L81410-2
WG187374-5	LCS	CVCOND	BLANK WTR	4/19/2023 9:44	4/19/2023 9:44	WG187374-2,-3,-4,-5,-6	LEVEL1
WG187374-6	LCS	CVCOND	BLANK WTR	4/19/2023 9:45	4/19/2023 9:45	WG187374-2,-3,-4,-5,-6	LEVEL2
WG187374-7	LD	CVALK	FRESH WTR	4/19/2023 10:30	4/19/2023 10:30	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	L81345-3
WG187374-8	LCS	CVALK	BLANK WTR	4/19/2023 11:10	4/19/2023 11:10	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	LEVEL3
WG187374-9	LD	CVALK	FRESH WTR	4/19/2023 12:39	4/19/2023 12:39	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	L81360-21
WG187374-10	LD	CVALK	STORM WTR	4/19/2023 14:04	4/19/2023 14:04	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	L81426-5
WG187374-11	LD	CVALK	BLANK WTR	4/19/2023 14:22	4/19/2023 14:22	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	L81426-6
WG187374-12	LCS	CVALK	BLANK WTR	4/19/2023 14:30	4/19/2023 14:30	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	LEVEL3
WG187374-13	LD	CVALK	OTHR WTR	4/19/2023 14:47	4/19/2023 14:47	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	L81428-2
WG187374-14	LCS	CVALK	BLANK WTR	4/19/2023 15:09	4/19/2023 15:09	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	LEVEL1
WG187374-15	LCS	CVALK	BLANK WTR	4/19/2023 15:27	4/19/2023 15:27	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	LEVEL3
WG187374-16	LCS	CVALK	BLANK WTR	4/19/2023 15:45	4/19/2023 15:45	WG187374-13,-14,-15,-16,-1,-4,-7,-8,-9,-10,-11,-12	LEVEL4

WG187395 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81427-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 15:19	4/20/2023 10:20	4/21/2023 10:27	WG187395-1,-2,-3,-4	
L81427-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 15:28	4/20/2023 10:20	4/21/2023 10:27	WG187395-1,-2,-3,-4	

L81427-3	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 15:41	4/20/2023 10:20	4/21/2023 10:28	WG187395-1,-2,-3,-4	
L81427-4	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 13:30	4/20/2023 10:20	4/21/2023 10:28	WG187395-1,-2,-3,-4	
L81427-5	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 13:47	4/20/2023 10:20	4/21/2023 10:29	WG187395-1,-2,-3,-4	
L81427-6	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 13:59	4/20/2023 10:20	4/21/2023 10:30	WG187395-1,-2,-3,-4	
L81427-7	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 14:14	4/20/2023 10:20	4/21/2023 10:30	WG187395-1,-2,-3,-4	
L81427-8	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 14:24	4/20/2023 10:20	4/21/2023 10:30	WG187395-1,-2,-3,-4	
L81427-9	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 14:33	4/20/2023 10:20	4/21/2023 10:31	WG187395-1,-2,-3,-4	
L81427-10	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 14:45	4/20/2023 10:20	4/21/2023 10:31	WG187395-1,-2,-3,-4	
L81427-11	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 14:55	4/20/2023 10:20	4/21/2023 10:31	WG187395-1,-2,-3,-4	
L81427-12	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 15:08	4/20/2023 10:20	4/21/2023 10:31	WG187395-1,-2,-3,-4	
L81428-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	4/19/2023 9:29	4/20/2023 10:20	4/21/2023 10:31	WG187395-1,-2,-3,-4	
L81429-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	4/19/2023 9:25	4/20/2023 10:20	4/21/2023 10:32	WG187395-1,-2,-3,-4	
L81430-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	4/19/2023 6:40	4/20/2023 10:20	4/21/2023 10:32	WG187395-1,-2,-3,-4	
L81431-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	4/19/2023 9:17	4/20/2023 10:20	4/21/2023 10:33	WG187395-1,-2,-3,-4	
WG187395-1	MB		CVTSS	BLANK WTR		4/20/2023 10:20	4/21/2023 10:26	WG187395-1,-2,-3,-4	MB 230420 A
WG187395-2	LCS		CVTSS	BLANK WTR		4/20/2023 10:20	4/21/2023 10:27	WG187395-1,-2,-3,-4	LEVEL1
WG187395-3	LD		CVTSS	STORM WTR		4/20/2023 10:20	4/21/2023 10:28	WG187395-1,-2,-3,-4	L81427-4
WG187395-4	LD		CVTSS	OTHR WTR		4/20/2023 10:20	4/21/2023 10:32	WG187395-1,-2,-3,-4	L81428-2

WG187396 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L80807-3	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	4/19/2023 9:04	4/20/2023 11:03	4/21/2023 10:36	WG187396-2,-3,-4,-1	
L80807-4	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	4/19/2023 8:59	4/20/2023 11:03	4/21/2023 10:37	WG187396-2,-3,-4,-1	
L80807-5	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	4/19/2023 8:02	4/20/2023 11:03	4/21/2023 10:38	WG187396-2,-3,-4,-1	
L80807-6	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	4/19/2023 7:54	4/20/2023 11:03	4/21/2023 10:37	WG187396-2,-3,-4,-1	
L80807-8	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	4/19/2023 12:01	4/20/2023 11:03	4/21/2023 10:37	WG187396-2,-3,-4,-1	

L81426-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 10:40	4/20/2023 11:03	4/21/2023 10:35	WG187396-2,-3,-4,-1	
L81426-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 11:50	4/20/2023 11:03	4/21/2023 10:35	WG187396-2,-3,-4,-1	
L81426-3	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/18/2023 13:10	4/20/2023 11:03	4/21/2023 10:36	WG187396-2,-3,-4,-1	
L81426-5	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	4/19/2023 9:02	4/20/2023 11:03	4/21/2023 10:36	WG187396-2,-3,-4,-1	
WG187396-1	MB		CVTSS	BLANK WTR		4/20/2023 11:03	4/21/2023 10:34	WG187396-2,-3,-4,-1	MB 230420 B
WG187396-2	LCS		CVTSS	BLANK WTR		4/20/2023 11:03	4/21/2023 10:35	WG187396-2,-3,-4,-1	LEVEL1
WG187396-3	LD		CVTSS	STORM WTR		4/20/2023 11:03	4/21/2023 10:35	WG187396-2,-3,-4,-1	L81426-2
WG187396-4	LD		CVTSS	SALT WTR		4/20/2023 11:03	4/21/2023 10:36	WG187396-2,-3,-4,-1	L80807-3

WG187409 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81244-1	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/6/2023 14:40	4/6/2023 17:15	4/25/2023 15:40	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81244-2	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/6/2023 16:20	4/6/2023 17:15	4/25/2023 18:03	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81375-1	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/10/2023 9:41	4/11/2023 8:07	4/25/2023 18:55	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81375-2	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/10/2023 12:18	4/11/2023 8:07	4/25/2023 19:22	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81375-3	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/10/2023 14:23	4/11/2023 8:07	4/25/2023 19:49	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81406-1	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/18/2023 14:58	4/25/2023 13:35	4/26/2023 4:35	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81406-2	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	4/18/2023 16:03	4/25/2023 13:35	4/26/2023 5:03	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81426-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	4/18/2023 10:40	4/19/2023 7:56	4/25/2023 20:48	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81426-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	4/18/2023 11:50	4/19/2023 7:56	4/25/2023 21:15	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	
L81426-3	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	4/18/2023 13:10	4/19/2023 7:56	4/25/2023 22:41	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	

L81426-5	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	4/19/2023 9:02	4/19/2023 11:47	4/25/2023 23:59	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
L81428-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	4/19/2023 9:29	4/19/2023 11:47	4/26/2023 11:45	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
L81429-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	4/19/2023 9:25	4/19/2023 11:47	4/26/2023 1:49	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
L81430-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	4/19/2023 6:40	4/19/2023 7:56	4/25/2023 23:07	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
L81431-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	4/19/2023 9:17	4/19/2023 11:47	4/26/2023 2:16	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-1	MB		CVDOC	BLANK WTR		4/20/2023 13:00	4/25/2023 11:52	WG187409-2,-3,-4,-5,-6,-1,- MB3 230420 1300 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-2	SB		CVDOC	BLANK WTR		4/20/2023 13:00	4/25/2023 12:20	WG187409-2,-3,-4,-5,-6,-1,- WG187409-1 LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-3	LCS		CVDOC	BLANK WTR		4/25/2023 12:48	4/25/2023 12:48	WG187409-2,-3,-4,-5,-6,-1,- LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-4	MDLCK		CVDOC	BLANK WTR		4/25/2023 13:14	4/25/2023 13:14	WG187409-2,-3,-4,-5,-6,-1,- LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-5	MB		CVDOC	BLANK WTR		4/6/2023 17:15	4/25/2023 15:13	WG187409-2,-3,-4,-5,-6,-1,- MB1 230406 1715 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-6	LD		CVDOC	STORM WTR		4/6/2023 17:15	4/25/2023 17:07	WG187409-2,-3,-4,-5,-6,-1,- L81244-1 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-7	MS		CVDOC	STORM WTR		4/6/2023 17:15	4/25/2023 17:35	WG187409-2,-3,-4,-5,-6,-1,- L81244-1 LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-8	MB		CVDOC	BLANK WTR		4/11/2023 8:07	4/25/2023 18:28	WG187409-2,-3,-4,-5,-6,-1,- MB1 230411 0807 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-9	MB		CVDOC	BLANK WTR		4/19/2023 7:56	4/25/2023 20:20	WG187409-2,-3,-4,-5,-6,-1,- MB1 230419 0756 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-10	MB		CVDOC	BLANK WTR		4/19/2023 11:47	4/25/2023 23:32	WG187409-2,-3,-4,-5,-6,-1,- MB2 230419 1147 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17
WG187409-11	MB		CVDOC	BLANK WTR		4/25/2023 13:35	4/26/2023 3:40	WG187409-2,-3,-4,-5,-6,-1,- MB1 230425 1335 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17

WG187409-12	LCS	CVDOC	BLANK WTR	4/26/2023 4:07	4/26/2023 4:07	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	LEVEL1
WG187409-13	MB	CVDOC	BLANK WTR	4/26/2023 7:25	4/26/2023 9:58	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	MB1 230426 0725
WG187409-14	SB	CVDOC	BLANK WTR	4/26/2023 7:25	4/26/2023 10:25	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	WG187409-13 LEVEL1
WG187409-15	LCS	CVDOC	BLANK WTR	4/26/2023 10:53	4/26/2023 10:53	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	LEVEL1
WG187409-16	LD	CVDOC	OTHR WTR	4/19/2023 11:47	4/26/2023 12:13	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	L81428-2
WG187409-17	MS	CVDOC	OTHR WTR	4/19/2023 11:47	4/26/2023 12:41	WG187409-2,-3,-4,-5,-6,-1,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17	L81428-2 LEVEL1

WG187445 Dissolved Nutrients

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81406-1	421520-200	WDOE Stormwater BMP Research	CVNH3-FL	STORM WTR	4/18/2023 14:58	4/20/2023 6:15	4/20/2023 12:51	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11	
L81406-2	421520-200	WDOE Stormwater BMP Research	CVNH3-FL	STORM WTR	4/18/2023 16:03	4/20/2023 6:15	4/20/2023 12:54	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11	
L81406-4	421520-200	WDOE Stormwater BMP Research	CVNH3-FL	STORM WTR	4/18/2023 14:43	4/20/2023 6:15	4/20/2023 12:57	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11	
L81410-1	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/18/2023 10:30	4/19/2023 9:43	4/20/2023 11:30	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11	
L81410-1	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/18/2023 10:30	4/19/2023 9:43	4/20/2023 12:00	WG187445-1,-2,-3,-4,-5,-6,-7	
L81410-2	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/18/2023 11:14	4/19/2023 9:43	4/20/2023 12:09	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11	
L81410-2	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/18/2023 11:14	4/19/2023 9:43	4/20/2023 11:33	WG187445-1,-2,-3,-4,-5,-6,-7	
L81410-9	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/18/2023 12:21	4/20/2023 6:15	4/20/2023 13:42	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11	
L81410-9	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/18/2023 12:21	4/20/2023 6:15	4/20/2023 13:42	WG187445-1,-2,-3,-4,-5,-6,-7	

L81410-10	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/18/2023 15:09	4/20/2023 6:15	4/20/2023 13:45	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81410-10	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/18/2023 15:09	4/20/2023 6:15	4/20/2023 13:45	WG187445-1,-2,-3,-4,-5,-6,-7
L81410-11	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/18/2023 9:48	4/19/2023 9:43	4/20/2023 11:54	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81410-11	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/18/2023 9:48	4/19/2023 9:43	4/20/2023 11:54	WG187445-1,-2,-3,-4,-5,-6,-7
L81410-13	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/19/2023 10:02	4/20/2023 6:15	4/20/2023 14:00	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81410-13	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/19/2023 10:02	4/20/2023 6:15	4/20/2023 14:00	WG187445-1,-2,-3,-4,-5,-6,-7
L81410-14	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/19/2023 13:34	4/20/2023 6:15	4/20/2023 14:15	WG187445-1,-2,-3,-4,-5,-6,-7
L81410-15	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNH3-FL	GRND WTR	4/19/2023 14:00	4/20/2023 6:15	4/20/2023 14:03	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81410-15	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVNO3	GRND WTR	4/19/2023 14:00	4/20/2023 6:15	4/20/2023 14:03	WG187445-1,-2,-3,-4,-5,-6,-7
L81426-5	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	STORM WTR	4/19/2023 9:02	4/20/2023 6:15	4/20/2023 13:27	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81426-6	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	BLANK WTR	4/19/2023 0:00	4/20/2023 6:15	4/20/2023 12:48	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81428-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	4/19/2023 9:29	4/20/2023 6:15	4/20/2023 13:00	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81429-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	4/19/2023 9:25	4/20/2023 6:15	4/20/2023 13:18	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
L81431-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	4/19/2023 9:17	4/20/2023 6:15	4/20/2023 13:39	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11
WG187445-1	MB		CVNH3-FL	BLANK WTR		4/19/2023 9:43	4/20/2023 11:12	WG187445-1,-2,-3,-4,-5,-6,- MB2 04/19/23 7,-8,-9,-10,-11
WG187445-1	MB		CVNO3	BLANK WTR		4/19/2023 9:43	4/20/2023 11:12	WG187445-1,-2,-3,-4,-5,-6,- MB2 04/19/23 7
WG187445-2	MDLCK		CVNH3-FL	BLANK WTR		4/20/2023 11:15	4/20/2023 11:15	WG187445-1,-2,-3,-4,-5,-6,- LEVEL1 7,-8,-9,-10,-11
WG187445-2	MDLCK		CVNO3	BLANK WTR		4/20/2023 11:15	4/20/2023 11:15	WG187445-1,-2,-3,-4,-5,-6,- LEVEL1 7
WG187445-3	SB		CVNH3-FL	BLANK WTR		4/19/2023 9:43	4/20/2023 11:21	WG187445-1,-2,-3,-4,-5,-6,- WG187445-1 7,-8,-9,-10,-11

WG187445-3	SB	CVNO3	BLANK WTR	4/19/2023 9:43	4/20/2023 11:21	WG187445-1,-2,-3,-4,-5,-6,-7 WG187445-1
WG187445-4	LCS	CVNH3-FL	BLANK WTR	4/20/2023 11:24	4/20/2023 11:24	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 LEVEL1
WG187445-4	LCS	CVNO3	BLANK WTR	4/20/2023 11:24	4/20/2023 11:24	WG187445-1,-2,-3,-4,-5,-6,-7 LEVEL1
WG187445-5	LD	CVNH3-FL	GRND WTR	4/19/2023 9:43	4/20/2023 12:12	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 L81410-2
WG187445-5	LD	CVNO3	GRND WTR	4/19/2023 9:43	4/20/2023 11:36	WG187445-1,-2,-3,-4,-5,-6,-7 L81410-2
WG187445-6	MS	CVNH3-FL	GRND WTR	4/19/2023 9:43	4/20/2023 12:15	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 L81410-2
WG187445-6	MS	CVNO3	GRND WTR	4/19/2023 9:43	4/20/2023 11:39	WG187445-1,-2,-3,-4,-5,-6,-7 L81410-2
WG187445-7	MB	CVNH3-FL	BLANK WTR	4/20/2023 6:15	4/20/2023 12:21	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 MB1 4/20/23
WG187445-7	MB	CVNO3	BLANK WTR	4/20/2023 6:15	4/20/2023 12:21	WG187445-1,-2,-3,-4,-5,-6,-7 MB1 4/20/23
WG187445-8	LD	CVNH3-FL	OTHR WTR	4/20/2023 6:15	4/20/2023 13:03	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 L81428-2
WG187445-9	MS	CVNH3-FL	OTHR WTR	4/20/2023 6:15	4/20/2023 13:21	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 L81429-2
WG187445-10	LD	CVNH3-FL	STORM WTR	4/20/2023 6:15	4/20/2023 13:30	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 L81426-5
WG187445-11	MS	CVNH3-FL	STORM WTR	4/20/2023 6:15	4/20/2023 13:33	WG187445-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11 L81426-5

WG187640 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81291-3	421937	Brightwater Operations	CVTOC	EFFLUENT	4/19/2023 10:32	5/5/2023 5:56	5/5/2023 5:56	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	
L81292-4	421185	WP INPLANT 3 Day INTENSIVE STUDY	CVTOC	EFFLUENT	4/24/2023 9:56	5/5/2023 7:17	5/5/2023 7:17	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	
L81295-3	421186B	RTP INPLNT 3 DAY INT (inf,eff,sl)	CVTOC	EFFLUENT	5/1/2023 8:41	5/5/2023 21:58	5/5/2023 21:58	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	
L81394-14	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	4/26/2023 12:37	5/4/2023 20:54	5/4/2023 20:54	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	
L81410-16	421422-CHGW_EPZ	SWD-CHGW-EPZ Cedar Hills Landfill GW East Perched Zone	CVTOC	GRND WTR	4/26/2023 12:14	5/4/2023 22:12	5/4/2023 22:12	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	
L81466-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	5/3/2023 9:00	5/4/2023 8:45	5/5/2023 23:18	WG187640-11,-9,-10,-12,-13	
L81502-1	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 8:36	5/4/2023 23:30	5/4/2023 23:30	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	

L81502-2	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 8:36	5/4/2023 23:55	5/4/2023 23:55	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-4	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 10:08	5/5/2023 0:21	5/5/2023 0:21	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-5	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/2/2023 9:37	5/5/2023 0:46	5/5/2023 0:46	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-6	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 8:33	5/5/2023 1:12	5/5/2023 1:12	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-7	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 9:36	5/5/2023 1:37	5/5/2023 1:37	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-8	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 11:43	5/5/2023 2:03	5/5/2023 2:03	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-9	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/1/2023 8:56	5/5/2023 2:28	5/5/2023 2:28	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-10	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/2/2023 8:30	5/5/2023 2:54	5/5/2023 2:54	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-11	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/2/2023 9:45	5/5/2023 3:19	5/5/2023 3:19	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-12	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/2/2023 8:20	5/5/2023 4:38	5/5/2023 4:38	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-13	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/2/2023 9:30	5/5/2023 5:04	5/5/2023 5:04	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81502-14	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	5/2/2023 8:18	5/5/2023 5:29	5/5/2023 5:29	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81507-1	421422-VASW	SWD-VASW Vashon Surface Water Quarterly	CVTOC	FRESH WTR	5/3/2023 9:00	5/5/2023 16:20	5/5/2023 16:20	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81507-3	421422-VASW	SWD-VASW Vashon Surface Water Quarterly	CVTOC	FRESH WTR	5/3/2023 9:30	5/5/2023 17:42	5/5/2023 17:42	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
L81507-5	421422-VASW	SWD-VASW Vashon Surface Water Quarterly	CVTOC	FRESH WTR	5/3/2023 9:15	5/5/2023 18:10	5/5/2023 18:10	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17
WG187640-1	MB		CVTOC	BLANK WTR		5/4/2023 19:08	5/4/2023 19:08	WG187640-1,-2,-3,-4,-5,-6,- PB1 230504 7,-8,-14,-15,-16,-17
WG187640-2	SB		CVTOC	BLANK WTR		5/4/2023 19:35	5/4/2023 19:35	WG187640-1,-2,-3,-4,-5,-6,- WG187640-1 LEVEL1 7,-8,-14,-15,-16,-17
WG187640-3	LCS		CVTOC	BLANK WTR		5/4/2023 20:02	5/4/2023 20:02	WG187640-1,-2,-3,-4,-5,-6,- LEVEL1 7,-8,-14,-15,-16,-17
WG187640-4	MDLCK		CVTOC	BLANK WTR		5/4/2023 20:28	5/4/2023 20:28	WG187640-1,-2,-3,-4,-5,-6,- LEVEL1 7,-8,-14,-15,-16,-17
WG187640-5	LD		CVTOC	GRND WTR		5/4/2023 21:19	5/4/2023 21:19	WG187640-1,-2,-3,-4,-5,-6,- L81394-14 7,-8,-14,-15,-16,-17
WG187640-6	MS		CVTOC	GRND WTR		5/4/2023 21:46	5/4/2023 21:46	WG187640-1,-2,-3,-4,-5,-6,- L81394-14 LEVEL1 7,-8,-14,-15,-16,-17
WG187640-7	LD		CVTOC	EFFLUENT		5/5/2023 6:22	5/5/2023 6:22	WG187640-1,-2,-3,-4,-5,-6,- L81291-3 7,-8,-14,-15,-16,-17

WG187640-8	MS	CVTOC	EFFLUENT	5/5/2023 6:50	5/5/2023 6:50	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	L81291-3 LEVEL1
WG187640-9	MB	CVDOC	BLANK WTR	5/4/2023 8:45	5/5/2023 22:23	WG187640-11,-9,-10,-12,-13	MB1 230504 8:45
WG187640-10	SB	CVDOC	BLANK WTR	5/4/2023 8:45	5/5/2023 22:51	WG187640-11,-9,-10,-12,-13	WG187640-9 LEVEL1
WG187640-11	LCS	CVDOC	BLANK WTR	5/5/2023 8:35	5/5/2023 8:35	WG187640-11,-9,-10,-12,-13	LEVEL1
WG187640-12	LD	CVDOC	OTHR WTR	5/4/2023 8:45	5/5/2023 23:45	WG187640-11,-9,-10,-12,-13	L81466-1
WG187640-13	MS	CVDOC	OTHR WTR	5/4/2023 8:45	5/6/2023 0:14	WG187640-11,-9,-10,-12,-13	L81466-1 LEVEL1
WG187640-14	LCS	CVTOC	BLANK WTR	5/5/2023 13:06	5/5/2023 13:06	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	LEVEL1
WG187640-15	MB	CVTOC	BLANK WTR	5/5/2023 15:52	5/5/2023 15:52	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	MB2 230504
WG187640-16	LD	CVTOC	FRESH WTR	5/5/2023 16:47	5/5/2023 16:47	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	L81507-1
WG187640-17	MS	CVTOC	FRESH WTR	5/5/2023 17:15	5/5/2023 17:15	WG187640-1,-2,-3,-4,-5,-6,-7,-8,-14,-15,-16,-17	L81507-1 LEVEL1

WG187647 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81466-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	5/3/2023 9:00	5/4/2023 10:37	5/5/2023 16:05	WG187647-2,-3,-1	
WG187647-1	MB		CVTSS	BLANK WTR		5/4/2023 10:37	5/5/2023 16:04	WG187647-2,-3,-1	MB 230504 A
WG187647-2	LCS		CVTSS	BLANK WTR		5/4/2023 10:37	5/5/2023 16:04	WG187647-2,-3,-1	LEVEL1
WG187647-3	LD		CVTSS	OTHR WTR		5/4/2023 10:37	5/5/2023 16:05	WG187647-2,-3,-1	L81466-1

WG190372 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81954-1	421520-200	WDOE Stormwater BMP Research	CVTSS	STORM WTR	9/25/2023 7:47	9/28/2023 15:42	9/29/2023 16:07	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L81954-2	421520-200	WDOE Stormwater BMP Research	CVTSS	STORM WTR	9/25/2023 11:47	9/28/2023 15:42	9/29/2023 16:08	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L81954-3	421520-200	WDOE Stormwater BMP Research	CVTSS	STORM WTR	9/25/2023 14:35	9/28/2023 15:42	9/29/2023 16:08	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82375-1	421422-CHSW-P	SWD-CHSW P Cedar Hills Surface Water Permit	CVTSS	STORM WTR	9/26/2023 7:30	9/28/2023 15:42	9/29/2023 16:06	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82375-2	421422-CHSW-P	SWD-CHSW P Cedar Hills Surface Water Permit	CVTSS	STORM WTR	9/26/2023 7:55	9/28/2023 15:42	9/29/2023 16:07	WG190372-1,-2,-3,-4,-5,-6,-7,-8	

L82375-3	421422-CHSW-P	SWD-CHSW P Cedar Hills Surface Water Permit	CVTSS	STORM WTR	9/26/2023 8:35	9/28/2023 15:42	9/29/2023 16:07	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82444-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	GRND WTR	9/27/2023 10:25	9/28/2023 15:42	9/29/2023 16:04	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82444-2	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	GRND WTR	9/26/2023 13:10	9/28/2023 15:42	9/29/2023 16:05	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82444-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	GRND WTR	9/25/2023 13:00	9/28/2023 15:42	9/29/2023 16:05	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82444-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	GRND WTR	9/25/2023 11:30	9/28/2023 15:42	9/29/2023 16:05	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82444-5	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	GRND WTR	9/26/2023 11:35	9/28/2023 15:42	9/29/2023 16:05	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82474-10	421422-PUGW	SWD-PUGW Puyallup Groundwater Quarterly	CVTSS	GRND WTR	9/25/2023 13:57	9/28/2023 15:42	9/29/2023 16:05	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82474-11	421422-PUGW	SWD-PUGW Puyallup Groundwater Quarterly	CVTSS	GRND WTR	9/25/2023 13:45	9/28/2023 15:42	9/29/2023 16:06	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82474-12	421422-PUGW	SWD-PUGW Puyallup Groundwater Quarterly	CVTSS	GRND WTR	9/25/2023 12:36	9/28/2023 15:42	9/29/2023 16:06	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82474-13	421422-PUGW	SWD-PUGW Puyallup Groundwater Quarterly	CVTSS	GRND WTR	9/26/2023 11:10	9/28/2023 15:42	9/29/2023 16:06	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82563-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 10:15	9/28/2023 15:42	9/29/2023 16:10	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82563-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 11:36	9/28/2023 15:42	9/29/2023 16:10	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82563-3	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 12:40	9/28/2023 15:42	9/29/2023 16:11	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82563-4	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 14:45	9/28/2023 15:42	9/29/2023 16:11	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82564-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 14:11	9/28/2023 15:42	9/29/2023 16:11	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82564-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 14:20	9/28/2023 15:42	9/29/2023 16:11	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82564-3	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 14:29	9/28/2023 15:42	9/29/2023 16:12	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82564-4	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:04	9/28/2023 15:42	9/29/2023 16:12	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82564-5	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 12:48	9/28/2023 15:42	9/29/2023 16:12	WG190372-1,-2,-3,-4,-5,-6,-7,-8
L82564-6	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:14	9/28/2023 15:42	9/29/2023 16:12	WG190372-1,-2,-3,-4,-5,-6,-7,-8

L82564-7	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:24	9/28/2023 15:42	9/29/2023 16:12	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82564-8	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:31	9/28/2023 15:42	9/29/2023 16:13	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82564-9	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:36	9/28/2023 15:42	9/29/2023 16:13	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82564-10	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:44	9/28/2023 15:42	9/29/2023 16:13	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82564-11	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 13:52	9/28/2023 15:42	9/29/2023 16:13	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82564-12	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/26/2023 14:00	9/28/2023 15:42	9/29/2023 16:14	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82567-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	9/26/2023 17:26	9/28/2023 15:42	9/29/2023 16:14	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82573-1	421520-200	WDOE Stormwater BMP Research	CVTSS	STORM WTR	9/27/2023 9:40	9/28/2023 15:42	9/29/2023 16:08	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82573-2	421520-200	WDOE Stormwater BMP Research	CVTSS	STORM WTR	9/27/2023 11:50	9/28/2023 15:42	9/29/2023 16:09	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
L82573-3	421520-200	WDOE Stormwater BMP Research	CVTSS	STORM WTR	9/27/2023 14:10	9/28/2023 15:42	9/29/2023 16:09	WG190372-1,-2,-3,-4,-5,-6,-7,-8	
WG190372-1	MB		CVTSS	BLANK WTR		9/28/2023 15:42	9/29/2023 16:04	WG190372-1,-2,-3,-4,-5,-6,-7,-8	MB1 230928
WG190372-2	LCS		CVTSS	BLANK WTR		9/28/2023 15:42	9/29/2023 16:04	WG190372-1,-2,-3,-4,-5,-6,-7,-8	LEVEL1
WG190372-3	LD		CVTSS	GRND WTR		9/28/2023 15:42	9/29/2023 16:06	WG190372-1,-2,-3,-4,-5,-6,-7,-8	L82474-11
WG190372-4	LD		CVTSS	STORM WTR		9/28/2023 15:42	9/29/2023 16:08	WG190372-1,-2,-3,-4,-5,-6,-7,-8	L81954-3
WG190372-5	MB		CVTSS	BLANK WTR		9/28/2023 15:42	9/29/2023 16:10	WG190372-1,-2,-3,-4,-5,-6,-7,-8	MB2 230928
WG190372-6	LCS		CVTSS	BLANK WTR		9/28/2023 15:42	9/29/2023 16:10	WG190372-1,-2,-3,-4,-5,-6,-7,-8	LEVEL1
WG190372-7	LD		CVTSS	STORM WTR		9/28/2023 15:42	9/29/2023 16:13	WG190372-1,-2,-3,-4,-5,-6,-7,-8	L82564-8
WG190372-8	LD		CVTSS	OTHR WTR		9/28/2023 15:42	9/29/2023 16:14	WG190372-1,-2,-3,-4,-5,-6,-7,-8	L82567-2

WG190375 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82255-1	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 10:30	9/29/2023 15:28	10/3/2023 13:33	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82255-2	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 13:30	9/29/2023 15:28	10/3/2023 13:33	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	

L82255-3	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 13:45	9/29/2023 15:28	10/3/2023 13:33	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82255-4	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 10:00	9/29/2023 15:28	10/3/2023 13:33	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82255-5	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 11:00	9/29/2023 15:28	10/3/2023 13:34	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82255-6	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 11:10	9/29/2023 15:28	10/3/2023 13:34	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82255-7	421874-100	City of Shoreline Monthly Water Quality Monitoring	CVTSS	FRESH WTR	9/26/2023 10:50	9/29/2023 15:28	10/3/2023 13:34	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-1	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 11:53	9/29/2023 15:28	10/3/2023 13:34	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-2	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 11:52	9/29/2023 15:28	10/3/2023 13:35	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-3	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 11:44	9/29/2023 15:28	10/3/2023 13:36	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	FREP@L82405-4
L82405-4	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 11:44	9/29/2023 15:28	10/3/2023 13:36	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-5	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 13:10	9/29/2023 15:28	10/3/2023 13:36	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-8	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 10:11	9/29/2023 15:28	10/3/2023 13:36	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-9	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 10:11	9/29/2023 15:28	10/3/2023 13:37	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-10	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 10:09	9/29/2023 15:28	10/3/2023 13:37	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-11	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 9:55	9/29/2023 15:28	10/3/2023 13:37	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-12	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 9:54	9/29/2023 15:28	10/3/2023 13:37	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82405-13	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 9:39	9/29/2023 15:28	10/3/2023 13:37	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	

L82405-14	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 9:38	9/29/2023 15:28	10/3/2023 13:38	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82405-15	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	9/28/2023 9:37	9/29/2023 15:28	10/3/2023 13:38	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 10:57	9/29/2023 15:28	10/3/2023 13:31	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 11:41	9/29/2023 15:28	10/3/2023 13:32	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 11:24	9/29/2023 15:28	10/3/2023 13:32	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-6	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 12:04	9/29/2023 15:28	10/3/2023 13:32	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-7	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 9:57	9/29/2023 15:28	10/3/2023 13:32	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-8	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 9:26	9/29/2023 15:28	10/3/2023 13:32	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82443-9	421936-200	Carnation Treatment Plant - Reclaimed Water	CVTSS	FRESH WTR	9/26/2023 12:27	9/29/2023 15:28	10/3/2023 13:33	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-1	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 7:32	9/29/2023 15:28	10/3/2023 13:18	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-2	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 7:30	9/29/2023 15:28	10/3/2023 13:19	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-3	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 8:17	9/29/2023 15:28	10/3/2023 13:19	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-4	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 8:14	9/29/2023 15:28	10/3/2023 13:19	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-5	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 8:10	9/29/2023 15:28	10/3/2023 13:19	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-6	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 8:07	9/29/2023 15:28	10/3/2023 13:20	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-8	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 8:55	9/29/2023 15:28	10/3/2023 13:20	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12

L82531-9	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 8:53	9/29/2023 15:28	10/3/2023 13:20	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-10	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:49	9/29/2023 15:28	10/3/2023 13:21	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-11	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:29	9/29/2023 15:28	10/3/2023 13:21	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-12	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:28	9/29/2023 15:28	10/3/2023 13:21	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-13	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:27	9/29/2023 15:28	10/3/2023 13:21	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-14	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:26	9/29/2023 15:28	10/3/2023 13:22	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-15	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:25	9/29/2023 15:28	10/3/2023 13:22	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-16	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:24	9/29/2023 15:28	10/3/2023 13:22	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-17	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 9:23	9/29/2023 15:28	10/3/2023 13:22	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-19	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:30	9/29/2023 15:28	10/3/2023 13:22	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-20	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:29	9/29/2023 15:28	10/3/2023 13:23	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-21	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:28	9/29/2023 15:28	10/3/2023 13:23	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-22	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:27	9/29/2023 15:28	10/3/2023 13:24	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-23	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:26	9/29/2023 15:28	10/3/2023 13:25	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-24	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:25	9/29/2023 15:28	10/3/2023 13:25	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12
L82531-25	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:25	9/29/2023 15:28	10/3/2023 13:25	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12

L82531-26	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:24	9/29/2023 15:28	10/3/2023 13:26	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-27	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:23	9/29/2023 15:28	10/3/2023 13:26	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-28	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:22	9/29/2023 15:28	10/3/2023 13:26	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-29	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 10:22	9/29/2023 15:28	10/3/2023 13:26	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-31	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 11:22	9/29/2023 15:28	10/3/2023 13:26	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-32	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 11:21	9/29/2023 15:28	10/3/2023 13:27	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-33	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 11:20	9/29/2023 15:28	10/3/2023 13:27	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-34	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 11:19	9/29/2023 15:28	10/3/2023 13:27	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-35	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/25/2023 11:17	9/29/2023 15:28	10/3/2023 13:27	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-39	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 9:14	9/29/2023 15:28	10/3/2023 13:28	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	FREP@L82531-40
L82531-40	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 9:10	9/29/2023 15:28	10/3/2023 13:28	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-41	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 9:06	9/29/2023 15:28	10/3/2023 13:28	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-42	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 9:02	9/29/2023 15:28	10/3/2023 13:28	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-43	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:59	9/29/2023 15:28	10/3/2023 13:28	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-44	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:53	9/29/2023 15:28	10/3/2023 13:29	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-45	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:41	9/29/2023 15:28	10/3/2023 13:29	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	

L82531-47	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:25	9/29/2023 15:28	10/3/2023 13:29	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-48	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:22	9/29/2023 15:28	10/3/2023 13:30	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-49	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:18	9/29/2023 15:28	10/3/2023 13:30	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-50	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:15	9/29/2023 15:28	10/3/2023 13:31	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-51	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:09	9/29/2023 15:28	10/3/2023 13:31	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82531-55	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	9/26/2023 8:50	9/29/2023 15:28	10/3/2023 13:31	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	FREP@L82531-45
L82563-5	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	9/27/2023 7:00	9/29/2023 15:28	10/3/2023 13:39	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82565-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	9/27/2023 7:00	9/29/2023 15:28	10/3/2023 13:38	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82566-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	9/27/2023 7:00	9/29/2023 15:28	10/3/2023 13:39	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
L82568-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	9/27/2023 7:00	9/29/2023 15:28	10/3/2023 13:39	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	
WG190375-1	MB		CVTSS	BLANK WTR		9/29/2023 15:28	10/3/2023 13:18	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	MB1 230929
WG190375-2	LCS		CVTSS	BLANK WTR		9/29/2023 15:28	10/3/2023 13:18	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	LEVEL1
WG190375-3	LD		CVTSS	FRESH WTR		9/29/2023 15:28	10/3/2023 13:21	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	L82531-10
WG190375-4	MB		CVTSS	BLANK WTR		9/29/2023 15:28	10/3/2023 13:24	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	MB2 230929
WG190375-5	LCS		CVTSS	BLANK WTR		9/29/2023 15:28	10/3/2023 13:25	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	LEVEL1
WG190375-6	LD		CVTSS	FRESH WTR		9/29/2023 15:28	10/3/2023 13:28	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	L82531-41

WG190375-7	MB	CVTSS	BLANK WTR	9/29/2023 15:28	10/3/2023 13:30	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	MB3 230929
WG190375-8	LCS	CVTSS	BLANK WTR	9/29/2023 15:28	10/3/2023 13:30	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	LEVEL1
WG190375-9	LD	CVTSS	FRESH WTR	9/29/2023 15:28	10/3/2023 13:31	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	L82443-1
WG190375-10	MB	CVTSS	BLANK WTR	9/29/2023 15:28	10/3/2023 13:35	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	MB4 230929
WG190375-11	LCS	CVTSS	BLANK WTR	9/29/2023 15:28	10/3/2023 13:35	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	LEVEL1
WG190375-12	LD	CVTSS	SALT WTR	9/29/2023 15:28	10/3/2023 13:36	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	L82405-3
WG190375-13	LD	CVTSS	OTHR WTR	9/29/2023 15:28	10/3/2023 13:38	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	L82565-2
WG190375-14	LD	CVTSS	STORM WTR	9/29/2023 15:28	10/3/2023 13:39	WG190375-1,-2,-3,-4,-5,-13,-14,-6,-7,-8,-9,-10,-11,-12	L82563-5

WG190387 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81954-1	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	9/25/2023 7:47	9/25/2023 16:09	9/29/2023 22:52	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	
L81954-2	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	9/25/2023 11:47	9/25/2023 16:09	9/29/2023 23:19	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	
L81954-3	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	9/25/2023 14:35	9/25/2023 16:09	9/30/2023 0:38	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	
L82313-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	9/12/2023 6:00	9/29/2023 10:00	9/30/2023 7:44	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	

L82313-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	9/13/2023 6:00	9/29/2023 10:00	9/30/2023 9:33	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82314-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	9/19/2023 6:00	9/29/2023 10:00	9/30/2023 9:06	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82314-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	9/20/2023 6:00	9/29/2023 10:00	9/30/2023 10:00	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82326-1	421250ON	Ambient Offshore Water Column-North	CVDOC	FRESH WTR	9/18/2023 13:45	9/19/2023 11:00	9/30/2023 1:34	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82326-2	421250ON	Ambient Offshore Water Column-North	CVDOC	FRESH WTR	9/18/2023 14:16	9/19/2023 11:00	9/30/2023 2:00	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82326-3	421250ON	Ambient Offshore Water Column-North	CVDOC	FRESH WTR	9/18/2023 14:56	9/19/2023 11:00	9/30/2023 2:26	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82327-1	421250ON	Ambient Offshore Water Column-North	CVDOC	SALT WTR	9/18/2023 13:43	9/19/2023 11:00	9/30/2023 2:52	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82327-2	421250ON	Ambient Offshore Water Column-North	CVDOC	SALT WTR	9/18/2023 14:15	9/19/2023 11:00	9/30/2023 4:11	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82327-3	421250ON	Ambient Offshore Water Column-North	CVDOC	SALT WTR	9/18/2023 14:55	9/19/2023 11:00	9/30/2023 4:38	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82443-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 10:57	9/29/2023 10:00	9/30/2023 10:28	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82443-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 11:41	9/29/2023 10:00	9/30/2023 11:52	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82443-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 11:24	9/29/2023 10:00	9/30/2023 12:18	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7

L82443-6	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 12:04	9/29/2023 10:00	9/30/2023 12:43	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82443-7	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 9:57	9/29/2023 10:00	9/30/2023 14:01	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82443-8	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 9:26	9/29/2023 10:00	9/30/2023 14:27	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82443-9	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	FRESH WTR	9/26/2023 12:27	9/29/2023 10:00	9/30/2023 14:53	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82444-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	9/27/2023 10:25	9/29/2023 10:00	9/30/2023 15:20	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82444-2	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	9/26/2023 13:10	9/29/2023 10:00	9/30/2023 15:44	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82444-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	9/25/2023 13:00	9/29/2023 10:00	9/30/2023 17:01	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82444-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	9/25/2023 11:30	9/29/2023 10:00	9/30/2023 17:26	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82444-5	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	9/26/2023 11:35	9/29/2023 10:00	9/30/2023 18:44	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82563-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	9/26/2023 10:15	9/27/2023 15:10	9/29/2023 17:09	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82563-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	9/26/2023 11:36	9/27/2023 15:10	9/29/2023 19:39	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82563-3	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	9/26/2023 12:40	9/27/2023 15:10	9/29/2023 20:06	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7

L82563-4	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	9/26/2023 14:45	9/27/2023 15:10	9/29/2023 20:33	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82563-5	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	9/27/2023 7:00	9/29/2023 11:20	9/30/2023 19:36	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82565-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	9/27/2023 7:00	9/29/2023 11:20	10/2/2023 12:28	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82566-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	9/27/2023 7:00	9/29/2023 11:20	10/2/2023 10:42	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82567-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	9/26/2023 17:26	9/27/2023 15:10	9/29/2023 15:49	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82568-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	9/27/2023 7:00	9/29/2023 11:20	10/2/2023 11:08	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82573-1	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	9/27/2023 9:40	9/27/2023 15:10	9/29/2023 21:00	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82573-2	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	9/27/2023 11:50	9/27/2023 15:10	9/29/2023 21:27	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
L82573-3	421520-200	WDOE Stormwater BMP Research	CVDOC	STORM WTR	9/27/2023 14:10	9/27/2023 15:10	9/29/2023 21:54	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
WG190387-1	MB		CVDOC	BLANK WTR		9/27/2023 15:10	9/29/2023 14:30	WG190387-1,-2,-3,-4,-5,-6,- MB1 9/27/23 8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
WG190387-2	SB		CVDOC	BLANK WTR		9/27/2023 15:10	9/29/2023 14:57	WG190387-1,-2,-3,-4,-5,-6,- WG190387-1 LEVEL1 8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7
WG190387-3	LCS		CVDOC	BLANK WTR		9/29/2023 15:24	9/29/2023 15:24	WG190387-1,-2,-3,-4,-5,-6,- LEVEL1 8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7

WG190387-4	LD	CVDOC	OTHR WTR	9/27/2023 15:10	9/29/2023 16:15	WG190387-1,-2,-3,-4,-5,-6,- L82567-2 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-5	MS	CVDOC	OTHR WTR	9/27/2023 15:10	9/29/2023 16:42	WG190387-1,-2,-3,-4,-5,-6,- L82567-2 LEVEL1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-6	LD	CVDOC	STORM WTR	9/27/2023 15:10	9/29/2023 17:36	WG190387-1,-2,-3,-4,-5,-6,- L82563-1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-7	MS	CVDOC	STORM WTR	9/27/2023 15:10	10/2/2023 12:01	WG190387-1,-2,-3,-4,-5,-6,- L82563-1 LEVEL1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-8	MB	CVDOC	BLANK WTR	9/25/2023 16:09	9/29/2023 22:25	WG190387-1,-2,-3,-4,-5,-6,- MB1 9/25/23 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-9	MB	CVDOC	BLANK WTR	9/19/2023 11:00	9/30/2023 1:08	WG190387-1,-2,-3,-4,-5,-6,- MB1 9/19/23 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-10	SB	CVDOC	BLANK WTR	9/19/2023 11:00	10/2/2023 11:35	WG190387-1,-2,-3,-4,-5,-6,- WG190387-9 LEVEL1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-11	LD	CVDOC	SALT WTR	9/19/2023 11:00	9/30/2023 3:17	WG190387-1,-2,-3,-4,-5,-6,- L82327-1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-12	MS	CVDOC	SALT WTR	9/19/2023 11:00	9/30/2023 3:46	WG190387-1,-2,-3,-4,-5,-6,- L82327-1 LEVEL1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-13	MB	CVDOC	BLANK WTR	9/29/2023 10:00	9/30/2023 6:22	WG190387-1,-2,-3,-4,-5,-6,- MB1 9/29/23 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-14	SB	CVDOC	BLANK WTR	9/29/2023 10:00	9/30/2023 6:49	WG190387-1,-2,-3,-4,-5,-6,- WG190387-13 LEVEL1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7
WG190387-15	LCS	CVDOC	BLANK WTR	9/30/2023 7:17	9/30/2023 7:17	WG190387-1,-2,-3,-4,-5,-6,- LEVEL1 8,-9,-11,-12,-13,-14,-15,- 16,-17,-18,-19,-20,-21,-22,- 10,-7

WG190387-16	LD	CVDOC	INFLUENT	9/29/2023 10:00	9/30/2023 8:12	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	L82313-2
WG190387-17	MS	CVDOC	INFLUENT	9/29/2023 10:00	9/30/2023 8:39	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	L82313-2 LEVEL1
WG190387-18	LD	CVDOC	FRESH WTR	9/29/2023 10:00	9/30/2023 13:09	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	L82443-6
WG190387-19	MS	CVDOC	FRESH WTR	9/29/2023 10:00	9/30/2023 13:36	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	L82443-6 LEVEL1
WG190387-20	LD	CVDOC	GRND WTR	9/29/2023 10:00	9/30/2023 17:51	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	L82444-4
WG190387-21	MS	CVDOC	GRND WTR	9/29/2023 10:00	9/30/2023 18:17	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	L82444-4 LEVEL1
WG190387-22	MB	CVDOC	BLANK WTR	9/29/2023 11:20	9/30/2023 19:09	WG190387-1,-2,-3,-4,-5,-6,-8,-9,-11,-12,-13,-14,-15,-16,-17,-18,-19,-20,-21,-22,-10,-7	MB2 9/29/23

WG190436 Dissolved Nutrients

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82443-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNH3-FL	FRESH WTR	9/26/2023 10:57	9/29/2023 7:10	9/29/2023 9:09	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17	
L82443-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNO23	FRESH WTR	9/26/2023 10:57	9/29/2023 7:10	9/29/2023 8:21	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10	
L82443-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNH3-FL	FRESH WTR	9/26/2023 11:41	9/29/2023 7:10	9/29/2023 10:21	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17	
L82443-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNO23	FRESH WTR	9/26/2023 11:41	9/29/2023 7:10	9/29/2023 8:24	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10	
L82443-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNH3-FL	FRESH WTR	9/26/2023 11:24	9/29/2023 7:10	9/29/2023 8:45	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17	

L82443-4	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	FRESH WTR	9/26/2023 11:24	9/29/2023 7:10	9/29/2023 8:45	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82443-6	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	FRESH WTR	9/26/2023 12:04	9/29/2023 7:10	9/29/2023 8:48	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82443-6	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	FRESH WTR	9/26/2023 12:04	9/29/2023 7:10	9/29/2023 8:48	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82443-7	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	FRESH WTR	9/26/2023 9:57	9/29/2023 7:10	9/29/2023 8:51	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82443-7	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	FRESH WTR	9/26/2023 9:57	9/29/2023 7:10	9/29/2023 8:51	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82443-8	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	FRESH WTR	9/26/2023 9:26	9/29/2023 7:10	9/29/2023 8:54	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82443-8	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	FRESH WTR	9/26/2023 9:26	9/29/2023 7:10	9/29/2023 9:12	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82443-9	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	FRESH WTR	9/26/2023 12:27	9/29/2023 7:10	9/29/2023 8:57	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82443-9	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	FRESH WTR	9/26/2023 12:27	9/29/2023 7:10	9/29/2023 9:27	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82444-1	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	GRND WTR	9/27/2023 10:25	9/29/2023 7:10	9/29/2023 9:39	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82444-1	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	GRND WTR	9/27/2023 10:25	9/29/2023 7:10	9/29/2023 9:00	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82444-2	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	GRND WTR	9/26/2023 13:10	9/29/2023 7:10	9/29/2023 9:36	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82444-2	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	GRND WTR	9/26/2023 13:10	9/29/2023 7:10	9/29/2023 9:03	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82444-3	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	GRND WTR	9/25/2023 13:00	9/29/2023 7:10	9/29/2023 9:06	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82444-3	421936-200	Carnation Treatment Plant - CVNO23 Reclaimed Water	GRND WTR	9/25/2023 13:00	9/29/2023 7:10	9/29/2023 9:06	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82444-4	421936-200	Carnation Treatment Plant - CVNH3-FL Reclaimed Water	GRND WTR	9/25/2023 11:30	9/29/2023 7:10	9/29/2023 10:15	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17

L82444-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNO23	GRND WTR	9/25/2023 11:30	9/29/2023 7:10	9/29/2023 9:45	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82444-5	421936-200	Carnation Treatment Plant - Reclaimed Water	CVNO23	GRND WTR	9/26/2023 11:35	9/29/2023 7:10	9/29/2023 9:42	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
L82490-4	421422-CHLS-M	SWD-CHLS-M Cedar Hills Leachate Monthly	CVNH3-FL	LEACHATE	9/19/2023 8:30	9/29/2023 7:10	9/29/2023 10:09	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82563-5	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	STORM WTR	9/27/2023 7:00	9/29/2023 11:25	9/29/2023 12:15	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82563-6	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	9/27/2023 7:00	9/29/2023 11:25	9/29/2023 12:27	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82565-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	9/27/2023 7:00	9/29/2023 11:25	9/29/2023 12:30	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82566-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	9/27/2023 7:00	9/29/2023 11:25	9/29/2023 12:33	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82568-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	9/27/2023 7:00	9/29/2023 11:25	9/29/2023 12:36	WG190436-1,-2,-3,-4,-7,-8,-5,-6,-11,-12,-13,-14,-15,-16,-17
L82582-2	421161	IW SURCHARGE	CVNO23	IW WTR	9/28/2023 11:15	9/29/2023 7:10	9/29/2023 11:09	WG190436-1,-2,-3,-4,-5,-6,-7,-8,-9,-10
WG190436-1	MB		CVNH3-FL	BLANK WTR		9/29/2023 7:10	9/29/2023 8:03	WG190436-1,-2,-3,-4,-7,-8,- MB1 09/29/23 5,-6,-11,-12,-13,-14,-15,-16,-17
WG190436-1	MB		CVNO23	BLANK WTR		9/29/2023 7:10	9/29/2023 8:03	WG190436-1,-2,-3,-4,-5,-6,- MB1 09/29/23 7,-8,-9,-10
WG190436-2	MDLCK		CVNH3-FL	BLANK WTR		9/29/2023 8:06	9/29/2023 8:06	WG190436-1,-2,-3,-4,-7,-8,- LEVEL1 5,-6,-11,-12,-13,-14,-15,-16,-17
WG190436-2	MDLCK		CVNO23	BLANK WTR		9/29/2023 8:06	9/29/2023 8:06	WG190436-1,-2,-3,-4,-5,-6,- LEVEL1 7,-8,-9,-10
WG190436-3	SB		CVNH3-FL	BLANK WTR		9/29/2023 7:10	9/29/2023 8:12	WG190436-1,-2,-3,-4,-7,-8,- WG190436-1 LEVEL1 5,-6,-11,-12,-13,-14,-15,-16,-17
WG190436-3	SB		CVNO23	BLANK WTR		9/29/2023 7:10	9/29/2023 8:12	WG190436-1,-2,-3,-4,-5,-6,- WG190436-1 LEVEL1 7,-8,-9,-10
WG190436-4	LCS		CVNH3-FL	BLANK WTR		9/29/2023 8:15	9/29/2023 8:15	WG190436-1,-2,-3,-4,-7,-8,- LEVEL1 5,-6,-11,-12,-13,-14,-15,-16,-17
WG190436-4	LCS		CVNO23	BLANK WTR		9/29/2023 8:15	9/29/2023 8:15	WG190436-1,-2,-3,-4,-5,-6,- LEVEL1 7,-8,-9,-10

WG190436-5	LD	CVNH3-FL	FRESH WTR	9/29/2023 7:10	9/29/2023 10:24	WG190436-1,-2,-3,-4,-7,-8,- L82443-3 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-5	LD	CVNO23	FRESH WTR	9/29/2023 7:10	9/29/2023 8:27	WG190436-1,-2,-3,-4,-5,-6,- L82443-3 7,-8,-9,-10
WG190436-6	MS	CVNH3-FL	FRESH WTR	9/29/2023 7:10	9/29/2023 10:27	WG190436-1,-2,-3,-4,-7,-8,- L82443-3 LEVEL1 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-6	MS	CVNO23	FRESH WTR	9/29/2023 7:10	9/29/2023 8:30	WG190436-1,-2,-3,-4,-5,-6,- L82443-3 LEVEL1 7,-8,-9,-10
WG190436-7	LD	CVNH3-FL	GRND WTR	9/29/2023 7:10	9/29/2023 9:48	WG190436-1,-2,-3,-4,-7,-8,- L82444-4 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-7	LD	CVNO23	GRND WTR	9/29/2023 7:10	9/29/2023 9:48	WG190436-1,-2,-3,-4,-5,-6,- L82444-4 7,-8,-9,-10
WG190436-8	MS	CVNH3-FL	GRND WTR	9/29/2023 7:10	9/29/2023 9:51	WG190436-1,-2,-3,-4,-7,-8,- L82444-4 LEVEL1 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-8	MS	CVNO23	GRND WTR	9/29/2023 7:10	9/29/2023 9:51	WG190436-1,-2,-3,-4,-5,-6,- L82444-4 LEVEL1 7,-8,-9,-10
WG190436-9	LD	CVNO23	IW WTR	9/29/2023 7:10	9/29/2023 11:12	WG190436-1,-2,-3,-4,-5,-6,- L82582-2 7,-8,-9,-10
WG190436-10	MS	CVNO23	IW WTR	9/29/2023 7:10	9/29/2023 11:15	WG190436-1,-2,-3,-4,-5,-6,- L82582-2 LEVEL1 7,-8,-9,-10
WG190436-11	MB	CVNH3-FL	BLANK WTR	9/29/2023 11:25	9/29/2023 11:33	WG190436-1,-2,-3,-4,-7,-8,- MB5 09/29/23 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-12	SB	CVNH3-FL	BLANK WTR	9/29/2023 11:25	9/29/2023 11:39	WG190436-1,-2,-3,-4,-7,-8,- WG190436-11 LEVEL1 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-13	LCS	CVNH3-FL	BLANK WTR	9/29/2023 11:25	9/29/2023 12:00	WG190436-1,-2,-3,-4,-7,-8,- LEVEL1 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-14	LD	CVNH3-FL	STORM WTR	9/29/2023 11:25	9/29/2023 12:18	WG190436-1,-2,-3,-4,-7,-8,- L82563-5 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-15	MS	CVNH3-FL	STORM WTR	9/29/2023 11:25	9/29/2023 12:21	WG190436-1,-2,-3,-4,-7,-8,- L82563-5 LEVEL1 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-16	LD	CVNH3-FL	OTHR WTR	9/29/2023 11:25	9/29/2023 12:39	WG190436-1,-2,-3,-4,-7,-8,- L82566-2 5,-6,-11,-12,-13,-14,-15,- 16,-17
WG190436-17	MS	CVNH3-FL	OTHR WTR	9/29/2023 11:25	9/29/2023 12:42	WG190436-1,-2,-3,-4,-7,-8,- L82566-2 LEVEL1 5,-6,-11,-12,-13,-14,-15,- 16,-17

WG190455 Alkalinity and Conductivity

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82563-5	422040-100	SWS Bioretention 6PPDQ	CVALK	STORM WTR	9/27/2023 7:00	10/3/2023 8:07	10/3/2023 8:07	WG190455-1,-2,-3,-4	
L82563-6	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	9/27/2023 7:00	10/3/2023 8:23	10/3/2023 8:23	WG190455-1,-2,-3,-4	
L82565-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	9/27/2023 7:00	10/3/2023 8:31	10/3/2023 8:31	WG190455-1,-2,-3,-4	
L82566-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	9/27/2023 7:00	10/3/2023 8:45	10/3/2023 8:45	WG190455-1,-2,-3,-4	
L82568-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	9/27/2023 7:00	10/3/2023 8:52	10/3/2023 8:52	WG190455-1,-2,-3,-4	
WG190455-1	LCS		CVALK	BLANK WTR		10/3/2023 7:57	10/3/2023 7:57	WG190455-1,-2,-3,-4	LEVEL3
WG190455-2	LD		CVALK	STORM WTR		10/3/2023 8:16	10/3/2023 8:16	WG190455-1,-2,-3,-4	L82563-5
WG190455-3	LD		CVALK	OTHR WTR		10/3/2023 8:38	10/3/2023 8:38	WG190455-1,-2,-3,-4	L82565-2
WG190455-4	LCS		CVALK	BLANK WTR		10/3/2023 9:18	10/3/2023 9:18	WG190455-1,-2,-3,-4	LEVEL3

WG190656 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82315-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	9/26/2023 6:00	10/17/2023 9:00	10/18/2023 7:05	WG190656-17,-18,-19,-20,-21,-22,-23,-24	
L82315-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	9/27/2023 6:35	10/17/2023 9:00	10/18/2023 9:44	WG190656-17,-18,-19,-20,-21,-22,-23,-24	
L82485-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	10/3/2023 7:00	10/17/2023 9:00	10/18/2023 7:32	WG190656-17,-18,-19,-20,-21,-22,-23,-24	
L82485-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	10/4/2023 7:00	10/17/2023 9:00	10/18/2023 10:11	WG190656-17,-18,-19,-20,-21,-22,-23,-24	
L82644-1	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 8:59	10/13/2023 18:33	10/13/2023 18:33	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16	
L82644-2	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 10:11	10/13/2023 19:49	10/13/2023 19:49	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16	
L82644-4	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 11:25	10/17/2023 14:39	10/17/2023 14:39	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16	
L82644-6	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/5/2023 11:43	10/17/2023 15:04	10/17/2023 15:04	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16	
L82644-7	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/6/2023 9:59	10/17/2023 15:29	10/17/2023 15:29	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16	
L82644-8	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/5/2023 15:30	10/17/2023 15:54	10/17/2023 15:54	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16	

L82644-9	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/5/2023 10:05	10/17/2023 17:10	10/17/2023 17:10	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82644-10	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/5/2023 11:35	10/17/2023 17:35	10/17/2023 17:35	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82644-11	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/6/2023 9:59	10/17/2023 18:51	10/17/2023 18:51	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82644-12	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 15:10	10/17/2023 19:16	10/17/2023 19:16	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82644-13	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 14:27	10/17/2023 19:41	10/17/2023 19:41	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82644-14	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/5/2023 14:29	10/17/2023 20:06	10/17/2023 20:06	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82644-15	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 13:19	10/17/2023 20:31	10/17/2023 20:31	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-1	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 8:51	10/17/2023 20:56	10/17/2023 20:56	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-3	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 10:33	10/17/2023 22:19	10/17/2023 22:19	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-4	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 12:00	10/17/2023 22:45	10/17/2023 22:45	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-5	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 12:00	10/17/2023 23:10	10/17/2023 23:10	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-6	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 10:10	10/17/2023 23:35	10/17/2023 23:35	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-7	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 10:10	10/18/2023 0:00	10/18/2023 0:00	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82645-8	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/4/2023 8:33	10/18/2023 0:25	10/18/2023 0:25	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82652-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	BLANK WTR	10/2/2023 11:50	10/17/2023 9:00	10/18/2023 11:30	WG190656-17,-18,-19,-20,-21,-22,-23,-24
L82652-4	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	BLANK WTR	10/2/2023 12:00	10/17/2023 9:00	10/18/2023 12:05	WG190656-17,-18,-19,-20,-21,-22,-23,-24

L82666-1	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/10/2023 16:50	10/18/2023 1:42	10/18/2023 1:42	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82666-2	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/10/2023 10:39	10/18/2023 2:07	10/18/2023 2:07	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82666-4	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/10/2023 14:38	10/18/2023 4:15	10/18/2023 4:15	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82666-6	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/10/2023 14:38	10/18/2023 4:40	10/18/2023 4:40	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82666-7	421422-CHGW	SWD-CHGW Cedar Hills Groundwater Quarterly	CVTOC	GRND WTR	10/10/2023 12:30	10/18/2023 5:05	10/18/2023 5:05	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16
L82735-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	10/16/2023 9:00	10/17/2023 10:19	10/18/2023 12:58	WG190656-17,-18,-19,-20,-21,-22,-23,-24
WG190656-1	MB		CVTOC	BLANK WTR		10/13/2023 16:52	10/13/2023 16:52	WG190656-1,-2,-3,-4,-5,-6,- MB1 231013 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-2	SB		CVTOC	BLANK WTR		10/13/2023 17:17	10/13/2023 17:17	WG190656-1,-2,-3,-4,-5,-6,- WG190656-1 LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-3	LCS		CVTOC	BLANK WTR		10/13/2023 17:43	10/13/2023 17:43	WG190656-1,-2,-3,-4,-5,-6,- LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-4	MDLCK		CVTOC	BLANK WTR		10/13/2023 18:08	10/13/2023 18:08	WG190656-1,-2,-3,-4,-5,-6,- LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-5	LD		CVTOC	GRND WTR		10/13/2023 18:58	10/13/2023 18:58	WG190656-1,-2,-3,-4,-5,-6,- L82644-1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-6	MS		CVTOC	GRND WTR		10/13/2023 19:24	10/13/2023 19:24	WG190656-1,-2,-3,-4,-5,-6,- L82644-1 LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-7	MB		CVTOC	BLANK WTR		10/17/2023 12:57	10/17/2023 12:57	WG190656-1,-2,-3,-4,-5,-6,- MB1 231017 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-8	SB		CVTOC	BLANK WTR		10/17/2023 13:23	10/17/2023 13:23	WG190656-1,-2,-3,-4,-5,-6,- WG190656-7 LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-9	LCS		CVTOC	BLANK WTR		10/17/2023 13:49	10/17/2023 13:49	WG190656-1,-2,-3,-4,-5,-6,- LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16
WG190656-10	MDLCK		CVTOC	BLANK WTR		10/17/2023 14:14	10/17/2023 14:14	WG190656-1,-2,-3,-4,-5,-6,- LEVEL1 8,-7,-9,-10,-11,-12,-13,-14,-15,-16

WG190656-11	LD	CVTOC	GRND WTR	10/17/2023 18:00	10/17/2023 18:00	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16 L82644-10
WG190656-12	MS	CVTOC	GRND WTR	10/17/2023 18:26	10/17/2023 18:26	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16 L82644-10 LEVEL1
WG190656-13	MB	CVTOC	BLANK WTR	10/18/2023 0:50	10/18/2023 0:50	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16 MB2 231017
WG190656-14	LCS	CVTOC	BLANK WTR	10/18/2023 1:17	10/18/2023 1:17	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16 LEVEL1
WG190656-15	LD	CVTOC	GRND WTR	10/18/2023 3:24	10/18/2023 3:24	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16 L82666-2
WG190656-16	MS	CVTOC	GRND WTR	10/18/2023 3:50	10/18/2023 3:50	WG190656-1,-2,-3,-4,-5,-6,-8,-7,-9,-10,-11,-12,-13,-14,-15,-16 L82666-2 LEVEL1
WG190656-17	MB	CVDOC	BLANK WTR	10/17/2023 9:00	10/18/2023 5:46	WG190656-17,-18,-19,-20,-21,-22,-23,-24 MB3 231017 0900
WG190656-18	SB	CVDOC	BLANK WTR	10/17/2023 9:00	10/18/2023 6:12	WG190656-17,-18,-19,-20,-21,-22,-23,-24 WG190656-17 LEVEL1
WG190656-19	LCS	CVDOC	BLANK WTR	10/18/2023 6:39	10/18/2023 6:39	WG190656-17,-18,-19,-20,-21,-22,-23,-24 LEVEL1
WG190656-20	LD	CVDOC	INFLUENT	10/17/2023 9:00	10/18/2023 8:50	WG190656-17,-18,-19,-20,-21,-22,-23,-24 L82485-2
WG190656-21	MS	CVDOC	INFLUENT	10/17/2023 9:00	10/18/2023 9:17	WG190656-17,-18,-19,-20,-21,-22,-23,-24 L82485-2 LEVEL1
WG190656-22	LD	CVDOC	OTHR WTR	10/17/2023 9:00	10/18/2023 10:38	WG190656-17,-18,-19,-20,-21,-22,-23,-24 L82485-3
WG190656-23	MS	CVDOC	OTHR WTR	10/17/2023 9:00	10/18/2023 11:05	WG190656-17,-18,-19,-20,-21,-22,-23,-24 L82485-3 LEVEL1
WG190656-24	MB	CVDOC	BLANK WTR	10/17/2023 10:19	10/18/2023 12:30	WG190656-17,-18,-19,-20,-21,-22,-23,-24 MB4 231017 1019

WG190765 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82201-3	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	10/18/2023 9:06	10/19/2023 10:56	10/20/2023 13:07	WG190765-1,-2,-3,-4	
L82201-4	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	10/18/2023 9:16	10/19/2023 10:56	10/20/2023 13:08	WG190765-1,-2,-3,-4	
L82201-5	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	10/18/2023 8:00	10/19/2023 10:56	10/20/2023 13:08	WG190765-1,-2,-3,-4	
L82201-6	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	10/18/2023 8:12	10/19/2023 10:56	10/20/2023 13:08	WG190765-1,-2,-3,-4	

L82201-8	421250BS	Ambient Intertidal Beaches-South	CVTSS	SALT WTR	10/18/2023 11:29	10/19/2023 10:56	10/20/2023 13:08	WG190765-1,-2,-3,-4	
L82735-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	10/16/2023 9:00	10/19/2023 10:56	10/20/2023 13:07	WG190765-1,-2,-3,-4	
WG190765-1	MB		CVTSS	BLANK WTR		10/19/2023 10:56	10/20/2023 13:07	WG190765-1,-2,-3,-4	MB1 231019
WG190765-2	LCS		CVTSS	BLANK WTR		10/19/2023 10:56	10/20/2023 13:07	WG190765-1,-2,-3,-4	LEVEL1
WG190765-3	LD		CVTSS	OTHR WTR		10/19/2023 10:56	10/20/2023 13:07	WG190765-1,-2,-3,-4	L82735-2
WG190765-4	LD		CVTSS	SALT WTR		10/19/2023 10:56	10/20/2023 13:09	WG190765-1,-2,-3,-4	L82201-8

WG190903 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82637-1	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:59	10/30/2023 10:38	10/31/2023 7:18	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-2	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:58	10/30/2023 10:38	10/31/2023 7:18	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-3	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:48	10/30/2023 10:38	10/31/2023 7:18	WG190903-1,-2,-3,-4,-5,-6,-7	FREP@L82637-4
L82637-4	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:48	10/30/2023 10:38	10/31/2023 7:18	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-5	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:14	10/30/2023 10:38	10/31/2023 7:19	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-6	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:13	10/30/2023 10:38	10/31/2023 7:19	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-7	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 9:12	10/30/2023 10:38	10/31/2023 7:20	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-8	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 11:22	10/30/2023 10:38	10/31/2023 7:20	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-9	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 11:21	10/30/2023 10:38	10/31/2023 7:20	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-10	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 11:19	10/30/2023 10:38	10/31/2023 7:21	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-11	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 12:22	10/30/2023 10:38	10/31/2023 7:21	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-12	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 12:21	10/30/2023 10:38	10/31/2023 7:21	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-13	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 12:10	10/30/2023 10:38	10/31/2023 7:22	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-14	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 12:09	10/30/2023 10:38	10/31/2023 7:22	WG190903-1,-2,-3,-4,-5,-6,-7	
L82637-15	421250-900	Marine Nitrogen Studies	CVTSS	SALT WTR	10/25/2023 12:08	10/30/2023 10:38	10/31/2023 7:22	WG190903-1,-2,-3,-4,-5,-6,-7	
L82702-40	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 9:08	10/30/2023 10:38	10/31/2023 7:13	WG190903-1,-2,-3,-4,-5,-6,-7	
L82702-41	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 9:05	10/30/2023 10:38	10/31/2023 7:14	WG190903-1,-2,-3,-4,-5,-6,-7	

L82702-42	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 9:02	10/30/2023 10:38	10/31/2023 7:14	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-43	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:59	10/30/2023 10:38	10/31/2023 7:14	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-44	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:55	10/30/2023 10:38	10/31/2023 7:15	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-45	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:50	10/30/2023 10:38	10/31/2023 7:15	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-47	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:28	10/30/2023 10:38	10/31/2023 7:15	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-48	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:26	10/30/2023 10:38	10/31/2023 7:16	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-49	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:23	10/30/2023 10:38	10/31/2023 7:16	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-50	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:21	10/30/2023 10:38	10/31/2023 7:16	WG190903-1,-2,-3,-4,-5,-6,-7
L82702-51	421235	MAJOR LAKES (wtr col)	CVTSS	FRESH WTR	10/24/2023 8:17	10/30/2023 10:38	10/31/2023 7:17	WG190903-1,-2,-3,-4,-5,-6,-7
L82735-4	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	10/26/2023 9:00	10/30/2023 10:38	10/31/2023 7:13	WG190903-1,-2,-3,-4,-5,-6,-7
WG190903-1	MB		CVTSS	BLANK WTR		10/30/2023 10:38	10/31/2023 7:12	WG190903-1,-2,-3,-4,-5,-6,-7 MB1 231030
WG190903-2	LCS		CVTSS	BLANK WTR		10/30/2023 10:38	10/31/2023 7:12	WG190903-1,-2,-3,-4,-5,-6,-7 LEVEL1
WG190903-3	LD		CVTSS	OTHR WTR		10/30/2023 10:38	10/31/2023 7:13	WG190903-1,-2,-3,-4,-5,-6,-7 L82735-4
WG190903-4	LD		CVTSS	FRESH WTR		10/30/2023 10:38	10/31/2023 7:16	WG190903-1,-2,-3,-4,-5,-6,-7 L82702-48
WG190903-5	MB		CVTSS	BLANK WTR		10/30/2023 10:38	10/31/2023 7:17	WG190903-1,-2,-3,-4,-5,-6,-7 MB2 231030
WG190903-6	LCS		CVTSS	BLANK WTR		10/30/2023 10:38	10/31/2023 7:17	WG190903-1,-2,-3,-4,-5,-6,-7 LEVEL1
WG190903-7	LD		CVTSS	SALT WTR		10/30/2023 10:38	10/31/2023 7:20	WG190903-1,-2,-3,-4,-5,-6,-7 L82637-6

WG190936 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82483-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	10/18/2023 6:00	10/30/2023 10:15	10/30/2023 18:58	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
L82483-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	10/18/2023 6:00	10/30/2023 10:15	10/30/2023 16:38	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
L82629-1	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	10/25/2023 12:05	10/30/2023 10:15	10/30/2023 20:19	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	

L82629-2	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	10/24/2023 12:15	10/30/2023 10:15	10/30/2023 20:44	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
L82629-3	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	10/24/2023 11:00	10/30/2023 10:15	10/30/2023 21:09	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
L82629-4	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	10/24/2023 9:50	10/30/2023 10:15	10/30/2023 21:34	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
L82629-5	421936-200	Carnation Treatment Plant - Reclaimed Water	CVDOC	GRND WTR	10/25/2023 10:45	10/30/2023 10:15	10/30/2023 22:01	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
L82735-4	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	10/26/2023 9:00	10/26/2023 16:30	10/30/2023 15:14	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
WG190936-1	MB		CVDOC	BLANK WTR		10/26/2023 16:30	10/30/2023 14:19	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
WG190936-2	LCS		CVDOC	BLANK WTR		10/30/2023 14:46	10/30/2023 14:46	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	LEVEL1
WG190936-3	MB		CVDOC	BLANK WTR		10/30/2023 10:15	10/30/2023 15:44	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	
WG190936-4	SB		CVDOC	BLANK WTR		10/30/2023 10:15	10/30/2023 16:11	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	WG190936-3 LEVEL1
WG190936-5	LD		CVDOC	OTHR WTR		10/30/2023 10:15	10/30/2023 17:06	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	L82483-3
WG190936-6	MS		CVDOC	OTHR WTR		10/30/2023 10:15	10/30/2023 17:34	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	L82483-3 LEVEL1
WG190936-7	LD		CVDOC	INFLUENT		10/30/2023 10:15	10/30/2023 19:25	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	L82483-2
WG190936-8	MS		CVDOC	INFLUENT		10/30/2023 10:15	10/30/2023 19:53	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	L82483-2 LEVEL1
WG190936-9	LD		CVDOC	GRND WTR		10/30/2023 10:15	10/30/2023 22:27	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	L82629-5
WG190936-10	MS		CVDOC	GRND WTR		10/30/2023 10:15	10/30/2023 22:55	WG190936-7,-8,-9,-10,-2,-3,-4,-5,-6,-1	L82629-5 LEVEL1

WG191073 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82640-1	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:48	11/8/2023 13:58	11/9/2023 14:00	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-3	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:46	11/8/2023 13:58	11/9/2023 14:00	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-4	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:45	11/8/2023 13:58	11/9/2023 14:00	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-5	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:44	11/8/2023 13:58	11/9/2023 14:00	WG191073-1,-2,-3,-4,-5,-6,-7,-8	

L82640-6	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:43	11/8/2023 13:58	11/9/2023 14:01	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-7	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:41	11/8/2023 13:58	11/9/2023 14:01	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-8	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:38	11/8/2023 13:58	11/9/2023 14:01	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-9	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:19	11/8/2023 13:58	11/9/2023 14:01	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-10	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:17	11/8/2023 13:58	11/9/2023 14:02	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-11	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:16	11/8/2023 13:58	11/9/2023 14:02	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-12	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 14:16	11/8/2023 13:58	11/9/2023 14:02	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-13	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:05	11/8/2023 13:58	11/9/2023 14:02	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-14	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:04	11/8/2023 13:58	11/9/2023 14:05	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-15	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:34	11/8/2023 13:58	11/9/2023 14:05	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-17	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:32	11/8/2023 13:58	11/9/2023 14:05	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-18	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:31	11/8/2023 13:58	11/9/2023 14:06	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-19	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:30	11/8/2023 13:58	11/9/2023 14:06	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-20	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:29	11/8/2023 13:58	11/9/2023 14:06	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-21	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:27	11/8/2023 13:58	11/9/2023 14:06	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-22	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:24	11/8/2023 13:58	11/9/2023 14:07	WG191073-1,-2,-3,-4,-5,-6,-7,-8 FREP@L82640-23
L82640-23	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 13:24	11/8/2023 13:58	11/9/2023 14:07	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-24	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 12:45	11/8/2023 13:58	11/9/2023 14:08	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-25	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 12:44	11/8/2023 13:58	11/9/2023 14:08	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-26	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 12:43	11/8/2023 13:58	11/9/2023 14:08	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-27	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 12:42	11/8/2023 13:58	11/9/2023 14:08	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-28	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 12:41	11/8/2023 13:58	11/9/2023 14:09	WG191073-1,-2,-3,-4,-5,-6,-7,-8
L82640-29	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 12:00	11/8/2023 13:58	11/9/2023 14:09	WG191073-1,-2,-3,-4,-5,-6,-7,-8

L82640-31	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 11:58	11/8/2023 13:58	11/9/2023 14:09	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-32	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 11:57	11/8/2023 13:58	11/9/2023 14:09	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-33	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 11:56	11/8/2023 13:58	11/9/2023 14:10	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-34	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 11:55	11/8/2023 13:58	11/9/2023 14:10	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-35	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 11:53	11/8/2023 13:58	11/9/2023 14:10	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82640-36	421250OS	Ambient Offshore Water Column-South	CVTSS	SALT WTR	11/1/2023 11:49	11/8/2023 13:58	11/9/2023 14:10	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82827-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	11/6/2023 9:00	11/8/2023 13:58	11/9/2023 14:11	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
L82834-1	421422-ENLS	SWD-ENLS Enumclaw Wastewater Permit	CVTSS	IW WTR	11/7/2023 7:45	11/8/2023 13:58	11/9/2023 14:11	WG191073-1,-2,-3,-4,-5,-6,-7,-8	
WG191073-1	MB		CVTSS	BLANK WTR		11/8/2023 13:58	11/9/2023 13:59	WG191073-1,-2,-3,-4,-5,-6,-7,-8	MB1 231108
WG191073-2	LCS		CVTSS	BLANK WTR		11/8/2023 13:58	11/9/2023 14:00	WG191073-1,-2,-3,-4,-5,-6,-7,-8	LEVEL1
WG191073-3	LD		CVTSS	SALT WTR		11/8/2023 13:58	11/9/2023 14:05	WG191073-1,-2,-3,-4,-5,-6,-7,-8	L82640-15
WG191073-4	MB		CVTSS	BLANK WTR		11/8/2023 13:58	11/9/2023 14:07	WG191073-1,-2,-3,-4,-5,-6,-7,-8	MB2 231108
WG191073-5	LCS		CVTSS	BLANK WTR		11/8/2023 13:58	11/9/2023 14:07	WG191073-1,-2,-3,-4,-5,-6,-7,-8	LEVEL1
WG191073-6	LD		CVTSS	SALT WTR		11/8/2023 13:58	11/9/2023 14:09	WG191073-1,-2,-3,-4,-5,-6,-7,-8	L82640-29
WG191073-7	LD		CVTSS	IW WTR		11/8/2023 13:58	11/9/2023 14:11	WG191073-1,-2,-3,-4,-5,-6,-7,-8	L82834-1
WG191073-8	LD		CVTSS	OTHR WTR		11/8/2023 13:58	11/9/2023 14:11	WG191073-1,-2,-3,-4,-5,-6,-7,-8	L82827-1

WG191110 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82481-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	10/31/2023 6:00	11/8/2023 10:00	11/9/2023 2:06	WG191110-7,-8,-9,-10,-11,-12,-13,-14	
L82481-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	11/1/2023 6:00	11/8/2023 10:00	11/8/2023 23:10	WG191110-7,-8,-9,-10,-11,-12,-13,-14	
L82484-2	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	INFLUENT	10/24/2023 6:00	11/8/2023 10:00	11/9/2023 3:24	WG191110-7,-8,-9,-10,-11,-12,-13,-14	
L82484-3	423163-100-4	Carnation TP Hydrocyclone Trial	CVDOC	OTHR WTR	10/25/2023 6:00	11/8/2023 10:00	11/9/2023 1:40	WG191110-7,-8,-9,-10,-11,-12,-13,-14	
L82805-2	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	11/2/2023 12:42	11/8/2023 17:32	11/8/2023 17:32	WG191110-1,-2,-3,-4,-5,-6	

L82805-5	421422-CHGW-APP3	SWD-CHGW-Appendix III GW Analytes	CVTOC	GRND WTR	10/31/2023 15:50	11/8/2023 18:49	11/8/2023 18:49	WG191110-1,-2,-3,-4,-5,-6	
L82815-1	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	11/2/2023 12:59	11/8/2023 20:12	11/8/2023 20:12	WG191110-1,-2,-3,-4,-5,-6	
L82815-2	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	11/2/2023 10:27	11/8/2023 20:37	11/8/2023 20:37	WG191110-1,-2,-3,-4,-5,-6	
L82815-5	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	11/2/2023 11:36	11/8/2023 21:01	11/8/2023 21:01	WG191110-1,-2,-3,-4,-5,-6	
L82815-8	421422-VAGW	SWD-VAGW Vashon Groundwater Quarterly	CVTOC	GRND WTR	11/2/2023 11:37	11/8/2023 21:26	11/8/2023 21:26	WG191110-1,-2,-3,-4,-5,-6	
L82827-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	11/6/2023 9:00	11/8/2023 8:00	11/9/2023 4:16	WG191110-7,-8,-9,-10,-11,-12,-13,-14	
WG191110-1	MB		CVTOC	BLANK WTR		11/8/2023 15:49	11/8/2023 15:49	WG191110-1,-2,-3,-4,-5,-6	MB1 231108
WG191110-2	SB		CVTOC	BLANK WTR		11/8/2023 16:15	11/8/2023 16:15	WG191110-1,-2,-3,-4,-5,-6	WG191110-1 LEVEL1
WG191110-3	LCS		CVTOC	BLANK WTR		11/8/2023 16:42	11/8/2023 16:42	WG191110-1,-2,-3,-4,-5,-6	LEVEL1
WG191110-4	MDLCK		CVTOC	BLANK WTR		11/8/2023 17:07	11/8/2023 17:07	WG191110-1,-2,-3,-4,-5,-6	LEVEL1
WG191110-5	LD		CVTOC	GRND WTR		11/8/2023 17:57	11/8/2023 17:57	WG191110-1,-2,-3,-4,-5,-6	L82805-2
WG191110-6	MS		CVTOC	GRND WTR		11/8/2023 18:23	11/8/2023 18:23	WG191110-1,-2,-3,-4,-5,-6	L82805-2 LEVEL1
WG191110-7	MB		CVDOC	BLANK WTR		11/8/2023 10:00	11/8/2023 21:51	WG191110-7,-8,-9,-10,-11,-12,-13,-14	MB2 231108 1000
WG191110-8	SB		CVDOC	BLANK WTR		11/8/2023 10:00	11/8/2023 22:17	WG191110-7,-8,-9,-10,-11,-12,-13,-14	WG191110-7 LEVEL1
WG191110-9	LCS		CVDOC	BLANK WTR		11/8/2023 22:44	11/8/2023 22:44	WG191110-7,-8,-9,-10,-11,-12,-13,-14	LEVEL1
WG191110-10	LD		CVDOC	OTHR WTR		11/8/2023 10:00	11/8/2023 23:48	WG191110-7,-8,-9,-10,-11,-12,-13,-14	L82481-3
WG191110-11	MS		CVDOC	OTHR WTR		11/8/2023 10:00	11/9/2023 0:15	WG191110-7,-8,-9,-10,-11,-12,-13,-14	L82481-3 LEVEL1
WG191110-12	LD		CVDOC	INFLUENT		11/8/2023 10:00	11/9/2023 2:32	WG191110-7,-8,-9,-10,-11,-12,-13,-14	L82481-2
WG191110-13	MS		CVDOC	INFLUENT		11/8/2023 10:00	11/9/2023 2:58	WG191110-7,-8,-9,-10,-11,-12,-13,-14	L82481-2 LEVEL1
WG191110-14	MB		CVDOC	BLANK WTR		11/8/2023 8:00	11/9/2023 3:49	WG191110-7,-8,-9,-10,-11,-12,-13,-14	MB3 231108 0800

WG193014 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83408-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 10:41	3/12/2024 12:54	3/14/2024 11:00	WG193014-1,-2,-3,-4	

L83408-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 11:48	3/12/2024 12:54	3/14/2024 11:00	WG193014-1,-2,-3,-4	
L83408-3	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 12:54	3/12/2024 12:54	3/14/2024 11:00	WG193014-1,-2,-3,-4	
L83409-1	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 13:16	3/12/2024 12:54	3/14/2024 11:01	WG193014-1,-2,-3,-4	
L83409-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 13:28	3/12/2024 12:54	3/14/2024 11:01	WG193014-1,-2,-3,-4	
L83409-3	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 13:36	3/12/2024 12:54	3/14/2024 11:01	WG193014-1,-2,-3,-4	
L83409-4	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 13:49	3/12/2024 12:54	3/14/2024 11:01	WG193014-1,-2,-3,-4	
L83409-5	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 13:59	3/12/2024 12:54	3/14/2024 11:02	WG193014-1,-2,-3,-4	
L83409-6	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:07	3/12/2024 12:54	3/14/2024 11:02	WG193014-1,-2,-3,-4	
L83409-7	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:19	3/12/2024 12:54	3/14/2024 11:02	WG193014-1,-2,-3,-4	
L83409-8	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:24	3/12/2024 12:54	3/14/2024 11:02	WG193014-1,-2,-3,-4	
L83409-9	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:31	3/12/2024 12:54	3/14/2024 11:02	WG193014-1,-2,-3,-4	
L83409-10	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:41	3/12/2024 12:54	3/14/2024 11:03	WG193014-1,-2,-3,-4	
L83409-11	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:48	3/12/2024 12:54	3/14/2024 11:03	WG193014-1,-2,-3,-4	
L83409-12	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/11/2024 14:56	3/12/2024 12:54	3/14/2024 11:03	WG193014-1,-2,-3,-4	
L83412-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	3/11/2024 18:16	3/12/2024 12:54	3/14/2024 11:03	WG193014-1,-2,-3,-4	
WG193014-1	MB		CVTSS	BLANK WTR		3/12/2024 12:54	3/14/2024 11:00	WG193014-1,-2,-3,-4	MB 240312
WG193014-2	LCS		CVTSS	BLANK WTR		3/12/2024 12:54	3/14/2024 11:00	WG193014-1,-2,-3,-4	LEVEL1
WG193014-3	LD		CVTSS	STORM WTR		3/12/2024 12:54	3/14/2024 11:01	WG193014-1,-2,-3,-4	L83408-3
WG193014-4	LD		CVTSS	OTHR WTR		3/12/2024 12:54	3/14/2024 11:03	WG193014-1,-2,-3,-4	L83412-2

WG193021 Dissolved Nutrients

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83289-1	421195-150	Beaver Lake	CVORTHOP	FRESH WTR	3/12/2024 10:30	3/13/2024 7:47	3/13/2024 9:13	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10	
L83289-2	421195-150	Beaver Lake	CVORTHOP	FRESH WTR	3/12/2024 10:20	3/13/2024 7:47	3/13/2024 9:16	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10	
L83289-3	421195-150	Beaver Lake	CVNH3-FL	FRESH WTR	3/12/2024 10:55	3/13/2024 7:47	3/13/2024 9:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	

L83289-3	421195-150	Beaver Lake	CVNO23	FRESH WTR	3/12/2024 10:55	3/13/2024 7:47	3/13/2024 9:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83289-3	421195-150	Beaver Lake	CVORTHOP	FRESH WTR	3/12/2024 10:55	3/13/2024 7:47	3/13/2024 9:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-1	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 9:35	3/13/2024 7:47	3/13/2024 9:43	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-1	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 9:35	3/13/2024 7:47	3/13/2024 9:43	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-1	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 9:35	3/13/2024 7:47	3/13/2024 9:43	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-2	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 9:58	3/13/2024 7:47	3/13/2024 9:46	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-2	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 9:58	3/13/2024 7:47	3/13/2024 9:46	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-2	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 9:58	3/13/2024 7:47	3/13/2024 9:46	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-3	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 10:22	3/13/2024 7:47	3/13/2024 9:49	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-3	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 10:22	3/13/2024 7:47	3/13/2024 9:49	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-3	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 10:22	3/13/2024 7:47	3/13/2024 9:49	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-4	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 10:40	3/13/2024 7:47	3/13/2024 9:52	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-4	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 10:40	3/13/2024 7:47	3/13/2024 9:52	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-4	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 10:40	3/13/2024 7:47	3/13/2024 9:52	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-5	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 11:00	3/13/2024 7:47	3/13/2024 9:55	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-5	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 11:00	3/13/2024 7:47	3/13/2024 9:55	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-5	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 11:00	3/13/2024 7:47	3/13/2024 9:55	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10

L83362-6	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 11:40	3/13/2024 7:47	3/13/2024 9:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-6	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 11:40	3/13/2024 7:47	3/13/2024 9:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-6	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 11:40	3/13/2024 7:47	3/13/2024 9:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-7	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 12:03	3/13/2024 7:47	3/13/2024 9:58	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-7	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 12:03	3/13/2024 7:47	3/13/2024 9:58	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-7	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 12:03	3/13/2024 7:47	3/13/2024 9:58	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-8	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 12:30	3/13/2024 7:47	3/13/2024 10:01	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-8	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 12:30	3/13/2024 7:47	3/13/2024 10:01	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-8	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 12:30	3/13/2024 7:47	3/13/2024 10:01	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-9	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 13:02	3/13/2024 7:47	3/13/2024 10:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-9	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 13:02	3/13/2024 7:47	3/13/2024 10:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-9	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 13:02	3/13/2024 7:47	3/13/2024 10:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-10	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 13:36	3/13/2024 7:47	3/13/2024 10:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-10	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 13:36	3/13/2024 7:47	3/13/2024 10:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-10	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 13:36	3/13/2024 7:47	3/13/2024 10:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-11	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 14:01	3/13/2024 7:47	3/13/2024 10:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-11	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 14:01	3/13/2024 7:47	3/13/2024 10:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10

L83362-11	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 14:01	3/13/2024 7:47	3/13/2024 10:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-12	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 14:13	3/13/2024 7:47	3/13/2024 10:25	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-12	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 14:13	3/13/2024 7:47	3/13/2024 10:25	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-12	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 14:13	3/13/2024 7:47	3/13/2024 10:25	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-13	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	BLANK WTR	3/12/2024 9:18	3/13/2024 7:47	3/13/2024 10:28	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-13	421240A	STREAMS MONITOR (surf wtr)	CVNO23	BLANK WTR	3/12/2024 9:18	3/13/2024 7:47	3/13/2024 10:28	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-13	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	BLANK WTR	3/12/2024 9:18	3/13/2024 7:47	3/13/2024 10:28	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83362-14	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 13:03	3/13/2024 7:47	3/13/2024 10:31	WG193021-1,-2,-3,-4,-6,-5,- FREP @ L83362-9 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83362-14	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 13:03	3/13/2024 7:47	3/13/2024 10:31	WG193021-1,-2,-3,-4,-6,-5,- FREP @ L83362-9 7,-8,-9,-10
L83362-14	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 13:03	3/13/2024 7:47	3/13/2024 10:31	WG193021-1,-2,-3,-4,-6,-5,- FREP @ L83362-9 7,-8,-9,-10
L83368-1	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 9:05	3/13/2024 7:47	3/13/2024 10:34	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-1	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 9:05	3/13/2024 7:47	3/13/2024 10:34	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-1	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 9:05	3/13/2024 7:47	3/13/2024 10:34	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-2	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 9:30	3/13/2024 7:47	3/13/2024 10:37	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-2	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 9:30	3/13/2024 7:47	3/13/2024 10:37	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-2	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 9:30	3/13/2024 7:47	3/13/2024 10:37	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-3	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 9:52	3/13/2024 7:47	3/13/2024 10:40	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19

L83368-3	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 9:52	3/13/2024 7:47	3/13/2024 10:40	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-3	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 9:52	3/13/2024 7:47	3/13/2024 10:40	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-4	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 10:16	3/13/2024 7:47	3/13/2024 11:25	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-4	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 10:16	3/13/2024 7:47	3/13/2024 11:25	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-4	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 10:16	3/13/2024 7:47	3/13/2024 11:25	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-5	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 10:29	3/13/2024 7:47	3/13/2024 11:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-5	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 10:29	3/13/2024 7:47	3/13/2024 11:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-5	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 10:29	3/13/2024 7:47	3/13/2024 11:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-6	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 11:37	3/13/2024 7:47	3/13/2024 11:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-6	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 11:37	3/13/2024 7:47	3/13/2024 11:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-6	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 11:37	3/13/2024 7:47	3/13/2024 11:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-7	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 12:58	3/13/2024 7:47	3/13/2024 11:10	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-7	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 12:58	3/13/2024 7:47	3/13/2024 11:10	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-7	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 12:58	3/13/2024 7:47	3/13/2024 11:10	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-8	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 13:13	3/13/2024 7:47	3/13/2024 11:13	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-8	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 13:13	3/13/2024 7:47	3/13/2024 11:13	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-8	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 13:13	3/13/2024 7:47	3/13/2024 11:13	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10

L83368-9	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 12:41	3/13/2024 7:47	3/13/2024 11:16	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-9	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 12:41	3/13/2024 7:47	3/13/2024 11:16	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-9	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 12:41	3/13/2024 7:47	3/13/2024 11:16	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-10	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 12:03	3/13/2024 7:47	3/13/2024 11:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-10	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 12:03	3/13/2024 7:47	3/13/2024 11:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-10	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 12:03	3/13/2024 7:47	3/13/2024 11:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-11	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 12:20	3/13/2024 7:47	3/13/2024 11:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-11	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 12:20	3/13/2024 7:47	3/13/2024 11:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-11	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 12:20	3/13/2024 7:47	3/13/2024 11:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-12	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	BLANK WTR	3/12/2024 8:55	3/13/2024 7:47	3/13/2024 11:46	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83368-12	421240A	STREAMS MONITOR (surf wtr)	CVNO23	BLANK WTR	3/12/2024 8:55	3/13/2024 7:47	3/13/2024 11:46	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83368-12	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	BLANK WTR	3/12/2024 8:55	3/13/2024 7:47	3/13/2024 11:46	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83369-1	421874-510	City of Sammamish Monthly Stream Monitoring	CVNH3-FL	FRESH WTR	3/12/2024 10:04	3/13/2024 7:47	3/13/2024 11:49	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83369-1	421874-510	City of Sammamish Monthly Stream Monitoring	CVNO23	FRESH WTR	3/12/2024 10:04	3/13/2024 7:47	3/13/2024 11:49	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83369-1	421874-510	City of Sammamish Monthly Stream Monitoring	CVORTHOP	FRESH WTR	3/12/2024 10:04	3/13/2024 7:47	3/13/2024 11:49	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10
L83371-9	421240A	STREAMS MONITOR (surf wtr)	CVNH3-FL	FRESH WTR	3/12/2024 8:54	3/13/2024 7:47	3/13/2024 11:52	WG193021-1,-2,-3,-4,-6,-5,- FREP @ L83371-6 7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19

L83371-9	421240A	STREAMS MONITOR (surf wtr)	CVNO23	FRESH WTR	3/12/2024 8:54	3/13/2024 7:47	3/13/2024 11:52	WG193021-1,-2,-3,-4,-6,-5,- FREP @ L83371-6 7,-8,-9,-10
L83371-9	421240A	STREAMS MONITOR (surf wtr)	CVORTHOP	FRESH WTR	3/12/2024 8:54	3/13/2024 7:47	3/13/2024 11:52	WG193021-1,-2,-3,-4,-6,-5,- FREP @ L83371-6 7,-8,-9,-10
L83372-1	421195-190	Vashon Island Surface Water	CVNH3-FL	FRESH WTR	3/12/2024 9:15	3/13/2024 7:47	3/13/2024 11:55	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
L83372-1	421195-190	Vashon Island Surface Water	CVNO23	FRESH WTR	3/12/2024 9:15	3/13/2024 7:47	3/13/2024 11:55	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-1	421195-190	Vashon Island Surface Water	CVORTHOP	FRESH WTR	3/12/2024 9:15	3/13/2024 7:47	3/13/2024 11:55	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-2	421195-190	Vashon Island Surface Water	CVNH3-FL	FRESH WTR	3/12/2024 7:55	3/13/2024 7:47	3/13/2024 11:58	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
L83372-2	421195-190	Vashon Island Surface Water	CVNO23	FRESH WTR	3/12/2024 7:55	3/13/2024 7:47	3/13/2024 11:58	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-2	421195-190	Vashon Island Surface Water	CVORTHOP	FRESH WTR	3/12/2024 7:55	3/13/2024 7:47	3/13/2024 11:58	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-3	421195-190	Vashon Island Surface Water	CVNH3-FL	FRESH WTR	3/12/2024 7:40	3/13/2024 7:47	3/13/2024 12:01	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
L83372-3	421195-190	Vashon Island Surface Water	CVNO23	FRESH WTR	3/12/2024 7:40	3/13/2024 7:47	3/13/2024 12:01	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-3	421195-190	Vashon Island Surface Water	CVORTHOP	FRESH WTR	3/12/2024 7:40	3/13/2024 7:47	3/13/2024 12:01	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-4	421195-190	Vashon Island Surface Water	CVNH3-FL	FRESH WTR	3/12/2024 8:28	3/13/2024 7:47	3/13/2024 12:04	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
L83372-4	421195-190	Vashon Island Surface Water	CVNO23	FRESH WTR	3/12/2024 8:28	3/13/2024 7:47	3/13/2024 12:04	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83372-4	421195-190	Vashon Island Surface Water	CVORTHOP	FRESH WTR	3/12/2024 8:28	3/13/2024 7:47	3/13/2024 12:04	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10
L83408-5	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	STORM WTR	3/12/2024 9:15	3/13/2024 7:47	3/13/2024 12:52	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
L83408-6	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	3/12/2024 9:00	3/13/2024 7:47	3/13/2024 13:16	WG193021-1,-2,-3,-4,-6,-5,- 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19

L83410-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	3/12/2024 9:30	3/13/2024 7:47	3/13/2024 13:31	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83411-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	3/12/2024 9:25	3/13/2024 7:47	3/13/2024 12:31	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83413-2	422040-100	SWS Bioretention 6PPDQ	CVNH3-FL	OTHR WTR	3/12/2024 9:20	3/13/2024 7:47	3/13/2024 12:28	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83445-10	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/12/2024 11:13	3/13/2024 10:29	3/13/2024 14:13	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83445-11	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/12/2024 12:35	3/13/2024 10:29	3/13/2024 14:10	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-1	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/12/2024 9:59	3/13/2024 10:29	3/13/2024 14:07	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-3	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/12/2024 13:21	3/13/2024 10:29	3/13/2024 14:40	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-4	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/12/2024 11:49	3/13/2024 10:29	3/13/2024 14:34	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-5	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/12/2024 10:54	3/13/2024 10:29	3/13/2024 14:37	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-6	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/11/2024 11:50	3/13/2024 10:29	3/13/2024 13:58	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-7	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/11/2024 13:02	3/13/2024 10:29	3/13/2024 14:01	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19
L83472-8	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVNH3-FL	GRND WTR	3/11/2024 10:46	3/13/2024 10:29	3/13/2024 14:04	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19

WG193021-1	MB	CVNH3-FL	BLANK WTR	3/13/2024 7:47	3/13/2024 8:58	WG193021-1,-2,-3,-4,-6,-5,- MB1 3/13/24 7:47 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-1	MB	CVNO23	BLANK WTR	3/13/2024 7:47	3/13/2024 8:58	WG193021-1,-2,-3,-4,-6,-5,- MB1 3/13/24 7:47 7,-8,-9,-10
WG193021-1	MB	CVORTHOP	BLANK WTR	3/13/2024 7:47	3/13/2024 8:58	WG193021-1,-2,-3,-4,-6,-5,- MB1 3/13/24 7:47 7,-8,-9,-10
WG193021-2	MDLCK	CVNH3-FL	BLANK WTR	3/13/2024 9:01	3/13/2024 9:01	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-2	MDLCK	CVNO23	BLANK WTR	3/13/2024 9:01	3/13/2024 9:01	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10
WG193021-2	MDLCK	CVORTHOP	BLANK WTR	3/13/2024 9:01	3/13/2024 9:01	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10
WG193021-3	SB	CVNH3-FL	BLANK WTR	3/13/2024 7:47	3/13/2024 9:07	WG193021-1,-2,-3,-4,-6,-5,- WG193021-1 LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-3	SB	CVNO23	BLANK WTR	3/13/2024 7:47	3/13/2024 9:07	WG193021-1,-2,-3,-4,-6,-5,- WG193021-1 LEVEL1 7,-8,-9,-10
WG193021-3	SB	CVORTHOP	BLANK WTR	3/13/2024 7:47	3/13/2024 9:07	WG193021-1,-2,-3,-4,-6,-5,- WG193021-1 LEVEL1 7,-8,-9,-10
WG193021-4	LCS	CVNH3-FL	BLANK WTR	3/13/2024 9:10	3/13/2024 9:10	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-4	LCS	CVNO23	BLANK WTR	3/13/2024 9:10	3/13/2024 9:10	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10
WG193021-4	LCS	CVORTHOP	BLANK WTR	3/13/2024 9:10	3/13/2024 9:10	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10
WG193021-5	LD	CVNH3-FL	FRESH WTR	3/13/2024 7:47	3/13/2024 9:40	WG193021-1,-2,-3,-4,-6,-5,- L83362-6 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-5	LD	CVNO23	FRESH WTR	3/13/2024 7:47	3/13/2024 9:40	WG193021-1,-2,-3,-4,-6,-5,- L83362-6 7,-8,-9,-10
WG193021-5	LD	CVORTHOP	FRESH WTR	3/13/2024 7:47	3/13/2024 9:40	WG193021-1,-2,-3,-4,-6,-5,- L83362-6 7,-8,-9,-10
WG193021-6	MS	CVNH3-FL	FRESH WTR	3/13/2024 7:47	3/13/2024 9:25	WG193021-1,-2,-3,-4,-6,-5,- L83362-6 LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-6	MS	CVNO23	FRESH WTR	3/13/2024 7:47	3/13/2024 9:25	WG193021-1,-2,-3,-4,-6,-5,- L83362-6 LEVEL1 7,-8,-9,-10

WG193021-6	MS	CVORTHOP	FRESH WTR	3/13/2024 7:47	3/13/2024 9:25	WG193021-1,-2,-3,-4,-6,-5,- L83362-6 LEVEL1 7,-8,-9,-10
WG193021-7	MB	CVNH3-FL	BLANK WTR	3/13/2024 7:47	3/13/2024 10:46	WG193021-1,-2,-3,-4,-6,-5,- MB2 3/13/24 7:47 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-7	MB	CVNO23	BLANK WTR	3/13/2024 7:47	3/13/2024 10:46	WG193021-1,-2,-3,-4,-6,-5,- MB2 3/13/24 7:47 7,-8,-9,-10
WG193021-7	MB	CVORTHOP	BLANK WTR	3/13/2024 7:47	3/13/2024 10:46	WG193021-1,-2,-3,-4,-6,-5,- MB2 3/13/24 7:47 7,-8,-9,-10
WG193021-8	LCS	CVNH3-FL	BLANK WTR	3/13/2024 10:49	3/13/2024 10:49	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-8	LCS	CVNO23	BLANK WTR	3/13/2024 10:49	3/13/2024 10:49	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10
WG193021-8	LCS	CVORTHOP	BLANK WTR	3/13/2024 10:49	3/13/2024 10:49	WG193021-1,-2,-3,-4,-6,-5,- LEVEL1 7,-8,-9,-10
WG193021-9	LD	CVNH3-FL	FRESH WTR	3/13/2024 7:47	3/13/2024 11:28	WG193021-1,-2,-3,-4,-6,-5,- L83368-4 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-9	LD	CVNO23	FRESH WTR	3/13/2024 7:47	3/13/2024 11:28	WG193021-1,-2,-3,-4,-6,-5,- L83368-4 7,-8,-9,-10
WG193021-9	LD	CVORTHOP	FRESH WTR	3/13/2024 7:47	3/13/2024 11:28	WG193021-1,-2,-3,-4,-6,-5,- L83368-4 7,-8,-9,-10
WG193021-10	MS	CVNH3-FL	FRESH WTR	3/13/2024 7:47	3/13/2024 11:31	WG193021-1,-2,-3,-4,-6,-5,- L83368-4 LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-10	MS	CVNO23	FRESH WTR	3/13/2024 7:47	3/13/2024 11:31	WG193021-1,-2,-3,-4,-6,-5,- L83368-4 LEVEL1 7,-8,-9,-10
WG193021-10	MS	CVORTHOP	FRESH WTR	3/13/2024 7:47	3/13/2024 11:31	WG193021-1,-2,-3,-4,-6,-5,- L83368-4 LEVEL1 7,-8,-9,-10
WG193021-11	LD	CVNH3-FL	OTHR WTR	3/13/2024 7:47	3/13/2024 12:34	WG193021-1,-2,-3,-4,-6,-5,- L83411-2 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-12	MS	CVNH3-FL	OTHR WTR	3/13/2024 7:47	3/13/2024 12:37	WG193021-1,-2,-3,-4,-6,-5,- L83411-2 LEVEL1 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19
WG193021-13	LD	CVNH3-FL	STORM WTR	3/13/2024 7:47	3/13/2024 13:19	WG193021-1,-2,-3,-4,-6,-5,- L83408-5 7,-8,-9,-10,-11,-12,-13,-14,- 15,-16,-17,-18,-19

WG193021-14	MS	CVNH3-FL	STORM WTR	3/13/2024 7:47	3/13/2024 13:22	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	L83408-5 LEVEL1
WG193021-15	MB	CVNH3-FL	BLANK WTR	3/13/2024 10:29	3/13/2024 13:37	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	MB3 3/13/24 10:29
WG193021-16	LCS	CVNH3-FL	BLANK WTR	3/13/2024 13:52	3/13/2024 13:52	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	LEVEL1
WG193021-17	SB	CVNH3-FL	BLANK WTR	3/13/2024 10:29	3/13/2024 13:55	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	WG193021-15 LEVEL1
WG193021-18	LD	CVNH3-FL	GRND WTR	3/13/2024 10:29	3/13/2024 14:16	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	L83445-10
WG193021-19	MS	CVNH3-FL	GRND WTR	3/13/2024 10:29	3/13/2024 14:19	WG193021-1,-2,-3,-4,-6,-5,-7,-8,-9,-10,-11,-12,-13,-14,-15,-16,-17,-18,-19	L83445-10 LEVEL1

WG193047 Total Suspended Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83362-1	421240A	STREAMS MONITOR (surf wtr)	CVTSS	FRESH WTR	3/12/2024 9:35	3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	
L83362-2	421240A	STREAMS MONITOR (surf wtr)	CVTSS	FRESH WTR	3/12/2024 9:58	3/14/2024 12:50	3/19/2024 10:39	WG193047-2,-3,-4,-5,-6,-1	
L83362-3	421240A	STREAMS MONITOR (surf wtr)	CVTSS	FRESH WTR	3/12/2024 10:22	3/14/2024 12:50	3/19/2024 10:39	WG193047-2,-3,-4,-5,-6,-1	
L83362-4	421240A	STREAMS MONITOR (surf wtr)	CVTSS	FRESH WTR	3/12/2024 10:40	3/14/2024 12:50	3/19/2024 10:39	WG193047-2,-3,-4,-5,-6,-1	
L83408-5	422040-100	SWS Bioretention 6PPDQ	CVTSS	STORM WTR	3/12/2024 9:15	3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	
L83410-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	3/12/2024 9:30	3/14/2024 12:50	3/19/2024 10:36	WG193047-2,-3,-4,-5,-6,-1	
L83411-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	3/12/2024 9:25	3/14/2024 12:50	3/19/2024 10:36	WG193047-2,-3,-4,-5,-6,-1	
L83413-2	422040-100	SWS Bioretention 6PPDQ	CVTSS	OTHR WTR	3/12/2024 9:20	3/14/2024 12:50	3/19/2024 10:36	WG193047-2,-3,-4,-5,-6,-1	
L83445-10	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/12/2024 11:13	3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	

L83445-11	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/12/2024 12:35	3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	
L83472-1	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/12/2024 9:59	3/14/2024 12:50	3/19/2024 10:36	WG193047-2,-3,-4,-5,-6,-1	
L83472-3	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/12/2024 13:21	3/14/2024 12:50	3/19/2024 10:37	WG193047-2,-3,-4,-5,-6,-1	
L83472-4	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/12/2024 11:49	3/14/2024 12:50	3/19/2024 10:37	WG193047-2,-3,-4,-5,-6,-1	
L83472-5	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/12/2024 10:54	3/14/2024 12:50	3/19/2024 10:37	WG193047-2,-3,-4,-5,-6,-1	
L83472-6	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/11/2024 11:50	3/14/2024 12:50	3/19/2024 10:37	WG193047-2,-3,-4,-5,-6,-1	
L83472-7	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/11/2024 13:02	3/14/2024 12:50	3/19/2024 10:37	WG193047-2,-3,-4,-5,-6,-1	
L83472-8	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVTSS	GRND WTR	3/11/2024 10:46	3/14/2024 12:50	3/19/2024 10:37	WG193047-2,-3,-4,-5,-6,-1	
WG193047-1	MB		CVTSS	BLANK WTR		3/14/2024 12:50	3/19/2024 10:35	WG193047-2,-3,-4,-5,-6,-1	MB1 240314 A
WG193047-2	LCS		CVTSS	BLANK WTR		3/14/2024 12:50	3/19/2024 10:36	WG193047-2,-3,-4,-5,-6,-1	LEVEL1
WG193047-3	LD		CVTSS	OTHR WTR		3/14/2024 12:50	3/19/2024 10:36	WG193047-2,-3,-4,-5,-6,-1	L83410-2
WG193047-4	LD		CVTSS	GRND WTR		3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	L83472-8
WG193047-5	LD		CVTSS	STORM WTR		3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	L83408-5
WG193047-6	LD		CVTSS	FRESH WTR		3/14/2024 12:50	3/19/2024 10:38	WG193047-2,-3,-4,-5,-6,-1	L83362-1

WG193093 Alkalinity and Conductivity

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83362-1	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	3/12/2024 9:35	3/13/2024 15:31	3/13/2024 15:31	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83362-2	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	3/12/2024 9:58	3/13/2024 15:39	3/13/2024 15:39	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83362-3	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	3/12/2024 10:22	3/13/2024 15:56	3/13/2024 15:56	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83362-4	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	3/12/2024 10:40	3/13/2024 16:04	3/13/2024 16:04	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83362-5	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	3/12/2024 11:00	3/13/2024 16:14	3/13/2024 16:14	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83362-6	421240A	STREAMS MONITOR (surf wtr)	CVALK	FRESH WTR	3/12/2024 11:40	3/13/2024 16:22	3/13/2024 16:22	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83408-5	422040-100	SWS Bioretention 6PPDQ	CVALK	STORM WTR	3/12/2024 9:15	3/13/2024 14:39	3/13/2024 14:39	WG193093-1,-4,-5,-6,-7,-10,-11,-12	

L83408-6	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	3/12/2024 9:00	3/13/2024 14:54	3/13/2024 14:54	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83410-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	3/12/2024 9:30	3/13/2024 15:24	3/13/2024 15:24	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83411-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	3/12/2024 9:25	3/13/2024 15:03	3/13/2024 15:03	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83413-2	422040-100	SWS Bioretention 6PPDQ	CVALK	OTHR WTR	3/12/2024 9:20	3/13/2024 15:17	3/13/2024 15:17	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83445-10	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/12/2024 11:13	3/13/2024 14:06	3/13/2024 14:06	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83445-10	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/12/2024 11:13	3/13/2024 14:06	3/13/2024 14:06	WG193093-3,-2,-4,-8,-9	
L83445-11	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/12/2024 12:35	3/13/2024 14:13	3/13/2024 14:13	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83445-11	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/12/2024 12:35	3/13/2024 14:13	3/13/2024 14:13	WG193093-3,-2,-4,-8,-9	
L83472-1	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/12/2024 9:59	3/13/2024 12:55	3/13/2024 12:55	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-1	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/12/2024 9:59	3/13/2024 12:55	3/13/2024 12:55	WG193093-3,-2,-4,-8,-9	
L83472-3	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/12/2024 13:21	3/13/2024 13:05	3/13/2024 13:05	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-3	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/12/2024 13:21	3/13/2024 13:05	3/13/2024 13:05	WG193093-3,-2,-4,-8,-9	
L83472-4	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/12/2024 11:49	3/13/2024 13:15	3/13/2024 13:15	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-4	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/12/2024 11:49	3/13/2024 13:15	3/13/2024 13:15	WG193093-3,-2,-4,-8,-9	
L83472-5	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/12/2024 10:54	3/13/2024 13:26	3/13/2024 13:26	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-5	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/12/2024 10:54	3/13/2024 13:26	3/13/2024 13:26	WG193093-3,-2,-4,-8,-9	
L83472-6	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/11/2024 11:50	3/13/2024 14:21	3/13/2024 14:21	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-6	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/11/2024 11:50	3/13/2024 13:34	3/13/2024 13:34	WG193093-3,-2,-4,-8,-9	
L83472-7	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/11/2024 13:02	3/13/2024 13:49	3/13/2024 13:49	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-7	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/11/2024 13:02	3/13/2024 13:49	3/13/2024 13:49	WG193093-3,-2,-4,-8,-9	
L83472-8	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVALK	GRND WTR	3/11/2024 10:46	3/13/2024 13:58	3/13/2024 13:58	WG193093-1,-4,-5,-6,-7,-10,-11,-12	
L83472-8	421422-DUGW	SWD-DUGW Duvall Groundwater Quarterly	CVCOND	GRND WTR	3/11/2024 10:46	3/13/2024 13:58	3/13/2024 13:58	WG193093-3,-2,-4,-8,-9	
WG193093-1	LCS		CVALK	BLANK WTR		3/13/2024 12:42	3/13/2024 12:42	WG193093-1,-4,-5,-6,-7,-10,-11,-12	LEVEL3
WG193093-2	LCS		CVCOND	BLANK WTR		3/13/2024 12:53	3/13/2024 12:53	WG193093-3,-2,-4,-8,-9	LEVEL1

WG193093-3	LCS	CVCOND	BLANK WTR	3/13/2024 12:54	3/13/2024 12:54	WG193093-3,-2,-4,-8,-9	LEVEL2
WG193093-4	LD	CVALK	GRND WTR	3/13/2024 14:30	3/13/2024 14:30	WG193093-1,-4,-5,-6,-7,-10,-11,-12	L83472-6
WG193093-4	LD	CVCOND	GRND WTR	3/13/2024 13:41	3/13/2024 13:41	WG193093-3,-2,-4,-8,-9	L83472-6
WG193093-5	LD	CVALK	STORM WTR	3/13/2024 14:47	3/13/2024 14:47	WG193093-1,-4,-5,-6,-7,-10,-11,-12	L83408-5
WG193093-6	LD	CVALK	OTHR WTR	3/13/2024 15:09	3/13/2024 15:09	WG193093-1,-4,-5,-6,-7,-10,-11,-12	L83411-2
WG193093-7	LD	CVALK	FRESH WTR	3/13/2024 15:48	3/13/2024 15:48	WG193093-1,-4,-5,-6,-7,-10,-11,-12	L83362-2
WG193093-8	LCS	CVCOND	BLANK WTR	3/13/2024 16:30	3/13/2024 16:30	WG193093-3,-2,-4,-8,-9	LEVEL1
WG193093-9	LCS	CVCOND	BLANK WTR	3/14/2024 8:30	3/14/2024 8:30	WG193093-3,-2,-4,-8,-9	LEVEL2
WG193093-10	LCS	CVALK	BLANK WTR	3/13/2024 16:52	3/13/2024 16:52	WG193093-1,-4,-5,-6,-7,-10,-11,-12	LEVEL3
WG193093-11	LCS	CVALK	BLANK WTR	3/13/2024 17:19	3/13/2024 17:19	WG193093-1,-4,-5,-6,-7,-10,-11,-12	LEVEL4
WG193093-12	LCS	CVALK	BLANK WTR	3/13/2024 17:28	3/13/2024 17:28	WG193093-1,-4,-5,-6,-7,-10,-11,-12	LEVEL5

WG193123 Total and Dissolved Organic Carbon

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83408-1	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	3/11/2024 10:41	3/13/2024 8:30	3/15/2024 19:25	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83408-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	3/11/2024 11:48	3/13/2024 8:30	3/18/2024 14:36	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83408-3	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	3/11/2024 12:54	3/13/2024 8:30	3/15/2024 21:12	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83408-5	422040-100	SWS Bioretention 6PPDQ	CVDOC	STORM WTR	3/12/2024 9:15	3/13/2024 8:30	3/15/2024 22:36	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83410-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/12/2024 9:30	3/13/2024 8:30	3/15/2024 23:02	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83411-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/12/2024 9:25	3/13/2024 8:30	3/15/2024 23:29	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83412-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/11/2024 18:16	3/13/2024 8:30	3/15/2024 23:55	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
L83413-2	422040-100	SWS Bioretention 6PPDQ	CVDOC	OTHR WTR	3/12/2024 9:20	3/13/2024 8:30	3/18/2024 15:54	WG193123-8,-1,-2,-3,-4,-5,-6,-7	
WG193123-1	MB		CVDOC	BLANK WTR		3/13/2024 8:30	3/18/2024 13:17	WG193123-8,-1,-2,-3,-4,-5,-6,-7	MB1 3/13/24
WG193123-2	SB		CVDOC	BLANK WTR		3/13/2024 8:30	3/18/2024 13:43	WG193123-8,-1,-2,-3,-4,-5,-6,-7	WG193123-1 LEVEL1
WG193123-3	LCS		CVDOC	BLANK WTR		3/18/2024 14:10	3/18/2024 14:10	WG193123-8,-1,-2,-3,-4,-5,-6,-7	LEVEL1
WG193123-4	LD		CVDOC	STORM WTR		3/13/2024 8:30	3/18/2024 15:02	WG193123-8,-1,-2,-3,-4,-5,-6,-7	L83408-2

WG193123-5	MS	CVDOC	STORM WTR	3/13/2024 8:30	3/18/2024 15:28	WG193123-8,-1,-2,-3,-4,-5,-6,-7	L83408-2 LEVEL1
WG193123-6	LD	CVDOC	OTHR WTR	3/13/2024 8:30	3/18/2024 16:20	WG193123-8,-1,-2,-3,-4,-5,-6,-7	L83413-2
WG193123-7	MS	CVDOC	OTHR WTR	3/13/2024 8:30	3/18/2024 17:44	WG193123-8,-1,-2,-3,-4,-5,-6,-7	L83413-2 LEVEL1
WG193123-8	LCS	CVDOC	BLANK WTR	3/15/2024 18:58	3/15/2024 18:58	WG193123-8,-1,-2,-3,-4,-5,-6,-7	LEVEL1

WG187733 Field Parameters

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81425-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/17/2023 16:30				
L81425-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/17/2023 16:30	4/17/2023 16:30	4/17/2023 16:30		
L81425-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/17/2023 16:30	4/17/2023 16:30	4/17/2023 16:30	WG187733-1,-2	
L81425-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 11:02				
L81425-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 11:02	4/18/2023 11:02	4/18/2023 11:02		
L81425-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 11:02	4/18/2023 11:02	4/18/2023 11:02	WG187733-1,-2	
L81425-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/19/2023 6:15				
L81425-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/19/2023 6:15	4/19/2023 6:15	4/19/2023 6:15		
L81425-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/19/2023 6:15	4/19/2023 6:15	4/19/2023 6:15	WG187733-1,-2	
L81426-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 10:40				
L81426-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 10:40	4/18/2023 10:40	4/18/2023 10:40		
L81426-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 10:40	4/18/2023 10:40	4/18/2023 10:40	WG187733-1,-2	
L81426-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 11:50				
L81426-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 11:50	4/18/2023 11:50	4/18/2023 11:50		
L81426-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 11:50	4/18/2023 11:50	4/18/2023 11:50	WG187733-1,-2	
L81426-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:10				
L81426-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 13:10	4/18/2023 13:10	4/18/2023 13:10		

L81426-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 13:10	4/18/2023 13:10	4/18/2023 13:10	WG187733-1,-2
L81426-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:57			
L81426-4	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 15:57	4/18/2023 15:57	4/18/2023 15:57	
L81426-4	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 15:57	4/18/2023 15:57	4/18/2023 15:57	WG187733-1,-2
L81426-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/19/2023 9:02			
L81426-5	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/19/2023 9:02	4/19/2023 9:02	4/19/2023 9:02	WG187733-1,-2
L81427-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:19			
L81427-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 15:19	4/18/2023 15:19	4/18/2023 15:19	
L81427-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 15:19	4/18/2023 15:19	4/18/2023 15:19	WG187733-1,-2
L81427-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:28			
L81427-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 15:28	4/18/2023 15:28	4/18/2023 15:28	
L81427-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 15:28	4/18/2023 15:28	4/18/2023 15:28	WG187733-1,-2
L81427-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:41			
L81427-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 15:41	4/18/2023 15:41	4/18/2023 15:41	
L81427-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 15:41	4/18/2023 15:41	4/18/2023 15:41	WG187733-1,-2
L81427-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:30			
L81427-4	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 13:30	4/18/2023 13:30	4/18/2023 13:30	
L81427-4	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 13:30	4/18/2023 13:30	4/18/2023 13:30	WG187733-1,-2
L81427-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:47			
L81427-5	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 13:47	4/18/2023 13:47	4/18/2023 13:47	
L81427-5	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 13:47	4/18/2023 13:47	4/18/2023 13:47	WG187733-1,-2
L81427-6	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:59			
L81427-6	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 13:59	4/18/2023 13:59	4/18/2023 13:59	

L81427-6	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 13:59	4/18/2023 13:59	4/18/2023 13:59	WG187733-1,-2
L81427-7	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:14			
L81427-7	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 14:14	4/18/2023 14:14	4/18/2023 14:14	
L81427-7	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 14:14	4/18/2023 14:14	4/18/2023 14:14	WG187733-1,-2
L81427-8	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:24			
L81427-8	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 14:24	4/18/2023 14:24	4/18/2023 14:24	
L81427-8	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 14:24	4/18/2023 14:24	4/18/2023 14:24	WG187733-1,-2
L81427-9	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:33			
L81427-9	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 14:33	4/18/2023 14:33	4/18/2023 14:33	
L81427-9	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 14:33	4/18/2023 14:33	4/18/2023 14:33	WG187733-1,-2
L81427-10	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:45			
L81427-10	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 14:45	4/18/2023 14:45	4/18/2023 14:45	
L81427-10	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 14:45	4/18/2023 14:45	4/18/2023 14:45	WG187733-1,-2
L81427-11	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:55			
L81427-11	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 14:55	4/18/2023 14:55	4/18/2023 14:55	
L81427-11	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 14:55	4/18/2023 14:55	4/18/2023 14:55	WG187733-1,-2
L81427-12	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:08			
L81427-12	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	4/18/2023 15:08	4/18/2023 15:08	4/18/2023 15:08	
L81427-12	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	4/18/2023 15:08	4/18/2023 15:08	4/18/2023 15:08	WG187733-1,-2
L81428-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 15:47			
L81428-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	4/18/2023 15:47	4/18/2023 15:47	4/18/2023 15:47	
L81428-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/18/2023 15:47	4/18/2023 15:47	4/18/2023 15:47	WG187733-1,-2
L81428-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 9:29			

L81428-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/19/2023 9:29	4/19/2023 9:29	4/19/2023 9:29	WG187733-1,-2	
L81429-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 14:05				
L81429-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	4/18/2023 14:05	4/18/2023 14:05	4/18/2023 14:05		
L81429-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/18/2023 14:05	4/18/2023 14:05	4/18/2023 14:05	WG187733-1,-2	
L81429-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 9:25				
L81429-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/19/2023 9:25	4/19/2023 9:25	4/19/2023 9:25	WG187733-1,-2	
L81430-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 14:38				
L81430-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	4/18/2023 14:38	4/18/2023 14:38	4/18/2023 14:38		
L81430-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/18/2023 14:38	4/18/2023 14:38	4/18/2023 14:38	WG187733-1,-2	
L81430-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 6:40				
L81430-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	4/19/2023 6:40	4/19/2023 6:40	4/19/2023 6:40		
L81430-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/19/2023 6:40	4/19/2023 6:40	4/19/2023 6:40	WG187733-1,-2	
L81431-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 15:12				
L81431-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	4/18/2023 15:12	4/18/2023 15:12	4/18/2023 15:12		
L81431-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/18/2023 15:12	4/18/2023 15:12	4/18/2023 15:12	WG187733-1,-2	
L81431-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 9:17				
L81431-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	4/19/2023 9:17	4/19/2023 9:17	4/19/2023 9:17	WG187733-1,-2	
WG187733-1	CS		ESS-YSI-EXO	BLANK WTR				WG187733-1,-2	RANGE1
WG187733-2	CS		ESS-YSI-EXO	BLANK WTR				WG187733-1,-2	RANGE1

WG190759 Field Parameters

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82562-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/25/2023 7:15				
L82562-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/25/2023 7:15	9/25/2023 7:15	9/25/2023 7:15		
L82562-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/25/2023 7:15	9/25/2023 7:15	9/25/2023 7:15	WG190759-1,-2	

L82562-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 9:43			
L82562-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 9:43	9/26/2023 9:43	9/26/2023 9:43	
L82562-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 9:43	9/26/2023 9:43	9/26/2023 9:43	WG190759-1,-2
L82562-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 17:31			
L82562-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 17:31	9/26/2023 17:31	9/26/2023 17:31	
L82562-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 17:31	9/26/2023 17:31	9/26/2023 17:31	WG190759-1,-2
L82563-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 10:15			
L82563-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 10:15	9/26/2023 10:15	9/26/2023 10:15	
L82563-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 10:15	9/26/2023 10:15	9/26/2023 10:15	WG190759-1,-2
L82563-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 11:36			
L82563-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 11:36	9/26/2023 11:36	9/26/2023 11:36	
L82563-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 11:36	9/26/2023 11:36	9/26/2023 11:36	WG190759-1,-2
L82563-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 12:40			
L82563-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 12:40	9/26/2023 12:40	9/26/2023 12:40	
L82563-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 12:40	9/26/2023 12:40	9/26/2023 12:40	WG190759-1,-2
L82563-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:45			
L82563-4	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 14:45	9/26/2023 14:45	9/26/2023 14:45	
L82563-4	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 14:45	9/26/2023 14:45	9/26/2023 14:45	WG190759-1,-2
L82563-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/27/2023 7:00			
L82563-5	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	
L82563-5	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	WG190759-1,-2
L82564-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:11			
L82564-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 14:11	9/26/2023 14:11	9/26/2023 14:11	

L82564-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 14:11	9/26/2023 14:11	9/26/2023 14:11	WG190759-1,-2
L82564-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:20			
L82564-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 14:20	9/26/2023 14:20	9/26/2023 14:20	
L82564-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 14:20	9/26/2023 14:20	9/26/2023 14:20	WG190759-1,-2
L82564-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:29			
L82564-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 14:29	9/26/2023 14:29	9/26/2023 14:29	
L82564-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 14:29	9/26/2023 14:29	9/26/2023 14:29	WG190759-1,-2
L82564-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:04			
L82564-4	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:04	9/26/2023 13:04	9/26/2023 13:04	
L82564-4	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:04	9/26/2023 13:04	9/26/2023 13:04	WG190759-1,-2
L82564-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 12:48			
L82564-5	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 12:48	9/26/2023 12:48	9/26/2023 12:48	
L82564-5	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 12:48	9/26/2023 12:48	9/26/2023 12:48	WG190759-1,-2
L82564-6	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:14			
L82564-6	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:14	9/26/2023 13:14	9/26/2023 13:14	
L82564-6	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:14	9/26/2023 13:14	9/26/2023 13:14	WG190759-1,-2
L82564-7	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:24			
L82564-7	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:24	9/26/2023 13:24	9/26/2023 13:24	
L82564-7	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:24	9/26/2023 13:24	9/26/2023 13:24	WG190759-1,-2
L82564-8	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:31			
L82564-8	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:31	9/26/2023 13:31	9/26/2023 13:31	
L82564-8	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:31	9/26/2023 13:31	9/26/2023 13:31	WG190759-1,-2
L82564-9	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:36			

L82564-9	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:36	9/26/2023 13:36	9/26/2023 13:36	
L82564-9	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:36	9/26/2023 13:36	9/26/2023 13:36	WG190759-1,-2
L82564-10	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:44			
L82564-10	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:44	9/26/2023 13:44	9/26/2023 13:44	
L82564-10	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:44	9/26/2023 13:44	9/26/2023 13:44	WG190759-1,-2
L82564-11	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:52			
L82564-11	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 13:52	9/26/2023 13:52	9/26/2023 13:52	
L82564-11	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 13:52	9/26/2023 13:52	9/26/2023 13:52	WG190759-1,-2
L82564-12	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:00			
L82564-12	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	9/26/2023 14:00	9/26/2023 14:00	9/26/2023 14:00	
L82564-12	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	9/26/2023 14:00	9/26/2023 14:00	9/26/2023 14:00	WG190759-1,-2
L82565-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 14:11			
L82565-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/26/2023 14:11	9/26/2023 14:11	9/26/2023 14:11	
L82565-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/26/2023 14:11	9/26/2023 14:11	9/26/2023 14:11	WG190759-1,-2
L82565-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00			
L82565-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	
L82565-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	WG190759-1,-2
L82566-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 12:48			
L82566-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/26/2023 12:48	9/26/2023 12:48	9/26/2023 12:48	
L82566-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/26/2023 12:48	9/26/2023 12:48	9/26/2023 12:48	WG190759-1,-2
L82566-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00			
L82566-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	
L82566-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	WG190759-1,-2

L82567-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 17:25				
L82567-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/26/2023 17:25	9/26/2023 17:25	9/26/2023 17:25		
L82567-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/26/2023 17:25	9/26/2023 17:25	9/26/2023 17:25	WG190759-1,-2	
L82567-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 17:26				
L82567-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/26/2023 17:26	9/26/2023 17:26	9/26/2023 17:26		
L82567-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/26/2023 17:26	9/26/2023 17:26	9/26/2023 17:26	WG190759-1,-2	
L82568-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 13:44				
L82568-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/26/2023 13:44	9/26/2023 13:44	9/26/2023 13:44		
L82568-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/26/2023 13:44	9/26/2023 13:44	9/26/2023 13:44	WG190759-1,-2	
L82568-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00				
L82568-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00		
L82568-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	9/27/2023 7:00	9/27/2023 7:00	9/27/2023 7:00	WG190759-1,-2	
WG190759-1	CS		ESS-YSI-EXO	BLANK WTR				WG190759-1,-2	RANGE1
WG190759-2	CS		ESS-YSI-EXO	BLANK WTR				WG190759-1,-2	RANGE1

WG193161 Field Parameters

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83407-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/10/2024 13:02				
L83407-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/10/2024 13:02	3/10/2024 13:02	3/10/2024 13:02		
L83407-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/10/2024 13:02	3/10/2024 13:02	3/10/2024 13:02		
L83407-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 10:25				
L83407-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 10:25	3/11/2024 10:25	3/11/2024 10:25		
L83407-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 10:25	3/11/2024 10:25	3/11/2024 10:25		
L83407-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 18:23				
L83407-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 18:23	3/11/2024 18:23	3/11/2024 18:23		

L83407-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 18:23	3/11/2024 18:23	3/11/2024 18:23
L83408-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 10:41		
L83408-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 10:41	3/11/2024 10:41	3/11/2024 10:41
L83408-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 10:41	3/11/2024 10:41	3/11/2024 10:41
L83408-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 11:48		
L83408-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 11:48	3/11/2024 11:48	3/11/2024 11:48
L83408-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 11:48	3/11/2024 11:48	3/11/2024 11:48
L83408-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 12:54		
L83408-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 12:54	3/11/2024 12:54	3/11/2024 12:54
L83408-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 12:54	3/11/2024 12:54	3/11/2024 12:54
L83408-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 15:08		
L83408-4	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 15:08	3/11/2024 15:08	3/11/2024 15:08
L83408-4	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 15:08	3/11/2024 15:08	3/11/2024 15:08
L83408-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/12/2024 9:15		
L83408-5	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/12/2024 9:15	3/12/2024 9:15	3/12/2024 9:15
L83408-5	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/12/2024 9:15	3/12/2024 9:15	3/12/2024 9:15
L83409-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:16		
L83409-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 13:16	3/11/2024 13:16	3/11/2024 13:16
L83409-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 13:16	3/11/2024 13:16	3/11/2024 13:16
L83409-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:28		
L83409-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 13:28	3/11/2024 13:28	3/11/2024 13:28
L83409-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 13:28	3/11/2024 13:28	3/11/2024 13:28
L83409-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:36		

L83409-3	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 13:36	3/11/2024 13:36	3/11/2024 13:36
L83409-3	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 13:36	3/11/2024 13:36	3/11/2024 13:36
L83409-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:49		
L83409-4	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 13:49	3/11/2024 13:49	3/11/2024 13:49
L83409-4	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 13:49	3/11/2024 13:49	3/11/2024 13:49
L83409-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:59		
L83409-5	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 13:59	3/11/2024 13:59	3/11/2024 13:59
L83409-5	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 13:59	3/11/2024 13:59	3/11/2024 13:59
L83409-6	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:07		
L83409-6	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:07	3/11/2024 14:07	3/11/2024 14:07
L83409-6	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:07	3/11/2024 14:07	3/11/2024 14:07
L83409-7	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:19		
L83409-7	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:19	3/11/2024 14:19	3/11/2024 14:19
L83409-7	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:19	3/11/2024 14:19	3/11/2024 14:19
L83409-8	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:24		
L83409-8	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:24	3/11/2024 14:24	3/11/2024 14:24
L83409-8	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:24	3/11/2024 14:24	3/11/2024 14:24
L83409-9	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:31		
L83409-9	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:31	3/11/2024 14:31	3/11/2024 14:31
L83409-9	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:31	3/11/2024 14:31	3/11/2024 14:31
L83409-10	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:41		
L83409-10	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:41	3/11/2024 14:41	3/11/2024 14:41
L83409-10	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:41	3/11/2024 14:41	3/11/2024 14:41

L83409-11	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:48		
L83409-11	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:48	3/11/2024 14:48	3/11/2024 14:48
L83409-11	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:48	3/11/2024 14:48	3/11/2024 14:48
L83409-12	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:56		
L83409-12	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	STORM WTR	3/11/2024 14:56	3/11/2024 14:56	3/11/2024 14:56
L83409-12	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	STORM WTR	3/11/2024 14:56	3/11/2024 14:56	3/11/2024 14:56
L83410-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 13:38		
L83410-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/11/2024 13:38	3/11/2024 13:38	3/11/2024 13:38
L83410-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/11/2024 13:38	3/11/2024 13:38	3/11/2024 13:38
L83410-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:30		
L83410-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/12/2024 9:30	3/12/2024 9:30	3/12/2024 9:30
L83410-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/12/2024 9:30	3/12/2024 9:30	3/12/2024 9:30
L83411-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 14:10		
L83411-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/11/2024 14:10	3/11/2024 14:10	3/11/2024 14:10
L83411-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/11/2024 14:10	3/11/2024 14:10	3/11/2024 14:10
L83411-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:25		
L83411-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/12/2024 9:25	3/12/2024 9:25	3/12/2024 9:25
L83411-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/12/2024 9:25	3/12/2024 9:25	3/12/2024 9:25
L83412-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 14:36		
L83412-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/11/2024 14:36	3/11/2024 14:36	3/11/2024 14:36
L83412-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/11/2024 14:36	3/11/2024 14:36	3/11/2024 14:36
L83412-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 18:16		
L83412-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/11/2024 18:16	3/11/2024 18:16	3/11/2024 18:16

L83412-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/11/2024 18:16	3/11/2024 18:16	3/11/2024 18:16		
L83413-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 14:59				
L83413-1	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/11/2024 14:59	3/11/2024 14:59	3/11/2024 14:59		
L83413-1	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/11/2024 14:59	3/11/2024 14:59	3/11/2024 14:59		
L83413-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:20				
L83413-2	422040-100	SWS Bioretention 6PPDQ	ESS-FIELDMETER	OTHR WTR	3/12/2024 9:20	3/12/2024 9:20	3/12/2024 9:20		
L83413-2	422040-100	SWS Bioretention 6PPDQ	ESS-YSI-EXO	OTHR WTR	3/12/2024 9:20	3/12/2024 9:20	3/12/2024 9:20		
WG193161-1	CS		ESS-YSI-EXO	BLANK WTR					RANGE1
WG193161-2	CS		ESS-YSI-EXO	BLANK WTR					RANGE1

WG194817 Field Parameters

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L80975-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	2/8/2023 10:00				
L80975-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	2/8/2023 10:15				
L80976-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	2/7/2023 9:00				
L80976-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	2/7/2023 11:00				
L80993-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	2/8/2023 7:15				
L81204-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/16/2023 14:15				
L81204-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/16/2023 13:00				
L81204-3	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/16/2023 13:30				
L81204-4	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/16/2023 14:00				
L81297-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/29/2023 12:00				
L81297-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/29/2023 13:00				
L81297-3	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/29/2023 13:20				
L81297-4	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/29/2023 13:40				

L81298-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/29/2023 12:00
L81298-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/29/2023 15:30
L81425-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/17/2023 16:30
L81425-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 11:02
L81425-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/19/2023 6:15
L81426-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 10:40
L81426-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 11:50
L81426-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:10
L81426-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:57
L81426-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/19/2023 9:02
L81426-6	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 10:00
L81427-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:19
L81427-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:28
L81427-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:41
L81427-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:30
L81427-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:47
L81427-6	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 13:59
L81427-7	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:14
L81427-8	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:24
L81427-9	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:33
L81427-10	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:45
L81427-11	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 14:55
L81427-12	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	4/18/2023 15:08

L81428-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 15:47
L81428-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 9:29
L81429-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 14:05
L81429-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 9:25
L81430-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 14:38
L81430-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 6:40
L81431-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/18/2023 15:12
L81431-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	4/19/2023 9:17
L81466-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	5/3/2023 9:00
L82562-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/25/2023 7:15
L82562-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 9:43
L82562-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 17:31
L82563-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 10:15
L82563-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 11:36
L82563-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 12:40
L82563-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:45
L82563-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/27/2023 7:00
L82563-6	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00
L82564-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:11
L82564-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:20
L82564-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:29
L82564-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:04
L82564-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 12:48

L82564-6	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:14
L82564-7	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:24
L82564-8	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:31
L82564-9	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:36
L82564-10	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:44
L82564-11	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 13:52
L82564-12	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	9/26/2023 14:00
L82565-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 14:11
L82565-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00
L82566-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 12:48
L82566-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00
L82567-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 17:25
L82567-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 17:26
L82568-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/26/2023 13:44
L82568-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	9/27/2023 7:00
L82735-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	10/16/2023 9:00
L82735-4	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	10/26/2023 9:00
L82827-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	11/6/2023 9:00
L83407-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/10/2024 13:02
L83407-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 10:25
L83407-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 18:23
L83408-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 10:41
L83408-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 11:48

L83408-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 12:54
L83408-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 15:08
L83408-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/12/2024 9:15
L83408-6	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:00
L83409-1	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:16
L83409-2	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:28
L83409-3	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:36
L83409-4	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:49
L83409-5	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 13:59
L83409-6	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:07
L83409-7	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:19
L83409-8	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:24
L83409-9	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:31
L83409-10	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:41
L83409-11	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:48
L83409-12	422040-100	SWS Bioretention 6PPDQ	ESS	STORM WTR	3/11/2024 14:56
L83410-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 13:38
L83410-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:30
L83411-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 14:10
L83411-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:25
L83412-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 14:36
L83412-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 18:16
L83413-1	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/11/2024 14:59

L83413-2	422040-100	SWS Bioretention 6PPDQ	ESS	OTHR WTR	3/12/2024 9:20

WG187130 Total Metals by ICPMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81043-1	421937	Brightwater Operations	MTICPMS	STORM WTR	4/4/2023 12:01	4/6/2023 11:00	4/13/2023 8:50	WG187130-1,-2,-3,-4,-5,-6	
L81043-2	421937	Brightwater Operations	MTICPMS	STORM WTR	4/4/2023 11:55	4/6/2023 11:00	4/13/2023 8:53	WG187130-1,-2,-3,-4,-5,-6	
L81043-3	421937	Brightwater Operations	MTICPMS	STORM WTR	4/4/2023 11:27	4/6/2023 11:00	4/13/2023 8:57	WG187130-1,-2,-3,-4,-5,-6	
L81043-4	421937	Brightwater Operations	MTICPMS	STORM WTR	4/4/2023 11:16	4/6/2023 11:00	4/13/2023 9:01	WG187130-1,-2,-3,-4,-5,-6	
L81043-7	421937	Brightwater Operations	MTICPMS	STORM WTR	4/4/2023 11:22	4/6/2023 11:00	4/13/2023 9:05	WG187130-1,-2,-3,-4,-5,-6	
L81043-10	421937	Brightwater Operations	MTICPMS	STORM WTR	4/4/2023 11:38	4/6/2023 11:00	4/13/2023 9:08	WG187130-1,-2,-3,-4,-5,-6	
L81068-1	421937	Brightwater Operations	MTICPMS	EFFLUENT	4/3/2023 16:04	4/6/2023 11:00	4/13/2023 9:12	WG187130-1,-2,-3,-4,-5,-6	
L81068-2	421937	Brightwater Operations	MTICPMS	OTHR WTR	4/3/2023 15:55	4/6/2023 11:00	4/13/2023 9:30	WG187130-1,-2,-3,-4,-5,-6	
L81222-1	421184-130	OCS-Karcher Creek SD	MTHARD-ICPMS	EFFLUENT	4/3/2023 7:40	4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	
L81222-1	421184-130	OCS-Karcher Creek SD	MTICPMS	EFFLUENT	4/3/2023 7:40	4/6/2023 11:00	4/13/2023 9:34	WG187130-1,-2,-3,-4,-5,-6	
L81298-1	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	3/29/2023 12:00	4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	
L81298-1	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	3/29/2023 12:00	4/6/2023 11:00	4/13/2023 9:45	WG187130-1,-2,-3,-4,-5,-6	
L81298-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	3/29/2023 15:30	4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	
L81298-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	3/29/2023 15:30	4/6/2023 11:00	4/13/2023 9:48	WG187130-1,-2,-3,-4,-5,-6	
WG187130-1	MB		MTHARD-ICPMS	BLANK WTR		4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	METHOD BLANK
WG187130-1	MB		MTICPMS	BLANK WTR		4/6/2023 11:00	4/13/2023 8:42	WG187130-1,-2,-3,-4,-5,-6	METHOD BLANK
WG187130-2	SB		MTHARD-ICPMS	BLANK WTR		4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	WG187130-1 MS-20
WG187130-2	SB		MTICPMS	BLANK WTR		4/6/2023 11:00	4/13/2023 8:46	WG187130-1,-2,-3,-4,-5,-6	WG187130-1 MS-20
WG187130-3	MS		MTICPMS	EFFLUENT		4/6/2023 11:00	4/13/2023 9:16	WG187130-1,-2,-3,-4,-5,-6	L81068-1 MS-20
WG187130-4	MSD		MTICPMS	EFFLUENT		4/6/2023 11:00	4/13/2023 9:27	WG187130-1,-2,-3,-4,-5,-6	WG187130-3 L81068-1 MS-20
WG187130-5	MS		MTHARD-ICPMS	EFFLUENT		4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	L81222-1 MS-20
WG187130-5	MS		MTICPMS	EFFLUENT		4/6/2023 11:00	4/13/2023 9:37	WG187130-1,-2,-3,-4,-5,-6	L81222-1 MS-20

WG187130-6	MSD	MTHARD-ICPMS	EFFLUENT		4/6/2023 11:00	4/13/2023 12:14	WG187130-1,-2,-5,-6	WG187130-5 L81222-1 MS-20
WG187130-6	MSD	MTICPMS	EFFLUENT		4/6/2023 11:00	4/13/2023 9:41	WG187130-1,-2,-3,-4,-5,-6	WG187130-5 L81222-1 MS-20

WG187393 Hardness and Total Metals by ICPMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L81426-5	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	STORM WTR	4/19/2023 9:02	4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	
L81426-5	422040-100	SWS Bioretention 6PPDQ	MTICPMS	STORM WTR	4/19/2023 9:02	4/21/2023 6:45	4/21/2023 16:29	WG187393-1,-2,-3,-4,-5,-6	
L81426-6	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	BLANK WTR	4/19/2023 0:00	4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	
L81426-6	422040-100	SWS Bioretention 6PPDQ	MTICPMS	BLANK WTR	4/19/2023 0:00	4/21/2023 6:45	4/21/2023 16:33	WG187393-1,-2,-3,-4,-5,-6	
L81428-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	4/19/2023 9:29	4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	
L81428-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	4/19/2023 9:29	4/21/2023 6:45	4/21/2023 16:36	WG187393-1,-2,-3,-4,-5,-6	
L81429-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	4/19/2023 9:25	4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	
L81429-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	4/19/2023 9:25	4/21/2023 6:45	4/21/2023 16:40	WG187393-1,-2,-3,-4,-5,-6	
L81431-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	4/19/2023 9:17	4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	
L81431-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	4/19/2023 9:17	4/21/2023 6:45	4/21/2023 16:44	WG187393-1,-2,-3,-4,-5,-6	
L81456-1	421166	IW Emergency Spills	MTICPMS	INFLUENT	4/19/2023 12:20	4/21/2023 6:45	4/25/2023 14:52	WG187393-1,-2,-3,-4,-5,-6	
WG187393-1	MB		MTHARD-ICPMS	BLANK WTR		4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	METHOD BLANK
WG187393-1	MB		MTICPMS	BLANK WTR		4/21/2023 6:45	4/21/2023 16:22	WG187393-1,-2,-3,-4,-5,-6	METHOD BLANK
WG187393-2	SB		MTHARD-ICPMS	BLANK WTR		4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	WG187393-1 MS-20
WG187393-2	SB		MTICPMS	BLANK WTR		4/21/2023 6:45	4/21/2023 16:25	WG187393-1,-2,-3,-4,-5,-6	WG187393-1 MS-20
WG187393-3	MS		MTHARD-ICPMS	OTHR WTR		4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	L81431-2 MS-20
WG187393-3	MS		MTICPMS	OTHR WTR		4/21/2023 6:45	4/21/2023 16:48	WG187393-1,-2,-3,-4,-5,-6	L81431-2 MS-20
WG187393-4	MSD		MTHARD-ICPMS	OTHR WTR		4/21/2023 6:45	4/26/2023 9:15	WG187393-1,-2,-3,-4	WG187393-3 L81431-2 MS-20
WG187393-4	MSD		MTICPMS	OTHR WTR		4/21/2023 6:45	4/21/2023 16:52	WG187393-1,-2,-3,-4,-5,-6	WG187393-3 L81431-2 MS-20
WG187393-5	MS		MTICPMS	INFLUENT		4/21/2023 6:45	4/25/2023 14:55	WG187393-1,-2,-3,-4,-5,-6	L81456-1 MS-20

WG187393-6	MSD	MTICPMS	INFLUENT	4/21/2023 6:45	4/25/2023 14:59	WG187393-1,-2,-3,-4,-5,-6	WG187393-5 L81456-1 MS-20	

WG190409 Hardness and Total Metals by ICPMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L82443-1	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 10:57	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82443-1	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 10:57	10/2/2023 8:01	10/3/2023 15:09	WG190409-1,-2,-3,-4,-5,-6	
L82443-3	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 11:41	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82443-3	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 11:41	10/2/2023 8:01	10/3/2023 15:13	WG190409-1,-2,-3,-4,-5,-6	
L82443-4	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 11:24	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82443-4	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 11:24	10/2/2023 8:01	10/3/2023 15:16	WG190409-1,-2,-3,-4,-5,-6	
L82443-6	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 12:04	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82443-6	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 12:04	10/2/2023 8:01	10/3/2023 15:20	WG190409-1,-2,-3,-4,-5,-6	
L82443-7	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 9:57	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82443-7	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 9:57	10/2/2023 8:01	10/3/2023 15:23	WG190409-1,-2,-3,-4,-5,-6	
L82443-8	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 9:26	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82443-8	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 9:26	10/2/2023 8:01	10/3/2023 15:34	WG190409-1,-2,-3,-4,-5,-6	
L82443-9	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	FRESH WTR	9/26/2023 12:27	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	

L82443-9	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	FRESH WTR	9/26/2023 12:27	10/2/2023 8:01	10/3/2023 15:45	WG190409-1,-2,-3,-4,-5,-6
L82444-1	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	GRND WTR	9/27/2023 10:25	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82444-1	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	GRND WTR	9/27/2023 10:25	10/2/2023 8:01	10/3/2023 15:48	WG190409-1,-2,-3,-4,-5,-6
L82444-2	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	GRND WTR	9/26/2023 13:10	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82444-2	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	GRND WTR	9/26/2023 13:10	10/2/2023 8:01	10/3/2023 15:59	WG190409-1,-2,-3,-4,-5,-6
L82444-3	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	GRND WTR	9/25/2023 13:00	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82444-3	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	GRND WTR	9/25/2023 13:00	10/2/2023 8:01	10/3/2023 16:03	WG190409-1,-2,-3,-4,-5,-6
L82444-4	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	GRND WTR	9/25/2023 11:30	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82444-4	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	GRND WTR	9/25/2023 11:30	10/2/2023 8:01	10/3/2023 16:06	WG190409-1,-2,-3,-4,-5,-6
L82444-5	421936-200	Carnation Treatment Plant - Reclaimed Water	MTHARD-ICPMS	GRND WTR	9/26/2023 11:35	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82444-5	421936-200	Carnation Treatment Plant - Reclaimed Water	MTICPMS	GRND WTR	9/26/2023 11:35	10/2/2023 8:01	10/3/2023 16:10	WG190409-1,-2,-3,-4,-5,-6
L82563-5	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	STORM WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82563-5	422040-100	SWS Bioretention 6PPDQ	MTICPMS	STORM WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:08	WG190409-1,-2,-3,-4,-5,-6
L82563-6	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82563-6	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:10	WG190409-1,-2,-3,-4,-5,-6
L82565-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6
L82565-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:15	WG190409-1,-2,-3,-4,-5,-6
L82566-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6

L82566-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:17	WG190409-1,-2,-3,-4,-5,-6	
L82568-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	
L82568-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	9/27/2023 7:00	10/2/2023 8:01	10/5/2023 11:18	WG190409-1,-2,-3,-4,-5,-6	
WG190409-1	MB		MTHARD-ICPMS	BLANK WTR		10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	METHOD BLANK
WG190409-1	MB		MTICPMS	BLANK WTR		10/2/2023 8:01	10/3/2023 15:02	WG190409-1,-2,-3,-4,-5,-6	METHOD BLANK
WG190409-2	SB		MTHARD-ICPMS	BLANK WTR		10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	WG190409-1 MS-20
WG190409-2	SB		MTICPMS	BLANK WTR		10/2/2023 8:01	10/3/2023 15:06	WG190409-1,-2,-3,-4,-5,-6	WG190409-1 MS-20
WG190409-3	MS		MTHARD-ICPMS	FRESH WTR		10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	L82443-7 MS-20
WG190409-3	MS		MTICPMS	FRESH WTR		10/2/2023 8:01	10/3/2023 15:27	WG190409-1,-2,-3,-4,-5,-6	L82443-7 MS-20
WG190409-4	MSD		MTHARD-ICPMS	FRESH WTR		10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	WG190409-3 L82443-7 MS-20
WG190409-4	MSD		MTICPMS	FRESH WTR		10/2/2023 8:01	10/3/2023 15:31	WG190409-1,-2,-3,-4,-5,-6	WG190409-3 L82443-7 MS-20
WG190409-5	MS		MTHARD-ICPMS	GRND WTR		10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	L82444-1 MS-20
WG190409-5	MS		MTICPMS	GRND WTR		10/2/2023 8:01	10/3/2023 15:52	WG190409-1,-2,-3,-4,-5,-6	L82444-1 MS-20
WG190409-6	MSD		MTHARD-ICPMS	GRND WTR		10/2/2023 8:01	10/5/2023 11:52	WG190409-1,-2,-3,-4,-5,-6	WG190409-5 L82444-1 MS-20
WG190409-6	MSD		MTICPMS	GRND WTR		10/2/2023 8:01	10/3/2023 15:56	WG190409-1,-2,-3,-4,-5,-6	WG190409-5 L82444-1 MS-20

WG193029 Hardness and Total Metals by ICPMS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L83408-5	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	STORM WTR	3/12/2024 9:15	3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	
L83408-5	422040-100	SWS Bioretention 6PPDQ	MTICPMS	STORM WTR	3/12/2024 9:15	3/14/2024 8:52	3/15/2024 8:51	WG193029-1,-2,-3,-4	
L83408-6	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	3/12/2024 9:00	3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	
L83408-6	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	3/12/2024 9:00	3/14/2024 8:52	3/15/2024 8:54	WG193029-1,-2,-3,-4	
L83410-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	3/12/2024 9:30	3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	
L83410-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	3/12/2024 9:30	3/14/2024 8:52	3/15/2024 8:57	WG193029-1,-2,-3,-4	

L83411-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	3/12/2024 9:25	3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	
L83411-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	3/12/2024 9:25	3/14/2024 8:52	3/15/2024 9:00	WG193029-1,-2,-3,-4	
L83413-2	422040-100	SWS Bioretention 6PPDQ	MTHARD-ICPMS	OTHR WTR	3/12/2024 9:20	3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	
L83413-2	422040-100	SWS Bioretention 6PPDQ	MTICPMS	OTHR WTR	3/12/2024 9:20	3/14/2024 8:52	3/15/2024 9:04	WG193029-1,-2,-3,-4	
WG193029-1	MB		MTHARD-ICPMS	BLANK WTR		3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	METHOD BLANK
WG193029-1	MB		MTICPMS	BLANK WTR		3/14/2024 8:52	3/15/2024 8:44	WG193029-1,-2,-3,-4	METHOD BLANK
WG193029-2	SB		MTHARD-ICPMS	BLANK WTR		3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	WG193029-1 MS-20
WG193029-2	SB		MTICPMS	BLANK WTR		3/14/2024 8:52	3/15/2024 8:47	WG193029-1,-2,-3,-4	WG193029-1 MS-20
WG193029-3	MS		MTHARD-ICPMS	OTHR WTR		3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	L83413-2 MS-20
WG193029-3	MS		MTICPMS	OTHR WTR		3/14/2024 8:52	3/15/2024 9:07	WG193029-1,-2,-3,-4	L83413-2 MS-20
WG193029-4	MSD		MTHARD-ICPMS	OTHR WTR		3/14/2024 8:52	3/15/2024 9:48	WG193029-1,-2,-3,-4	WG193029-3 L83413-2 MS-20
WG193029-4	MSD		MTICPMS	OTHR WTR		3/14/2024 8:52	3/15/2024 9:10	WG193029-1,-2,-3,-4	WG193029-3 L83413-2 MS-20

Quality Control Data

Workgroup: WG186249 6PPDQ by LCMS

MB:WG186249-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG186249-2 MB:WG186249-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.215	108		50--150

MSD:WG186249-4 MS:WG186249-3 L80971-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:423800-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0512	0.2	0.267	108		50--150	0.2	0.261	105		2		0--45

LD:WG186249-5 L80971-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:423800-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0512	0.0495	3		0--40

CCC:WG186249-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.06	106		80--120

Workgroup: WG186270 6PPDQ by LCMS

MB:WG186270-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG186270-2 MB:WG186270-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.23	115		50--150

MSD:WG186270-4 MS:WG186270-3 L80975-2 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.241	121		50--150	0.2	0.239	119		1		0--45

LD:WG186270-5 L80975-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.003	0.0034			0--40

CCC:WG186270-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.01	101		80--120

Workgroup: WG187029 6PPDQ by LCMS

MB:WG187029-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG187029-2 MB:WG187029-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.167	83		50--150

MSD:WG187029-4 MS:WG187029-3 L81297-4 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.222	111		50--150	0.2	0.222	111		0		0--45

LD:WG187029-5 L81297-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	<MDL			0--40

CCC:WG187029-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.07	107		80--120

Workgroup: WG187385 6PPDQ by LCMS

MB:WG187385-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG187385-2 MB:WG187385-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.19	95		50--150

MSD:WG187385-4 MS:WG187385-3 L81425-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.856	0.2	1.09	118		50--150	0.2	1.01	77		8		0--45

LD:WG187385-5 L81425-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.856	0.847	1		0--40

CCC:WG187385-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.917	92		80--120

Workgroup: WG187386 6PPDQ by LCMS

MB:WG187386-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG187386-2 MB:WG187386-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.186	93		50--150

MSD:WG187386-4 MS:WG187386-3 L81427-12 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.19	95		50--150	0.2	0.192	96		1		0--45

LD:WG187386-5 L81427-6 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0022	<MDL			0--40

CCC:WG187386-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.979	98		80--120

Workgroup: WG187387 6PPDQ by LCMS

MB:WG187387-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG187387-2 MB:WG187387-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.176	88		50--150

MSD:WG187387-4 MS:WG187387-3 L81429-2 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0025	0.2	0.182	90		50--150	0.2	0.184	91		1		0--45

LD:WG187387-5 L81426-5 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.754	0.754	0		0--40

CCC:WG187387-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.979	98		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L81425-3	63
L81426-1	69
L81426-2	64
L81426-3	65
L81426-5	65
L81428-2	77
L81429-2	76
L81430-2	75
L81431-2	80
WG187387-1	69
WG187387-2	69
WG187387-3	81
WG187387-4	82
WG187387-5	65
WG187387-6	95

Workgroup: WG187754 6PPDQ by LCMS

MB:WG187754-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG187754-2 MB:WG187754-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.212	106		50--150

MSD:WG187754-4 MS:WG187754-3 L81466-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0502	0.2	0.257	103		50--150	0.2	0.27	110		5		0--45

LD:WG187754-5 L81466-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0502	0.0508	1		0--40

CCC:WG187754-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.04	104		80--120

Workgroup: WG190254 6PPDQ by LCMS

MB:WG190254-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG190254-2 MB:WG190254-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.242	121		50--150

MSD:WG190254-4 MS:WG190254-3 L81565-2 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:421520-200 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	1.62	0.2	1.85	119		50--150	0.2	1.8	94		3		0--45

LD:WG190254-5 L81565-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:421520-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	2.38	2.49	5		0--40

CCC:WG190254-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.976	98		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L81565-1	47
L81565-2	62
L82562-1	71
WG190254-1	77
WG190254-2	75
WG190254-3	60
WG190254-4	58
WG190254-5	45
WG190254-6	79

Workgroup: WG190345 6PPDQ by LCMS

MB:WG190345-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG190345-2 MB:WG190345-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.215	108		50--150

MSD:WG190345-4 MS:WG190345-3 L82564-12 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.209	105		50--150	0.2	0.219	110		5		0--45

LD:WG190345-5 L82564-4 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0029	<MDL			0--40

CCC:WG190345-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.03	103		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L82564-1	86
L82564-2	85
L82564-3	83
L82564-4	84
L82564-5	84
L82564-6	88
L82564-7	77
L82564-8	77
L82564-9	81
L82564-10	77
L82564-11	79
L82564-12	80
L82567-2	71
WG190345-1	83
WG190345-2	72
WG190345-3	80
WG190345-4	83
WG190345-5	86
WG190345-6	92

Workgroup: WG190346 6PPDQ by LCMS

MB:WG190346-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG190346-2 MB:WG190346-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.213	106		50--150

MSD:WG190346-4 MS:WG190346-3 L82562-3 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.259	0.2	0.48	110		50--150	0.2	0.471	106		2		0--45

LD:WG190346-5 L82563-4 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.259	0.237	9		0--40

CCC:WG190346-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.02	102		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L82562-2	78
L82562-3	75
L82563-1	77
L82563-2	81
L82563-3	79
L82563-4	76
WG190346-1	86
WG190346-2	76
WG190346-3	79
WG190346-4	78
WG190346-5	78
WG190346-6	96

Workgroup: WG190709 6PPDQ by LCMS

MB:WG190709-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG190709-2 MB:WG190709-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.215	108		50--150

LD:WG190709-3 L82563-5 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.225	0.225	0		0--40

CCC:WG190709-4 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.975	98		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L82563-5	77
L82565-2	83
L82566-2	79
L82568-2	86
WG190709-1	83
WG190709-2	72
WG190709-3	74
WG190709-4	93

Workgroup: WG190857 6PPDQ by LCMS

MB:WG190857-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG190857-2 MB:WG190857-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.215	107		50--150

MSD:WG190857-4 MS:WG190857-3 L82735-2 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0128	0.2	0.24	113		50--150	0.2	0.234	110		3		0--45

LD:WG190857-5 L82735-2 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0128	0.0124	3		0--40

CCC:WG190857-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	0.5	0.504	101		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L82735-2	74
WG190857-1	80
WG190857-2	75
WG190857-3	76
WG190857-4	76
WG190857-5	74
WG190857-6	93

Workgroup: WG190926 6PPDQ by LCMS

MB:WG190926-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG190926-2 MB:WG190926-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.22	110		50--150

MSD:WG190926-4 MS:WG190926-3 L82735-4 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0099	0.2	0.233	112		50--150	0.2	0.243	116		4		0--45

LD:WG190926-5 L82735-4 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0099	0.0117	16		0--40

CCC:WG190926-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1	100		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L82735-4	81
WG190926-1	86
WG190926-2	80
WG190926-3	79
WG190926-4	82
WG190926-5	85
WG190926-6	94

Workgroup: WG191124 6PPDQ by LCMS

MB:WG191124-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG191124-2 MB:WG191124-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.21	105		50--150

MSD:WG191124-4 MS:WG191124-3 L82371-6 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:421520-200 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.174	0.2	0.41	118		50--150	0.2	0.398	112		3		0--45

LD:WG191124-5 L82371-5 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:421520-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.782	0.788	1		0--40

CCC:WG191124-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.964	96		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L82371-5	74
L82371-6	87
L82371-11	70
L82371-12	83
L82371-13	65
L82827-1	92
WG191124-1	80
WG191124-2	83
WG191124-3	76
WG191124-4	78
WG191124-5	68
WG191124-6	100

Workgroup: WG192989 6PPDQ by LCMS

MB:WG192989-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG192989-2 MB:WG192989-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.224	112		50--150

MSD:WG192989-4 MS:WG192989-3 L83407-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.787	0.2	0.939	76		50--150	0.2	0.977	95		4		0--45

LD:WG192989-5 L83407-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.787	0.69	13		0--40

CCC:WG192989-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	1.02	102		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L83407-1	62
WG192989-1	63
WG192989-2	66
WG192989-3	66
WG192989-4	63
WG192989-5	53
WG192989-6	96

Workgroup: WG193000 6PPDQ by LCMS

MB:WG193000-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG193000-2 MB:WG193000-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.197	98		50--150

MSD:WG193000-4 MS:WG193000-3 L83413-2 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0047	0.2	0.218	107		50--150	0.2	0.229	112		5		0--45

LD:WG193000-5 L83408-5 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.64	0.697	9		0--40

CCC:WG193000-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.999	100		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L83407-2	55
L83407-3	57
L83408-1	50
L83408-2	48
L83408-3	53
L83408-5	59
L83410-2	70
L83411-2	74
L83413-2	64
WG193000-1	64
WG193000-2	65
WG193000-3	68
WG193000-4	73
WG193000-5	53
WG193000-6	98

Workgroup: WG193001 6PPDQ by LCMS

MB:WG193001-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
6ppd-quinone	0.002	0.01	ug/L		<MDL

SB:WG193001-2 MB:WG193001-1 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.232	116		50--150

MSD:WG193001-4 MS:WG193001-3 L83409-6 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	<MDL	0.2	0.235	118		50--150	0.2	0.23	115		2		0--45

LD:WG193001-5 L83409-1 Matrix: STORM WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
6ppd-quinone	0.002	0.01	ug/L	0.0225	0.02	12		0--40

CCC:WG193001-6 Matrix: OTHR WTR Listtype:AQ6PPDQ-LCMS Method:KCEL SOP 4077: 6PPDQ by LCMS Project: Pkey:STD
(Continuing Calibration Check)

Parameter	MDL	RDL	Units	True Value	CCC Value	% Rec.	Qual	Lab Limit
6ppd-quinone	0.01	0.05	ug/L	1	0.999	100		80--120

Surrogate:	d5-6PPDQ
(Lab Limits)	20--200
L83408-6	59
L83409-1	75
L83409-2	75
L83409-3	77
L83409-4	77
L83409-5	76
L83409-6	76
L83409-7	61
L83409-8	66
L83409-9	68
L83409-10	66
L83409-11	67
L83409-12	73
L83412-2	65
WG193001-1	72
WG193001-2	65
WG193001-3	77
WG193001-4	77
WG193001-5	76
WG193001-6	101

Workgroup: WG186903 Total and Dissolved Organic Carbon

MB:WG186903-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

SB:WG186903-2 MB:WG186903-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	4.85	97		80--120

LCS:WG186903-3 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.86	98		85--115

LD:WG186903-5 L81119-1 Matrix: FRESH WTR Listtype:CVTOC Method:SM5310-B Project:421250ON Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	1.6	1.4			0--20

MS:WG186903-6 L81119-1 Matrix: FRESH WTR Listtype:CVTOC Method:SM5310-B Project:421250ON Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	1.6	5	6.15	91		75--125

LD:WG186903-7 L81194-1 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-DUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	4.6	4.71	2		0--20

MS:WG186903-8 L81194-1 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-DUGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	4.6	5	9.62	101		75--125

MB:WG186903-9 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG186903-10 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	8.01	100		85--115

MB:WG186903-11 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG186903-12 MB:WG186903-11 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.12	102		80--120

LCS:WG186903-13 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	8.12	101		85--115

LD:WG186903-14 L81120-1 Matrix: SALT WTR Listtype:CVDOC Method:SM5310-B Project:421250ON Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.3	1.2			0--20

MS:WG186903-15 L81120-1 Matrix: SALT WTR Listtype:CVDOC Method:SM5310-B Project:421250ON Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.3	5	6.11	97		75--125

MB:WG186903-16 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

LD:WG186903-17 L81204-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.1	1.1			0--20

MS:WG186903-18 L81204-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.1	5	5.98	97		75--125

MB:WG186903-19 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG186903-20 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.7	96		85--115

MB:WG186903-21 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG186903-22 MB:WG186903-21 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	4.7	94		80--120

LCS:WG186903-23 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.51	94		85--115

LD:WG186903-24 L81047-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:423368-60 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	61.4	62.4	2		0--20

MS:WG186903-25 L81047-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:423368-60 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	61.4	5	108	94		75--125

MS:WG186781-10 L80094-1 Matrix: STORM WTR Listtype:CVTOC Method:SM5310-B Project:423670 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	2	8	mg/L	33.9	5	54.3	102		75--125

SB:WG186781-2 MB:WG186781-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	5.05	101		80--120

LD:WG186781-9 L80094-1 Matrix: STORM WTR Listtype:CVTOC Method:SM5310-B Project:423670 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	2	8	mg/L	33.9	37.7	11		0--20

Workgroup: WG187002 Total and Dissolved Organic Carbon

MB:WG187002-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG187002-2 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	8.2	102		85--115

MB:WG187002-4 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG187002-5 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.61	95		85--115

MB:WG187002-6 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

SB:WG187002-7 MB:WG187002-6 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	5.02	100		80--120

LCS:WG187002-8 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	8.21	103		85--115

LD:WG187002-10 L81194-8 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-DUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	2	8	mg/L	12	13.6	13		0--20

MS:WG187002-11 L81194-8 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-DUGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	2	8	mg/L	12	5	31.2	96		75--125

MB:WG186903-16 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

LD:WG186903-17 L81204-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.1	1.1			0--20

MS:WG186903-18 L81204-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.1	5	5.98	97		75--125

SB:WG186903-22 MB:WG186903-21 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	4.7	94		80--120

LD:WG186903-24 L81047-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:423368-60 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	61.4	62.4	2		0--20

MS:WG186903-25 L81047-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:423368-60 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	61.4	5	108	94		75--125

Workgroup: WG187045 Dissolved Nutrients

MB:WG187045-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

SB:WG187045-3 MB:WG187045-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0392	98		80--120

LCS:WG187045-4 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.051	102		85--115

LD:WG187045-5 L81298-1 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0799	0.0789	1		0--20

MS:WG187045-6 L81298-1 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0799	0.04	0.113	83		75--125

LD:WG187045-7 L80932-10 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421422-CHGW_EPZ Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0179	0.0181	1		0--20

MS:WG187045-8 L80932-10 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421422-CHGW_EPZ Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0179	0.04	0.058	100		75--125

Workgroup: WG187048 Alkalinity

LCS:WG187048-1 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.8	100		90--110

LD:WG187048-2 L81298-1 Matrix: OTHR WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	80.4	80.5	0		0--10

LD:WG187048-3 L81271-27 Matrix: FRESH WTR Listtype:CVALK Method:SM2320-B Project:421235 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	38.5	38.5	0		0--10

LCS:WG187048-4 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	50.5	101		90--110

LD:WG187048-5 L81271-45 Matrix: FRESH WTR Listtype:CVALK Method:SM2320-B Project:421235 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	40.7	40.6	0		0--10

LCS:WG187048-6 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	50.4	101		90--110

Workgroup: WG187106 Dissolved Organic Carbon

MB:WG187106-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG187106-2 MB:WG187106-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.29	106		80--120

LCS:WG187106-3 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	8.11	101		85--115

LD:WG187106-5 L81297-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.1	1			0--20

MS:WG187106-6 L81297-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.1	5	5.93	97		75--125

LCS:WG187106-7 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	8.12	102		85--115

Workgroup: WG187374 Alkalinity and Conductivity

LCS:WG187374-1 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.8	100		90--110

LCS:WG187374-2 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	73.9	72.7	98		90--110

LCS:WG187374-3 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	717.5	701	98		90--110

LD:WG187374-4 L81410-2 Matrix: GRND WTR Listtype:CVALK Method:SM2320-B Project:421422-CHGW_EPZ Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	43.3	43.1	1		0--10

LD:WG187374-4 L81410-2 Matrix: GRND WTR Listtype:CVALK-BI Method:SM2320-B BI Project:421422-CHGW_EPZ Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Alkalinity, Bicarbonate	1	5	mg CaCO3/L	43.3	43.1	1		0--10

LD:WG187374-4 L81410-2 Matrix: GRND WTR Listtype:CVCOND Method:SM2510-B Project:421422-CHGW_EPZ Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Conductivity	1	5	umhos/cm	108	107	1		0--10

LCS:WG187374-5 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	73.9	73.2	99		90--110

LCS:WG187374-6 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	717.5	704	98		90--110

LD:WG187374-7 L81345-3 Matrix: FRESH WTR Listtype:CVALK Method:SM2320-B Project:422019 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	18.9	19	1		0--10

LCS:WG187374-8 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.8	100		90--110

LD:WG187374-9 L81360-21 Matrix: FRESH WTR Listtype:CVALK Method:SM2320-B Project:421235 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	38.9	38.8	0		0--10

LD:WG187374-10 L81426-5 Matrix: STORM WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	60.4	60.5	0		0--10

LD:WG187374-11 L81426-6 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	69.4	69.4	0		0--10

LCS:WG187374-12 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.8	100		90--110

LD:WG187374-13 L81428-2 Matrix: OTHR WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	67.4	67.4	0		0--10

LCS:WG187374-14 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	10	10.1	101		85--115

LCS:WG187374-15 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	50.2	100		90--110

LCS:WG187374-16 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	250	249	99		90--110

Workgroup: WG187395 Total Suspended Solids

MB:WG187395-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG187395-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	95	95		80--120

LD:WG187395-3 L81427-4 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.1	4.51	mg/L	5.18	4.88	6		0--25

LD:WG187395-4 L81428-2 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.1	4.46	mg/L	12.3	13.4	9		0--25

Workgroup: WG187396 Total Suspended Solids

MB:WG187396-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG187396-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	95	95		80--120

LD:WG187396-3 L81426-2 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	5.6	22.5	mg/L	185	186	0		0--25

LD:WG187396-4 L80807-3 Matrix: SALT WTR Listtype:CVTSS Method:SM2540-D Project:421250BS Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.1	21.2	mg/L	10	9.3			0--25

Workgroup: WG187409 Dissolved Organic Carbon

MB:WG187409-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG187409-2 MB:WG187409-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.12	102		80--120

LCS:WG187409-3 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	8.26	103		85--115

MB:WG187409-5 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

LD:WG187409-6 L81244-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:421520-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	10.1	10	0		0--20

MS:WG187409-7 L81244-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:421520-200 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	10.1	5	14.9	97		75--125

MB:WG187409-8 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

MB:WG187409-9 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

MB:WG187409-10 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

MB:WG187409-11 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG187409-12 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.99	100		85--115

MB:WG187409-13 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG187409-14 MB:WG187409-13 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.25	105		80--120

LCS:WG187409-15 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.84	98		85--115

LD:WG187409-16 L81428-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	1	4	mg/L	12.1	12.3	1		0--20

MS:WG187409-17 L81428-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	1	4	mg/L	12.1	5	22.6	104		75--125

Workgroup: WG187445 Dissolved Nutrients

MB:WG187445-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

MB:WG187445-1 Matrix: BLANK WTR Listtype:CVNO3 Method:SM4500-NO3F NO3 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Nitrate Nitrogen	0.01	0.04	mg/L		<MDL

SB:WG187445-3 MB:WG187445-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0378	94		80--120

SB:WG187445-3 MB:WG187445-1 Matrix: BLANK WTR Listtype:CVNO3 Method:SM4500-NO3F NO3 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Nitrate Nitrogen	0.01	0.04	mg/L	<MDL	0.7	0.739	106		80--120

LCS:WG187445-4 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.0575	115		85--115

LCS:WG187445-4 Matrix: BLANK WTR Listtype:CVNO3 Method:SM4500-NO3F NO3 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Nitrate Nitrogen	0.01	0.04	mg/L	0.8	0.798	100		85--115

LD:WG187445-5 L81410-2 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421422-CHGW_EPZ Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.02	0.1	mg/L	0.4	0.404	1		0--20

LD:WG187445-5 L81410-2 Matrix: GRND WTR Listtype:CVNO3 Method:SM4500-NO3F NO3 Project:421422-CHGW_EPZ Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Nitrate Nitrogen	0.01	0.04	mg/L	0.267	0.266	0		0--20

MS:WG187445-6 L81410-2 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421422-CHGW_EPZ Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.02	0.1	mg/L	0.4	0.04	0.801	100		75--125

MS:WG187445-6 L81410-2 Matrix: GRND WTR Listtype:CVNO3 Method:SM4500-NO3F NO3 Project:421422-CHGW_EPZ Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Nitrate Nitrogen	0.01	0.04	mg/L	0.267	0.7	0.968	100		75--125

MB:WG187445-7 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

MB:WG187445-7 Matrix: BLANK WTR Listtype:CVNO3 Method:SM4500-NO3F NO3 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Nitrate Nitrogen	0.01	0.04	mg/L		<MDL

LD:WG187445-8 L81428-2 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.141	0.141	0		0--20

MS:WG187445-9 L81429-2 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0395	99		75--125

LD:WG187445-10 L81426-5 Matrix: STORM WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.01	0.05	mg/L	0.164	0.165	1		0--20

MS:WG187445-11 L81426-5 Matrix: STORM WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.01	0.05	mg/L	0.164	0.04	0.377	107		75--125

Workgroup: WG187640 Total and Dissolved Organic Carbon

MB:WG187640-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

SB:WG187640-2 MB:WG187640-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	4.99	100		80--120

LCS:WG187640-3 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.85	98		85--115

LD:WG187640-5 L81394-14 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.97	0.86			0--20

MS:WG187640-6 L81394-14 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.97	5	5.65	94		75--125

LD:WG187640-7 L81291-3 Matrix: EFFLUENT Listtype:CVTOC Method:SM5310-B Project:421937 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	6.71	7.08	5		0--20

MS:WG187640-8 L81291-3 Matrix: EFFLUENT Listtype:CVTOC Method:SM5310-B Project:421937 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	6.71	5	11.9	103		75--125

MB:WG187640-9 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG187640-10 MB:WG187640-9 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.55	111		80--120

LCS:WG187640-11 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.96	100		85--115

LD:WG187640-12 L81466-1 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.98	8.17	2		0--20

MS:WG187640-13 L81466-1 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.98	5	13.2	104		75--125

LCS:WG187640-14 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	8.19	102		85--115

MB:WG187640-15 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

LD:WG187640-16 L81507-1 Matrix: FRESH WTR Listtype:CVTOC Method:SM5310-B Project:421422-VASW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	6.96	6.98	0		0--20

MS:WG187640-17 L81507-1 Matrix: FRESH WTR Listtype:CVTOC Method:SM5310-B Project:421422-VASW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	6.96	5	11.9	98		75--125

Workgroup: WG187647 Total Suspended Solids

MB:WG187647-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG187647-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	91	91		80--120

LD:WG187647-3 L81466-1 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	5.7	22.7	mg/L	40.9	42.9	5		0--25

Workgroup: WG190372 Total Suspended Solids

MB:WG190372-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190372-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	101	101		80--120

LD:WG190372-3 L82474-11 Matrix: GRND WTR Listtype:CVTSS Method:SM2540-D Project:421422-PUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	4.6	5.2	12		0--25

LD:WG190372-4 L81954-3 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:421520-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.4	5.71	mg/L	32.9	32.6	1		0--25

MB:WG190372-5 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190372-6 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	97	97		80--120

LD:WG190372-7 L82564-8 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	3	2.8			0--25

LD:WG190372-8 L82567-2 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	3	3			0--25

Workgroup: WG190375 Total Suspended Solids

MB:WG190375-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190375-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	94	94		80--120

LD:WG190375-3 L82531-10 Matrix: FRESH WTR Listtype:CVTSS Method:SM2540-D Project:421235 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	1	1			0--25

MB:WG190375-4 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190375-5 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	93	93		80--120

LD:WG190375-6 L82531-41 Matrix: FRESH WTR Listtype:CVTSS Method:SM2540-D Project:421235 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	<MDL	<MDL			0--25

MB:WG190375-7 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190375-8 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	94	94		80--120

LD:WG190375-9 L82443-1 Matrix: FRESH WTR Listtype:CVTSS Method:SM2540-D Project:421936-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	0.95	3.81	mg/L	2.9	2.6			0--25

MB:WG190375-10 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190375-11 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	97	97		80--120

LD:WG190375-12 L82405-3 Matrix: SALT WTR Listtype:CVTSS Method:SM2540-D Project:421250-900 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	20	mg/L	5	4			0--25

LD:WG190375-13 L82565-2 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	23.4	25.1	7		0--25

LD:WG190375-14 L82563-5 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.6	6.56	mg/L	20.3	19.9	2		0--25

Workgroup: WG190387 Dissolved Organic Carbon

MB:WG190387-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190387-2 MB:WG190387-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.09	102		80--120

LCS:WG190387-3 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.37	92		85--115

LD:WG190387-4 L82567-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	2.88	2.81	3		0--20

MS:WG190387-5 L82567-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	2.88	5	7.75	97		75--125

LD:WG190387-6 L82563-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	10.8	10.8	0		0--20

MS:WG190387-7 L82563-1 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	10.8	5	15.7	98		75--125

MB:WG190387-8 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

MB:WG190387-9 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190387-10 MB:WG190387-9 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.03	101		80--120

LD:WG190387-11 L82327-1 Matrix: SALT WTR Listtype:CVDOC Method:SM5310-B Project:421250ON Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.4	1.2			0--20

MS:WG190387-12 L82327-1 Matrix: SALT WTR Listtype:CVDOC Method:SM5310-B Project:421250ON Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.4	5	5.99	92		75--125

MB:WG190387-13 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190387-14 MB:WG190387-13 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.16	103		80--120

LCS:WG190387-15 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.86	98		85--115

LD:WG190387-16 L82313-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	64	65.7	3		0--20

MS:WG190387-17 L82313-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	64	5	112	95		75--125

LD:WG190387-18 L82443-6 Matrix: FRESH WTR Listtype:CVDOC Method:SM5310-B Project:421936-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.6	1.6			0--20

MS:WG190387-19 L82443-6 Matrix: FRESH WTR Listtype:CVDOC Method:SM5310-B Project:421936-200 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	1.6	5	6.51	98		75--125

LD:WG190387-20 L82444-4 Matrix: GRND WTR Listtype:CVDOC Method:SM5310-B Project:421936-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	0.51			0--20

MS:WG190387-21 L82444-4 Matrix: GRND WTR Listtype:CVDOC Method:SM5310-B Project:421936-200 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	5.47	109		75--125

MB:WG190387-22 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

Workgroup: WG190436 Dissolved Nutrients

MB:WG190436-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

MB:WG190436-1 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L		<MDL

SB:WG190436-3 MB:WG190436-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.04	100		80--120

SB:WG190436-3 MB:WG190436-1 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	<MDL	1	0.994	99		80--120

LCS:WG190436-4 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.052	104		85--115

LCS:WG190436-4 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	1	0.992	99		85--115

LD:WG190436-5 L82443-3 Matrix: FRESH WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421936-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.004	0.02	mg/L	0.0087	0.0085			0--20

LD:WG190436-5 L82443-3 Matrix: FRESH WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421936-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.756	0.759	0		0--20

MS:WG190436-6 L82443-3 Matrix: FRESH WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421936-200 Pkey:STD (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.004	0.02	mg/L	0.0087	0.04	0.106	121		75--125

MS:WG190436-6 L82443-3 Matrix: FRESH WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421936-200 Pkey:STD (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.756	1	1.78	102		75--125

LD:WG190436-7 L82444-4 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421936-200 Pkey:STD (Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0386	0.0383	1		0--20

LD:WG190436-7 L82444-4 Matrix: GRND WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421936-200 Pkey:STD (Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	<MDL	<MDL			0--20

MS:WG190436-8 L82444-4 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421936-200 Pkey:STD (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0386	0.04	0.081	106		75--125

MS:WG190436-8 L82444-4 Matrix: GRND WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421936-200 Pkey:STD (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	<MDL	1	1.03	103		75--125

LD:WG190436-9 L82582-2 Matrix: IW WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421161 Pkey:STD (Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.011	0.012			0--20

MS:WG190436-10 L82582-2 Matrix: IW WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421161 Pkey:STD (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.011	1	0.825	81		75--125

MB:WG190436-11 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

SB:WG190436-12 MB:WG190436-11 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0374	94		80--120

LCS:WG190436-13 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.0528	106		85--115

LD:WG190436-14 L82563-5 Matrix: STORM WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0121	0.0116	3		0--20

MS:WG190436-15 L82563-5 Matrix: STORM WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0121	0.04	0.0585	116		75--125

LD:WG190436-16 L82566-2 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0037	0.0037			0--20

MS:WG190436-17 L82566-2 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0037	0.04	0.0523	122		75--125

Workgroup: WG190455 Alkalinity

LCS:WG190455-1 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49	98		90--110

LD:WG190455-2 L82563-5 Matrix: STORM WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	65.1	65	0		0--10

LD:WG190455-3 L82565-2 Matrix: OTHR WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	58.7	58.7	0		0--10

LCS:WG190455-4 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.2	98		90--110

Workgroup: WG190656 Total and Dissolved Organic Carbon

MB:WG190656-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190656-2 MB:WG190656-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	4.62	92		80--120

LCS:WG190656-3 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.45	93		85--115

LD:WG190656-5 L82644-1 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.88	0.62			0--20

MS:WG190656-6 L82644-1 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.88	5	4.93	81		75--125

MB:WG190656-7 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190656-8 MB:WG190656-7 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	4.32	86		80--120

LCS:WG190656-9 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.2	90		85--115

LD:WG190656-11 L82644-10 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.52	<MDL			0--20

MS:WG190656-12 L82644-10 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.52	5	4.83	86		75--125

MB:WG190656-13 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG190656-14 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.51	94		85--115

LD:WG190656-15 L82666-2 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	<MDL			0--20

MS:WG190656-16 L82666-2 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-CHGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	4.81	96		75--125

MB:WG190656-17 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190656-18 MB:WG190656-17 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	4.53	91		80--120

LCS:WG190656-19 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.44	93		85--115

LD:WG190656-20 L82485-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	63.1	61.8	2		0--20

MS:WG190656-21 L82485-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	63.1	5	103	80		75--125

LD:WG190656-22 L82485-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.4	7.43	0		0--20

MS:WG190656-23 L82485-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.4	5	11.3	78		75--125

MB:WG190656-24 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

Workgroup: WG190765 Total Suspended Solids

MB:WG190765-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190765-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	105	105		80--120

LD:WG190765-3 L82735-2 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.1	4.54	mg/L	14.3	14.6	2		0--25

LD:WG190765-4 L82201-8 Matrix: SALT WTR Listtype:CVTSS Method:SM2540-D Project:421250BS Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	20	mg/L	3.4	3.8			0--25

Workgroup: WG190903 Total Suspended Solids

MB:WG190903-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190903-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	99	99		80--120

LD:WG190903-3 L82735-4 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.7	6.78	mg/L	9.83	10.1	3		0--25

LD:WG190903-4 L82702-48 Matrix: FRESH WTR Listtype:CVTSS Method:SM2540-D Project:421235 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	0.5	2	mg/L	0.8	<MDL			0--25

MB:WG190903-5 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG190903-6 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	106	106		80--120

LD:WG190903-7 L82637-6 Matrix: SALT WTR Listtype:CVTSS Method:SM2540-D Project:421250-900 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	20	mg/L	8	6.6			0--25

Workgroup: WG190936 Dissolved Organic Carbon

MB:WG190936-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

LCS:WG190936-2 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	6.83	85		85--115

MB:WG190936-3 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG190936-4 MB:WG190936-3 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	4.46	89		80--120

LD:WG190936-5 L82483-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.78	8.06	4		0--20

MS:WG190936-6 L82483-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.78	5	12.2	89		75--125

LD:WG190936-7 L82483-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	61.4	59.4	3		0--20

MS:WG190936-8 L82483-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	61.4	5	103	84		75--125

LD:WG190936-9 L82629-5 Matrix: GRND WTR Listtype:CVDOC Method:SM5310-B Project:421936-200 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	5.54	5.52	0		0--20

MS:WG190936-10 L82629-5 Matrix: GRND WTR Listtype:CVDOC Method:SM5310-B Project:421936-200 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	5.54	5	9.66	82		75--125

Workgroup: WG191073 Total Suspended Solids

MB:WG191073-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG191073-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	100	100		80--120

LD:WG191073-3 L82640-15 Matrix: SALT WTR Listtype:CVTSS Method:SM2540-D Project:421250OS Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	20	mg/L	1.2	1.2			0--25

MB:WG191073-4 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG191073-5 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	104	104		80--120

LD:WG191073-6 L82640-29 Matrix: SALT WTR Listtype:CVTSS Method:SM2540-D Project:421250OS Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	20	mg/L	1.4	1.8			0--25

LD:WG191073-7 L82834-1 Matrix: IW WTR Listtype:CVTSS Method:SM2540-D Project:421422-ENLS Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	9.6	38.5	mg/L	44.2	42	5		0--25

LD:WG191073-8 L82827-1 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.4	5.65	mg/L	12.4	12.6	1		0--25

Workgroup: WG191110 Total and Dissolved Organic Carbon

MB:WG191110-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	0.5	2	mg/L		<MDL

SB:WG191110-2 MB:WG191110-1 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	<MDL	5	4.78	96		80--120

LCS:WG191110-3 Matrix: BLANK WTR Listtype:CVTOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	8	7.38	92		85--115

LD:WG191110-5 L82805-2 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-VAGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.58	0.51			0--20

MS:WG191110-6 L82805-2 Matrix: GRND WTR Listtype:CVTOC Method:SM5310-B Project:421422-VAGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	0.5	2	mg/L	0.58	5	5.27	94		75--125

MB:WG191110-7 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG191110-8 MB:WG191110-7 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	4.67	93		80--120

LCS:WG191110-9 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.31	91		85--115

LD:WG191110-10 L82481-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.71	7.89	2		0--20

MS:WG191110-11 L82481-3 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	7.71	5	12.2	91		75--125

LD:WG191110-12 L82481-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	55.8	55.8	0		0--20

MS:WG191110-13 L82481-2 Matrix: INFLUENT Listtype:CVDOC Method:SM5310-B Project:423163-100-4 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	5	20	mg/L	55.8	5	105	98		75--125

MB:WG191110-14 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

Workgroup: WG193014 Total Suspended Solids

MB:WG193014-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG193014-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	94	94		80--120

LD:WG193014-3 L83408-3 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	4.4	17.7	mg/L	106	110	4		0--25

LD:WG193014-4 L83412-2 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1.1	4.44	mg/L	3.3	3.6			0--25

Workgroup: WG193021 Dissolved Nutrients

MB:WG193021-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

MB:WG193021-1 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L		<MDL

MB:WG193021-1 Matrix: BLANK WTR Listtype:CVORTHOP Method:SM4500-P-F Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Orthophosphate Phosphorus	0.0005	0.002	mg/L		<MDL

SB:WG193021-3 MB:WG193021-1 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0373	93		80--120

SB:WG193021-3 MB:WG193021-1 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	<MDL	1	1.03	103		80--120

SB:WG193021-3 MB:WG193021-1 Matrix: BLANK WTR Listtype:CVORTHOP Method:SM4500-P-F Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	<MDL	0.02	0.019	95		80--120

LCS:WG193021-4 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.0533	107		85--115

LCS:WG193021-4 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	1	1.01	101		85--115

LCS:WG193021-4 Matrix: BLANK WTR Listtype:CVORTHOP Method:SM4500-P-F Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	0.02	0.0189	95		85--115

LD:WG193021-5 L83362-6 Matrix: FRESH WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0142	0.0145	2		0--20

LD:WG193021-5 L83362-6 Matrix: FRESH WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.731	0.737	1		0--20

LD:WG193021-5 L83362-6 Matrix: FRESH WTR Listtype:CVORTHOP Method:SM4500-P-F Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	0.0156	0.0154	1		0--20

MS:WG193021-6 L83362-6 Matrix: FRESH WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421240A Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0142	0.04	0.0521	95		75--125

MS:WG193021-6 L83362-6 Matrix: FRESH WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421240A Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.731	1	1.74	101		75--125

MS:WG193021-6 L83362-6 Matrix: FRESH WTR Listtype:CVORTHOP Method:SM4500-P-F Project:421240A Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	0.0156	0.02	0.0325	85		75--125

MB:WG193021-7 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

MB:WG193021-7 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L		<MDL

MB:WG193021-7 Matrix: BLANK WTR Listtype:CVORTHOP Method:SM4500-P-F Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Orthophosphate Phosphorus	0.0005	0.002	mg/L		<MDL

LCS:WG193021-8 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.0532	106		85--115

LCS:WG193021-8 Matrix: BLANK WTR Listtype:CVNO23 Method:SM4500-NO3-F Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	1	1.02	102		85--115

LCS:WG193021-8 Matrix: BLANK WTR Listtype:CVORTHOP Method:SM4500-P-F Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	0.02	0.0189	95		85--115

LD:WG193021-9 L83368-4 Matrix: FRESH WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0051	0.0049			0--20

LD:WG193021-9 L83368-4 Matrix: FRESH WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.733	0.733	0		0--20

LD:WG193021-9 L83368-4 Matrix: FRESH WTR Listtype:CVORTHOP Method:SM4500-P-F Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	0.0188	0.0188	0		0--20

MS:WG193021-10 L83368-4 Matrix: FRESH WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421240A Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.0051	0.04	0.0435	96		75--125

MS:WG193021-10 L83368-4 Matrix: FRESH WTR Listtype:CVNO23 Method:SM4500-NO3-F Project:421240A Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Nitrite + Nitrate Nitrogen	0.01	0.04	mg/L	0.733	1	1.76	103		75--125

MS:WG193021-10 L83368-4 Matrix: FRESH WTR Listtype:CVORTHOP Method:SM4500-P-F Project:421240A Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	0.0005	0.002	mg/L	0.0188	0.02	0.0361	86		75--125

LD:WG193021-11 L83411-2 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	<MDL			0--20

MS:WG193021-12 L83411-2 Matrix: OTHR WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0333	83		75--125

LD:WG193021-13 L83408-5 Matrix: STORM WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.008	0.04	mg/L	0.314	0.313	0		0--20

MS:WG193021-14 L83408-5 Matrix: STORM WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.008	0.04	mg/L	0.314	0.04	0.475	100		75--125

MB:WG193021-15 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.002	0.01	mg/L		<MDL

LCS:WG193021-16 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	0.05	0.0549	110		85--115

SB:WG193021-17 MB:WG193021-15 Matrix: BLANK WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0383	96		80--120

LD:WG193021-18 L83445-10 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421422-DUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	<MDL			0--20

MS:WG193021-19 L83445-10 Matrix: GRND WTR Listtype:CVNH3-FL Method:KEROUEL & AMINOT 1997 Project:421422-DUGW Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.002	0.01	mg/L	<MDL	0.04	0.0401	100		75--125

Workgroup: WG193047 Total Suspended Solids

MB:WG193047-1 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Suspended Solids	0.5	2	mg/L		<MDL

LCS:WG193047-2 Matrix: BLANK WTR Listtype:CVTSS Method:SM2540-D Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Suspended Solids	5	20	mg/L	100	97	97		80--120

LD:WG193047-3 L83410-2 Matrix: OTHR WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	1	4	mg/L	4.8	5.6	15		0--25

LD:WG193047-4 L83472-8 Matrix: GRND WTR Listtype:CVTSS Method:SM2540-D Project:421422-DUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	0.91	3.64	mg/L	12.5	12.9	3		0--25

LD:WG193047-5 L83408-5 Matrix: STORM WTR Listtype:CVTSS Method:SM2540-D Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	2.6	10.5	mg/L	76.4	77	1		0--25

LD:WG193047-6 L83362-1 Matrix: FRESH WTR Listtype:CVTSS Method:SM2540-D Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Suspended Solids	0.5	2	mg/L	2.9	3.05	5		0--25

Workgroup: WG193093 Alkalinity and Conductivity

LCS:WG193093-1 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.2	98		90--110

LCS:WG193093-2 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	73.9	72.6	98		90--110

LCS:WG193093-3 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	717.5	682	95		90--110

LD:WG193093-4 L83472-6 Matrix: GRND WTR Listtype:CVALK Method:SM2320-B Project:421422-DUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	2	10	mg CaCO3/L	482	482	0		0--10

LD:WG193093-4 L83472-6 Matrix: GRND WTR Listtype:CVCOND Method:SM2510-B Project:421422-DUGW Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Conductivity	1	5	umhos/cm	939	941	0		0--10

LD:WG193093-5 L83408-5 Matrix: STORM WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	56.2	55.9	0		0--10

LD:WG193093-6 L83411-2 Matrix: OTHR WTR Listtype:CVALK Method:SM2320-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	43.4	43.3	0		0--10

LD:WG193093-7 L83362-2 Matrix: FRESH WTR Listtype:CVALK Method:SM2320-B Project:421240A Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	55.2	55.1	0		0--10

LCS:WG193093-8 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	73.9	73.5	99		90--110

LCS:WG193093-9 Matrix: BLANK WTR Listtype:CVCOND Method:SM2510-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Conductivity	1	5	umhos/cm	717.5	680	95		90--110

LCS:WG193093-10 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	1	5	mg CaCO3/L	50	49.8	100		90--110

LCS:WG193093-11 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	2	10	mg CaCO3/L	250	231	92		90--110

LCS:WG193093-12 Matrix: BLANK WTR Listtype:CVALK Method:SM2320-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Total Alkalinity	2	10	mg CaCO3/L	500	474	95		90--110

Workgroup: WG193123 Dissolved Organic Carbon

MB:WG193123-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Dissolved Organic Carbon	0.5	2	mg/L		<MDL

SB:WG193123-2 MB:WG193123-1 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	<MDL	5	4.94	99		80--120

LCS:WG193123-3 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.55	94		85--115

LD:WG193123-4 L83408-2 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	1	4	mg/L	10.3	10.3	1		0--20

MS:WG193123-5 L83408-2 Matrix: STORM WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	1	4	mg/L	10.3	5	20.5	102		75--125

LD:WG193123-6 L83413-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	4.79	4.74	1		0--20

MS:WG193123-7 L83413-2 Matrix: OTHR WTR Listtype:CVDOC Method:SM5310-B Project:422040-100 Pkey:STD
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	4.79	5	9.65	97		75--125

LCS:WG193123-8 Matrix: BLANK WTR Listtype:CVDOC Method:SM5310-B Project: Pkey:STD
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Dissolved Organic Carbon	0.5	2	mg/L	8	7.77	97		85--115

Workgroup: WG190759 Field Parameters

CS:WG190759-1 Matrix: BLANK WTR Listtype:ESS-YSI-EXO Method:KCEL SOP# 245 Project: Pkey:STD
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Qual	Lab Limit
Conductivity, Field	0.5	10	umhos/cm	73.9	77	104		90--110
pH, Field			pH	6.86	6.79	0.07		0--.2

CS:WG190759-2 Matrix: BLANK WTR Listtype:ESS-YSI-EXO Method:KCEL SOP# 245 Project: Pkey:STD
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Qual	Lab Limit
Conductivity, Field	0.5	10	umhos/cm	73.9	76.4	103		90--110
Dissolved Oxygen Saturation, Field	5	10	%	100.2	101	100.8		96--104
pH, Field			pH	6.86	6.82	0.04		0--.2
Barometric Pressure, Field			mmHg	100.2	761.3	759.8		700--800

Workgroup: WG187130 Hardness and Total Metals by ICPMS

MB:WG187130-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Hardness, Calc	0.331	0.331	mg CaCO3/L		<MDL

MB:WG187130-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Beryllium, Total, ICP-MS	0.1	0.5	ug/L		<MDL
Magnesium, Total, ICP-MS	50	50	ug/L		<MDL
Potassium, Total, ICP-MS	100	500	ug/L		<MDL
Calcium, Total, ICP-MS	50	50	ug/L		<MDL
Chromium, Total, ICP-MS	0.2	1	ug/L		<MDL
Nickel, Total, ICP-MS	0.1	0.5	ug/L		<MDL
Copper, Total, ICP-MS	0.2	2	ug/L		<MDL
Zinc, Total, ICP-MS	0.5	2.5	ug/L		<MDL
Arsenic, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Selenium, Total, ICP-MS	0.5	1	ug/L		<MDL
Cadmium, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Antimony, Total, ICP-MS	0.3	1	ug/L		<MDL
Thallium, Total, ICP-MS	0.075	0.2	ug/L		<MDL
Lead, Total, ICP-MS	0.1	0.5	ug/L		<MDL

SB:WG187130-2 MB:WG187130-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	<MDL	33.1	34.5	104		85--115

SB:WG187130-2 MB:WG187130-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Beryllium, Total, ICP-MS	0.1	0.5	ug/L	<MDL	8	8.04	101		85--115
Magnesium, Total, ICP-MS	50	50	ug/L	<MDL	5000	5340	107		85--115
Potassium, Total, ICP-MS	100	500	ug/L	<MDL	5000	5350	107		85--115
Calcium, Total, ICP-MS	50	50	ug/L	<MDL	5000	5030	101		85--115
Chromium, Total, ICP-MS	0.2	1	ug/L	<MDL	40	43.6	109		85--115
Nickel, Total, ICP-MS	0.1	0.5	ug/L	<MDL	40	42.1	105		85--115
Copper, Total, ICP-MS	0.2	2	ug/L	<MDL	40	42.4	106		85--115
Zinc, Total, ICP-MS	0.5	2.5	ug/L	<MDL	40	41.7	104		85--115
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	<MDL	40	41.1	103		85--115
Selenium, Total, ICP-MS	0.5	1	ug/L	<MDL	8	8.37	105		85--115
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	<MDL	8	7.97	100		85--115
Antimony, Total, ICP-MS	0.3	1	ug/L	<MDL	8	7.66	96		85--115
Thallium, Total, ICP-MS	0.075	0.2	ug/L	<MDL	8	8.37	105		85--115
Lead, Total, ICP-MS	0.1	0.5	ug/L	<MDL	8	8.84	111		85--115

MSD:WG187130-4 MS:WG187130-3 L81068-1 Matrix: EFFLUENT Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:421937 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Potassium, Total, ICP-MS	100	500	ug/L	13600	5000	18800	104		75--125	5000	18900	106		0		0--20

MSD:WG187130-6 MS:WG187130-5 L81222-1 Matrix: EFFLUENT Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project:421184-130 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	94.2	33.1	126	97		75--125	33.1	126	95		0		0--20

MSD:WG187130-6 MS:WG187130-5 L81222-1 Matrix: EFFLUENT Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:421184-130 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Beryllium, Total, ICP-MS	0.1	0.5	ug/L	<MDL	8	7.99	100		75--125	8	7.97	100		0		0--20
Magnesium, Total, ICP-MS	50	50	ug/L	10500	5000	15400	97		75--125	5000	15300	95		1		0--20
Calcium, Total, ICP-MS	50	50	ug/L	20400	5000	25300		4xRule	75--125	5000	25200		4xRule	0		0--20
Chromium, Total, ICP-MS	0.2	1	ug/L	0.58	40	42.7	105		75--125	40	42.8	105		0		0--20
Nickel, Total, ICP-MS	0.1	0.5	ug/L	1.5	40	42.5	102		75--125	40	43.1	104		1		0--20
Copper, Total, ICP-MS	0.2	2	ug/L	4	40	45.7	104		75--125	40	46.3	106		1		0--20
Zinc, Total, ICP-MS	0.5	2.5	ug/L	40.5	40	80.7	100		75--125	40	81.7	103		1		0--20
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	1.22	40	42.7	104		75--125	40	42.8	104		0		0--20
Selenium, Total, ICP-MS	0.5	1	ug/L	<MDL	8	8.68	108		75--125	8	8.64	108		0		0--20
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	<MDL	8	7.85	98		75--125	8	7.85	98		0		0--20
Antimony, Total, ICP-MS	0.3	1	ug/L	0.42	8	8.22	98		75--125	8	8.32	99		1		0--20
Thallium, Total, ICP-MS	0.075	0.2	ug/L	<MDL	8	7.87	98		75--125	8	8.24	103		5		0--20
Lead, Total, ICP-MS	0.1	0.5	ug/L	0.14	8	8.59	106		75--125	8	8.8	108		2		0--20

Workgroup: WG187393 Hardness and Total Metals by ICPMS

MB:WG187393-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Hardness, Calc	0.331	0.331	mg CaCO3/L		<MDL

MB:WG187393-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Beryllium, Total, ICP-MS	0.1	0.5	ug/L		<MDL
Sodium, Total, ICP-MS	100	100	ug/L		<MDL
Magnesium, Total, ICP-MS	50	50	ug/L		<MDL
Aluminum, Total, ICP-MS	5	10	ug/L		<MDL
Potassium, Total, ICP-MS	100	500	ug/L		<MDL
Calcium, Total, ICP-MS	50	50	ug/L		<MDL
Vanadium, Total, ICP-MS	0.075	0.375	ug/L		<MDL
Chromium, Total, ICP-MS	0.2	1	ug/L		<MDL
Manganese, Total, ICP-MS	0.1	0.5	ug/L		<MDL
Iron, Total, ICP-MS	10	50	ug/L		<MDL
Cobalt, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Nickel, Total, ICP-MS	0.1	0.5	ug/L		<MDL
Copper, Total, ICP-MS	0.2	2	ug/L		<MDL
Zinc, Total, ICP-MS	0.5	2.5	ug/L		<MDL
Arsenic, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Selenium, Total, ICP-MS	0.5	1	ug/L		<MDL
Silver, Total, ICP-MS	0.04	0.2	ug/L		<MDL
Cadmium, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Tin, Total, ICP-MS	0.5	1.5	ug/L		<MDL
Antimony, Total, ICP-MS	0.3	1	ug/L		<MDL
Barium, Total, ICP-MS	0.5	0.5	ug/L		<MDL
Thallium, Total, ICP-MS	0.075	0.2	ug/L		<MDL
Lead, Total, ICP-MS	0.1	0.5	ug/L		<MDL

SB:WG187393-2 MB:WG187393-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	<MDL	33.1	34.4	104		85--115

SB:WG187393-2 MB:WG187393-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Beryllium, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	20.2	101		85--115
Sodium, Total, ICP-MS	100	100	ug/L	<MDL	5000	5500	110		85--115
Magnesium, Total, ICP-MS	50	50	ug/L	<MDL	5000	5270	105		85--115
Aluminum, Total, ICP-MS	5	10	ug/L	<MDL	20	22.2	111		85--115
Potassium, Total, ICP-MS	100	500	ug/L	<MDL	5000	5390	108		85--115
Calcium, Total, ICP-MS	50	50	ug/L	<MDL	5000	5070	101		85--115
Vanadium, Total, ICP-MS	0.075	0.375	ug/L	<MDL	20	20.2	101		85--115
Chromium, Total, ICP-MS	0.2	1	ug/L	<MDL	20	21	105		85--115
Manganese, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	21.1	106		85--115
Iron, Total, ICP-MS	10	50	ug/L	<MDL	5000	5000	100		85--115
Cobalt, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	22	110		85--115
Nickel, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	21.2	106		85--115
Copper, Total, ICP-MS	0.2	2	ug/L	<MDL	20	21.7	108		85--115
Zinc, Total, ICP-MS	0.5	2.5	ug/L	<MDL	20	21.3	107		85--115
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	21.7	109		85--115
Selenium, Total, ICP-MS	0.5	1	ug/L	<MDL	20	21.5	107		85--115
Silver, Total, ICP-MS	0.04	0.2	ug/L	<MDL	20	19.8	99		85--115
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	20.3	102		85--115
Tin, Total, ICP-MS	0.5	1.5	ug/L	<MDL	20	21	105		85--115
Antimony, Total, ICP-MS	0.3	1	ug/L	<MDL	20	20.2	101		85--115
Barium, Total, ICP-MS	0.5	0.5	ug/L	<MDL	20	21.9	109		85--115
Thallium, Total, ICP-MS	0.075	0.2	ug/L	<MDL	20	22.2	111		85--115
Lead, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	21.8	109		85--115

MSD:WG187393-4 MS:WG187393-3 L81431-2 Matrix: OTHR WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	32.4	33.1	66.7	104		75--125	33.1	67	105		0		0--20

MSD:WG187393-4 MS:WG187393-3 L81431-2 Matrix: OTHR WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Magnesium, Total, ICP-MS	50	50	ug/L	2890	5000	8140	105		75--125	5000	8170	106		0		0--20
Calcium, Total, ICP-MS	50	50	ug/L	8200	5000	13300	102		75--125	5000	13300	103		1		0--20

MSD:WG187393-6 MS:WG187393-5 L81456-1 Matrix: INFLUENT Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:421166 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Beryllium, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	19.7	98		75--125	20	19.9	99		1		0--20
Sodium, Total, ICP-MS	100	100	ug/L	32900	5000	38800		4xRule	75--125	5000	37900		4xRule	2		0--20
Magnesium, Total, ICP-MS	50	50	ug/L	5940	5000	11300	107		75--125	5000	10900	100		3		0--20
Aluminum, Total, ICP-MS	5	10	ug/L	160	20	185		4xRule	75--125	20	181		4xRule	2		0--20
Potassium, Total, ICP-MS	100	500	ug/L	14300	5000	20000	113		75--125	5000	19600	104		2		0--20
Calcium, Total, ICP-MS	50	50	ug/L	17800	5000	23400	113		75--125	5000	22900	103		2		0--20
Vanadium, Total, ICP-MS	0.075	0.375	ug/L	0.58	20	21.9	106		75--125	20	21.3	103		3		0--20
Chromium, Total, ICP-MS	0.2	1	ug/L	1.02	20	23.1	110		75--125	20	22.2	106		4		0--20
Manganese, Total, ICP-MS	0.1	0.5	ug/L	109	20	134		4xRule	75--125	20	131		4xRule	2		0--20
Iron, Total, ICP-MS	10	50	ug/L	675	5000	5460	96		75--125	5000	5320	93		3		0--20
Cobalt, Total, ICP-MS	0.05	0.25	ug/L	0.281	20	22.2	109		75--125	20	21.7	107		2		0--20
Nickel, Total, ICP-MS	0.1	0.5	ug/L	2.67	20	24.4	109		75--125	20	23.6	105		3		0--20
Copper, Total, ICP-MS	0.2	2	ug/L	41.3	20	64.4	116		75--125	20	63.7	112		1		0--20
Zinc, Total, ICP-MS	0.5	2.5	ug/L	111	20	136		4xRule	75--125	20	134		4xRule	2		0--20
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	0.803	20	20.9	100		75--125	20	20.5	98		2		0--20
Selenium, Total, ICP-MS	0.5	1	ug/L	0.98	20	22.3	106		75--125	20	21.7	104		2		0--20
Silver, Total, ICP-MS	0.04	0.2	ug/L	0.089	20	20.8	104		75--125	20	19.7	98		5		0--20
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	0.1	20	20.6	103		75--125	20	20.1	100		3		0--20
Tin, Total, ICP-MS	0.5	1.5	ug/L	1.63	20	3.71	10	*	75--125	20	2.35	4	*	45	*	0--20
Antimony, Total, ICP-MS	0.3	1	ug/L	<MDL	20	19.9	99		75--125	20	19.8	99		1		0--20
Barium, Total, ICP-MS	0.5	0.5	ug/L	15.9	20	36.9	105		75--125	20	37.3	107		1		0--20
Thallium, Total, ICP-MS	0.075	0.2	ug/L	<MDL	20	20.5	103		75--125	20	20.9	105		2		0--20
Lead, Total, ICP-MS	0.1	0.5	ug/L	0.547	20	21.1	103		75--125	20	21.7	106		3		0--20

Workgroup: WG190409 Hardness and Total Metals by ICPMS

MB:WG190409-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Hardness, Calc	0.331	0.331	mg CaCO3/L		<MDL

MB:WG190409-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Magnesium, Total, ICP-MS	50	50	ug/L		<MDL
Aluminum, Total, ICP-MS	5	10	ug/L		<MDL
Calcium, Total, ICP-MS	50	50	ug/L		<MDL
Chromium, Total, ICP-MS	0.2	1	ug/L		<MDL
Iron, Total, ICP-MS	10	50	ug/L		<MDL
Nickel, Total, ICP-MS	0.1	0.5	ug/L		<MDL
Copper, Total, ICP-MS	0.2	2	ug/L		<MDL
Zinc, Total, ICP-MS	0.5	2.5	ug/L		<MDL
Arsenic, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Selenium, Total, ICP-MS	0.5	1	ug/L		<MDL
Silver, Total, ICP-MS	0.04	0.2	ug/L		<MDL
Cadmium, Total, ICP-MS	0.05	0.25	ug/L		<MDL
Lead, Total, ICP-MS	0.1	0.5	ug/L		<MDL

SB:WG190409-2 MB:WG190409-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	<MDL	33.1	32.6	99		85--115

SB:WG190409-2 MB:WG190409-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Magnesium, Total, ICP-MS	50	50	ug/L	<MDL	5000	4980	100		85--115
Aluminum, Total, ICP-MS	5	10	ug/L	<MDL	20	19.3	96		85--115
Calcium, Total, ICP-MS	50	50	ug/L	<MDL	5000	4850	97		85--115
Chromium, Total, ICP-MS	0.2	1	ug/L	<MDL	20	20.6	103		85--115
Iron, Total, ICP-MS	10	50	ug/L	<MDL	5000	5200	104		85--115
Nickel, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	21.2	106		85--115
Copper, Total, ICP-MS	0.2	2	ug/L	<MDL	20	20.6	103		85--115
Zinc, Total, ICP-MS	0.5	2.5	ug/L	<MDL	20	19.6	98		85--115
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	19.9	99		85--115
Selenium, Total, ICP-MS	0.5	1	ug/L	<MDL	20	19.5	97		85--115
Silver, Total, ICP-MS	0.04	0.2	ug/L	<MDL	20	19.7	99		85--115
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	19.6	98		85--115
Lead, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	19.9	100		85--115

MSD:WG190409-4 MS:WG190409-3 L82443-7 Matrix: FRESH WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project:421936-200 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	29.7	33.1	62.3	98		75--125	33.1	62.2	98		0		0--20

MSD:WG190409-4 MS:WG190409-3 L82443-7 Matrix: FRESH WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:421936-200 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Magnesium, Total, ICP-MS	50	50	ug/L	2030	5000	6980	99		75--125	5000	6960	98		0		0--20
Aluminum, Total, ICP-MS	5	10	ug/L	106	20	113		4xRule	75--125	20	116		4xRule	2		0--20
Calcium, Total, ICP-MS	50	50	ug/L	8560	5000	13400	98		75--125	5000	13400	98		0		0--20
Chromium, Total, ICP-MS	0.2	1	ug/L	0.32	20	20.9	103		75--125	20	21	103		0		0--20
Iron, Total, ICP-MS	10	50	ug/L	276	5000	5430	103		75--125	5000	5450	104		0		0--20
Nickel, Total, ICP-MS	0.1	0.5	ug/L	0.36	20	21.7	107		75--125	20	21.7	107		0		0--20
Copper, Total, ICP-MS	0.2	2	ug/L	0.77	20	21.5	104		75--125	20	21.6	104		0		0--20
Zinc, Total, ICP-MS	0.5	2.5	ug/L	0.59	20	19.9	96		75--125	20	19.7	96		1		0--20
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	1.35	20	21.2	99		75--125	20	21.3	100		1		0--20
Selenium, Total, ICP-MS	0.5	1	ug/L	<MDL	20	19.5	98		75--125	20	19.2	96		2		0--20
Silver, Total, ICP-MS	0.04	0.2	ug/L	<MDL	20	19.8	99		75--125	20	19.8	99		0		0--20
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	19.5	98		75--125	20	19.4	97		0		0--20
Lead, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	20.2	101		75--125	20	20	100		1		0--20

MSD:WG190409-6 MS:WG190409-5 L82444-1 Matrix: GRND WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project:421936-200 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	57.5	33.1	90.2	99		75--125	33.1	89.1	96		1		0--20

MSD:WG190409-6 MS:WG190409-5 L82444-1 Matrix: GRND WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:421936-200 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Magnesium, Total, ICP-MS	50	50	ug/L	6180	5000	11200	100		75--125	5000	11100	99		0		0--20
Aluminum, Total, ICP-MS	5	10	ug/L	20.7	20	39.8	96		75--125	20	39.9	96		0		0--20
Calcium, Total, ICP-MS	50	50	ug/L	12800	5000	17700	98		75--125	5000	17400	91		2		0--20
Chromium, Total, ICP-MS	0.2	1	ug/L	0.88	20	20.8	100		75--125	20	21.1	101		1		0--20
Iron, Total, ICP-MS	10	50	ug/L	4070	5000	9010	99		75--125	5000	9170	102		2		0--20
Nickel, Total, ICP-MS	0.1	0.5	ug/L	4.97	20	26.1	106		75--125	20	26.3	107		1		0--20
Copper, Total, ICP-MS	0.2	2	ug/L	0.5	20	21.1	103		75--125	20	21.2	104		1		0--20
Zinc, Total, ICP-MS	0.5	2.5	ug/L	<MDL	20	20.3	101		75--125	20	20.5	103		1		0--20
Arsenic, Total, ICP-MS	0.05	0.25	ug/L	9.59	20	29.4	99		75--125	20	29.6	100		1		0--20
Selenium, Total, ICP-MS	0.5	1	ug/L	<MDL	20	19.7	99		75--125	20	20	100		1		0--20
Silver, Total, ICP-MS	0.04	0.2	ug/L	<MDL	20	19.4	97		75--125	20	19.4	97		0		0--20
Cadmium, Total, ICP-MS	0.05	0.25	ug/L	<MDL	20	19.3	97		75--125	20	19.5	97		1		0--20
Lead, Total, ICP-MS	0.1	0.5	ug/L	<MDL	20	19.7	99		75--125	20	18.4	92		7		0--20

Workgroup: WG193029 Hardness and Total Metals by ICPMS

MB:WG193029-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Hardness, Calc	0.331	0.331	mg CaCO3/L		<MDL

MB:WG193029-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Magnesium, Total, ICP-MS	50	50	ug/L		<MDL
Calcium, Total, ICP-MS	50	50	ug/L		<MDL

SB:WG193029-2 MB:WG193029-1 Matrix: BLANK WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	<MDL	33.1	33.7	102		85--115

SB:WG193029-2 MB:WG193029-1 Matrix: BLANK WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project: Pkey:STD
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Magnesium, Total, ICP-MS	50	50	ug/L	<MDL	5000	5190	104		85--115
Calcium, Total, ICP-MS	50	50	ug/L	<MDL	5000	4920	98		85--115

MSD:WG193029-4 MS:WG193029-3 L83413-2 Matrix: OTHR WTR Listtype:MTHARD-ICPMS Method:EPA 200.8 (MOD)*SM2340B Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Hardness, Calc	0.331	0.331	mg CaCO3/L	168	33.1	198		4xRule	75--125	33.1	202		4xRule	2		0--20

MSD:WG193029-4 MS:WG193029-3 L83413-2 Matrix: OTHR WTR Listtype:MTICPMS Method:EPA 200.8 (MOD) Project:422040-100 Pkey:STD
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Magnesium, Total, ICP-MS	50	50	ug/L	15300	5000	19800	92		75--125	5000	20300	102		2		0--20
Calcium, Total, ICP-MS	50	50	ug/L	42300	5000	46500		4xRule	75--125	5000	47500		4xRule	2		0--20

==========

If the following parameters are reported, values in the RPD column are actually Absolute Differences:

- pH, Field
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

4xRule indicates no MS/MSD recovery was calculated due to the 4x rule.

D5-6PPDQ Surrogate recoveries (%)

For the QC samples the numbering convention is always: -1 MB, -2 SB, -3 MS, -4 MSD, -5 LD, -6 CCC (

WG186249	Surrogate % Recovery
WG186249-1	84.9
WG186249-2	80.8
L80971-1	81.3
L80976-1	79.3
L80976-2	80.2
WG186249-3	81.4
WG186249-4	82.9
WG186249-5	83.6
WG186249-6	96.0

WG186270	Surrogate % Recovery
WG186270-1	85.2
WG186270-2	83.3
L80993-1	84.3
L80975-2	81.8
L80975-1	84.5
WG186270-3	85.5
WG186270-4	84.1
WG186270-5	81.0
WG186270-6	103.5

WG187029	Surrogate % Recovery
WG187029-1	58.9
WG187029-2	62.3
L81297-1	64.8
L81297-2	56.4
L81297-3	59.3
L81297-4	53.8
WG187029-3	53.5
WG187029-4	55.9
WG187029-5	55.3
WG187029-6	67.2

WG187385	Surrogate % Recovery
WG187385-1	76.6
WG187385-2	71.9
L81425-1	63.7
WG187385-5	62.9
WG187385-3	60.9
WG187385-4	68.2
WG187385-6	94.8

WG187386	Surrogate % Recovery
WG187386-1	65.9
WG187386-2	61.5
L81427-1	77.8
L81427-2	78.1
L81427-3	77.3
L81427-4	74.5
L81427-5	74.7
L81427-6	76.7
WG187386-5	78.9
WG187386-6	97.4
L81427-7	77.6
L81427-8	79.4
L81427-9	75.3
L81427-10	80.2
L81427-11	77.4
L81427-12	77.4
WG187386-3	80.9
WG187386-4	83.2

WG187754	Surrogate % Recovery
WG187754-1	68.8
WG187754-2	72.1
L81466-1	65.3
WG187754-5	65.4
WG187754-3	64.0
WG187754-4	60.5
WG187754-6	70.6

Sample Receipt and Chain of Custody Records

Login: P80976
Project: 422040-100

SWS Bioretention 6PPDQ - Spike Test

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	*Date*	*Time*
Received by	*Date* 2-7-23	*Time* 1350
Sample Numbers		*[All]*

Sample Number	**P80976-1**	**P80976-2**
QC Link		
Locator	**TEMP**	**TEMP**
Short Loc Desc	TEMPLOC	TEMPLOC
Locator Desc	TEMPORARY LOCATOR	TEMPORARY LOCATOR
Site	TEMP	TEMP
Comments	Influent	Effluent
Start Date/Time	1-22-23	→
End Date/Time		
Time Span		
Sample Depth		
Dept, Matrix, Prod (Cont ID)	4 LA 6PPDQ (43)	4 LA 6PPDQ (43)

Login: P80976
Project: 422040-100

SWS Bioretention 6PPDQ - Spike Test

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	*Date*	*Time*
Received by	*Date*	*Time*
Sample Numbers		*[All]*

Sample Number	**P80976-1**
QC Link	
Locator	**TEMP**
Short Loc Desc	TEMPLOC
Locator Desc	TEMPORARY LOCATOR
Site	TEMP
Comments	
Start Date/Time	
End Date/Time	
Time Span	
Sample Depth	
Dept, Matrix, Prod (Cont ID)	4 LA 6PPDQ (43)

GR
1/23/23

CHAIN OF CUSTODY RECORD: KC 6PPD-Q Study

Sample Collection by:
Curtis Hinman and Associates
1412 Wilson Ave
Bellingham, WA 98225
Contact: Curtis Hinman
Tel: (C) 253-330-9878

Project:
KC 6PPD-Q Study
Client: King County. Technical Lead: Curtis Hinman and Associates
Contact: Curtis Hinman
Tel: (C) 253-330-9878

Page: 1 of 1
Project Name: KC 6PPD-Q Study
Project code: 422040-100
Sampling location: Western Washington University

Laboratory
King County Environmental Laboratory: Sample login
322 W Ewing Street
Contact: Susannah Rowles
Tel: 206-477-7158

Curtis Hinman and Associates
1412 Wilson Ave
Bellingham, Washington | 98225
p 253 330 9878

Sample ID	Date Collected	Time Collected	# of bottles	matrix	Analysis Requested: 6PPD-Q
L80976-1	2/7/23	9:00	1	W	X
L80976-2	2/7/23	11:00	1	W	X

Comments/Special Notes:
* Filtering, preservation and analysis of dissolved metals must be performed immediately when samples arrive at lab.
* Use one of the above samples on this COC for all QC.
* Note tme for acidification/preservation

Relinquished by: Curtis Hinman	Relinquished by:
Signature: Curtis Hinman	Signature
Company: Curtis Hinman and Associates	Company
Date/Time: 2/7/23, 11:45	Date/Time
Received by: Thunderdog Couriers	Received by: Jason Kinard
Signature	Signature
Company: Thunderdog Couriers	Company KCEL
Date/Time: 2/7/23, 11:45	Date/Time 2-8-23 1400

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 80976-1,2	Project No.: 422040700	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 1-22-23	Receive Date: 2-7-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
2	250 mL GAWM: 1,2
	250 mL GAWM w/ H_2SO_4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually Inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually Inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICP / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: FEB 07 '23 13:59

Login: P80975
Project: 422040-100

SWS Bioretention 6PPDQ - Equiment Blanks

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	*Date*	*Time*
Received by	*Date* 2-8-23	*Time* 1400
Sample Numbers		*[All]*

Sample Number	**P80975-1**	**P80975-2**
QC Link		
Locator	**TEMP**	**TEMP**
Short Loc Desc	TEMPLOC	TEMPLOC
Locator Desc	TEMPORARY LOCATOR	TEMPORARY LOCATOR
Site	TEMP	TEMP
Comments	Equipment blank from spiked column	Equipment blank composite from 3 columns
Start Date/Time		
End Date/Time		
Time Span		
Sample Depth		
Dept, Matrix, Prod (Cont ID)	4 LA 6PPDQ (43)	4 LA 6PPDQ (43)

CHAIN OF CUSTODY RECORD: KC 6PPD-Q Study

Sample Collection by:
Curtis Hinman and Associates
1412 Wilson Ave
Bellingham, WA 98225
Contact: Curtis Hinman
Tel: (C) 253-330-9878

Project:
KC 6PPD-Q Study
Client: King County. Technical Lead: Curtis Hinman and Associates
Contact: Curtis Hinman
Tel: (C) 253-330-9878

Page: 1 of 1
Project Name: KC 6PPD-Q Study
Project code: 422040-100
Sampling location: Western Washington University

Laboratory
King County Environmental Laboratory: Sample login
322 W Ewing Street
Contact: Susannah Rowles
Tel: 206-477-7158

Curtis Hinman and Associates
1412 Wilson Ave
Bellingham, Washington | 98225
p 253 330 9878

Sample ID	Date Collected	Time Collected	# of bottles	matrix	Analysis Requested: 6PPD-Q
L80975-1 (SPIKED COLUMN)	2/8/23		1	W	X
L80975-2 (CLEAN COLUMN)	2/8/23		1	W	X

Comments/Special Notes:
* Filtering, preservation and analysis of dissolved metals must be performed immediately when samples arrive at lab.
* Use one of the above samples on this COC for all QC.
* Note tme for acidification/preservation

Relinquished by: Curtis Hinman	Relinquished by:
Signature: [signature]	Signature
Company: Curtis Hinman and Associates	Company
Date/Time: 2/8/23, 11:45	Date/Time
Received by: Thunderdog Couriers	Received by: Jason Kinyard
Signature [signature] J. C. Gorew	Signature [signature]
Company: Thunderdog Couriers	Company KCEL
Date/Time: 2/8/23, 11:45	Date/Time 2-8-23 1400

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 50975-1,2	Project No.: 4220407000	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 2-8-23	Receive Date: 2-8-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
2	250 mL GAWM: 1,2
	250 mL GAWM w/ H_2SO_4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 8 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICP / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / Si (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: 2-8-23 1415

Login: P80993
Project: 422040-100

SWS Bioretention 6PPDQ

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	*Date*	*Time*
Received by	*Date* 2-8-23	*Time* 9:00
Sample Numbers		*[All]*

Sample Number	**P80993-1**
QC Link	
Locator	**TEMP**
Short Loc Desc	TEMPLOC
Locator Desc	TEMPORARY LOCATOR
Site	TEMP
Comments	Equipment Blank
Start Date/Time	2/8/23
End Date/Time	
Time Span	
Sample Depth	
Dept, Matrix, Prod (Cont ID)	4 LA 6PPDQ (43)

RO from 20L FLPE carboy
collected by C. Barnes

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 30993-1	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 2-8-23	Receive Date: 2-8-23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: - 1
	250 mL GAWM w/ H_2SO_4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICP / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: FEB 08 '23 05:15

Login: P81204
Project: 422040-100

SWS Bioretention 6PPDQ

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by Cassis Hinman	*Date* 3/16/23	*Time* 14:30
Received by Meg Best	*Date* 3/16/2023	*Time* 2:25pm
Sample Numbers P81204-1 thru 3	3-16-23	1620 *[All]*

Sample Number	**P81204-1**	**P81204-2**	**P81204-3**
QC Link			
Locator	**60_40 COMP**	**HP1 COMP**	**HP2 COMP**
Short Loc Desc			
Locator Desc	60_40 BSM composite	HPBSM1 composite	HPBSM2 composite
Site	TEMP	TEMP	TEMP
Comments	60/40 comp flush-initial	HP1 composite flush-initial	HP2 composite flush - initial
Start Date/Time	3/16/23 9:30	3/16/23 9:30	3/16/23 9:30
End Date/Time	3/16/23	3/16/23	3/16/23
Time Span	3/16/23 14:15	3/16 13:00 3/16/23	13:30 3/16/23
Sample Depth			
Dept, Matrix, Prod (Cont ID)	~~4 LA 6PPDQ (43)~~ DOC	~~4 LA 6PPDQ (43)~~ DOC	~~4 LA 6PPDQ (43)~~ DOC

Login: P81204
Project: 422040-100

SWS Bioretention 6PPDQ

FSU TC: _____
LPM: _____

Sample Number	**P81204-4**
QC Link	
Locator	**HP3 COMP**
Short Loc Desc	
Locator Desc	HPBSM3 composite
Site	TEMP
Comments	HP3 composite flush - initial
Start Date/Time	3/14/23 9:30
End Date/Time	3/16/23 14:00
Time Span	
Sample Depth	
Dept, Matrix, Prod (Cont ID)	~~4 LA 6PPDQ (43)~~ DOC

LIQUID SAMPLE RECEIPT RECORD

Login Number(s):	81204-(1-4)	Project No.:	422040-100
Collect Date(s):	3-16-23	Receive Date:	3-16-23

Sub-Contracting: Y / (N)		List Product(s):	
Changes: Y / (N)		List Parameter(s):	

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
4	250 mL GAWM ~~w/ H_2SO_4~~: (1-4)
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / (N)	Y / (N) / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double bagged metals samples to METALS for preservation.
3. Do not test pH for preserved ~~BNA and TOTSULFIDE~~ samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter "Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: MAR 16 '23 16:31

Login: P81297
Project: 422040-100

SWS Bioretention 6PPDQ Flush Final

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	*Date* 3/29/23	*Time* 1535
Received by	*Date* 3-29-23	*Time* 1535
Sample Numbers		*[All]*

Sample Number	**P81297-1**	**P81297-2**	**P81297-3**
QC Link			
Locator	**60_40 COMP**	**HP1 COMP**	**HP2 COMP**
Short Loc Desc			
Locator Desc	60_40 BSM composite	HPBSM1 composite	HPBSM2 composite
Site	TEMP	TEMP	TEMP
Comments	60_40 Composite flush - final	HP1 composite flush - final	HP2 composite flush - final
Start Date/Time	3/29/23 / 1240	→ 1300	→ 1320
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
Dept, Matrix, Prod (Cont ID)	3 LA DOC (36) 4 LA 6PPDQ (43) 4 LA FATHEAD-ACUTE (2)	3 LA DOC (36) 4 LA 6PPDQ (43)	3 LA DOC (36) 4 LA 6PPDQ (43)

Login: P81297 **SWS Bioretention 6PPDQ Flush Final** **FSU TC:** _____

Project: 422040-100 **LPM:** _____

Sample Number	**P81297-4**
QC Link	
Locator	**HP3 COMP**
Short Loc Desc	
Locator Desc	HPBSM3 composite
Site	TEMP
Comments	HP3 composite flush - final
Start Date/Time	3/29/23 1340
End Date/Time	
Time Span	
Sample Depth	
CLIENT LOC	
Dept, Matrix, Prod (Cont ID)	3 LA DOC (36) 4 LA 6PPDQ (43)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 8297-(1-4)	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 3-29-23	Receive Date: 3-29-23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
4	125 mL GANM: 1-4
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
4	250 mL GAWM ~~w/H_2SO_4~~: 1-4
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually Inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / (N)	Y / (N) / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: MAR 29 '23 15:43

Login: P81298
Project: 422040-100

SWS Bioretention 6PPDQ - FHM

LPM ~~FSU TC~~: Susannah Rawles
FSU TC: ~~LPM~~: C. Barnes

CHAIN OF CUSTODY

Relinquished by: J. Alaimo	Date: 3-29-2023	Time: 1605
Received by:	Date: 3-29-23	Time: 1605
Sample Numbers: L81298-1,2		[All]

Sample Number	P81298-1	P81298-2
QC Link		
Locator	TEMP	TEMP
Short Loc Desc	TEMPLOC	TEMPLOC
Locator Desc	TEMPORARY LOCATOR	TEMPORARY LOCATOR
Site	TEMP	TEMP
Comments	Stormwater	Well Water Control
Start Date/Time		
End Date/Time		
Time Span		
Sample Depth		
Dept, Matrix, Prod (Cont ID)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 81298-1,2	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 3-29-23	Receive Date: 3-29-23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
2	60 mL CWM HDPE: 1,2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM w/ H_2SO_4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
2	500 mL CWM HDPE: 1,2
	500 mL CWM PP (MICRO):
2	500 mL HDPE (METALS): 1,2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☑ ~~Preserve~~ & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually Inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	(Y) (within 1 day (y) / n) / N	Y / (N) / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: MAR 29 '23 15:12

Login: P81425
Project: 422040-100

6PPDQ Bioretention Grabs Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	Date 4/17/23	Time 1710
Received by	Date 4-17-23	Time 1710
Sample Numbers		[All]

Sample Number	P81425-1	P81425-2	P81425-3
QC Link			
Locator	I-5 TAPE	I-5 TAPE	I-5 TAPE
Short Loc Desc			
Locator Desc	Lake Union Ship Canal TAPE	Lake Union Ship Canal TAPE	Lake Union Ship Canal TAPE
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Grab - T0	Stormwater Grab - T1	Stormwater Grab - T3
Start Date/Time	4/17/23 1630	4/18/23/1102	4/19/23/0615
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	557.0	558	564.0
DO, FIELD	10.69	10.70	11.21
PH, FIELD	7.68	7.54	7.51
REDOX, FIELD	-36.5	-19.2	-20.4
SAMP INFO	C I-5	CWWU	CKCEL
SAMP TEMP	10.110	4590	2.494
Dept, Matrix, Prod (Cont ID)	4 LG 6PPDQ (43)	~	4 LG 6PPDQ (43)

- Sample w ICE and in DARK.

CHAIN OF CUSTODY

Relinquished by	Date 4/19/23	Time 0705
Received by	Date 4/19/23	Time 800
Sample Number(s)	-213	(All)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 81435-1	Project No.: 423040-18	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 4-17-23	Receive Date: 4-17-23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM ~~w/ H_2SO_4:~~
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: 

Date / Time Completed: APR 17 '23 17:14

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 31425-2, 3	Project No.: 420040-108	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 4-18-23, 4-19-23	Receive Date: 4-19-23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	(1)

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM ~~w/ H_2SO_4~~ – 3
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Stored in cooler #11 until SM arrived

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not Test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature:

Date / Time Completed: APR 19 '23 08:36

Login: P81426
Project: 422040-100

6PPDQ Bioretention LG COMP-Untreated Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by Sonia Zalusky	*Date* 4-04-23	*Time* 1015
Received by	*Date* 4-19-23	*Time* 1015
Sample Numbers		*[All]*

Sample Number	**P81426-1**	**P81426-2**	**P81426-3**
QC Link			
Locator	**LG_TANK**	**LG_TANK**	**LG_TANK**
Short Loc Desc			
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Composite - T1 A	Stormwater Composite - T1 B	Stormwater Composite - T1 C
Start Date/Time	4/18/23 1040	1150	1310
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	INFLUENT	→	→
COND, FIELD	469.0	473.4	473.2
DO, FIELD	10.49	10.94	10.98
PH, FIELD	7.47	7.57	7.59
REDOX, FIELD	~~-10.5~~ NF -14.3	-17.9	-17.4
SAMP INFO			
SAMP TEMP	8.349	8.762	9.155
Dept, Matrix, Prod (Cont ID)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)

Login: P81426 6PPDQ Bioretention LG COMP-Untreated Storm 1 FSU TC: _____

Project: 422040-100 LPM: _____

Sample Number	P81426-4	P81426-5	P81426-6
QC Link			
Locator	LG_TANK	LG_TANK	LAB
Short Loc Desc			IN HOUSE
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Stormwater Composite - T3	Stormwater Composite - T4	Lab dilution water
Start Date/Time	4/18/23 1557	4/19/2023 0902	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	INFLUENT		**********
COND, FIELD	471.5	457.6	**********
DO, FIELD	11.18	10.28	**********
PH, FIELD	7.59	7.521	**********
REDOX, FIELD	-20.2	230.4	**********
SAMP INFO			**********
SAMP TEMP	6.295	11.9	**********
Dept, Matrix, Prod (Cont ID)		3 LG ALK (52) 3 LG DOC (36) 3 LG NH3 (31) 3 LG TSS (6) 4 LG 6PPDQ (43) 4 LG TROUT-ACUTE (2) 6 LG ICPMS (63)	3 LG ALK (52) 3 LG NH3 (31) 6 LG ICPMS (63)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 14126-(1-3,5,6)	Project No.: 422040-100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 4-18-23, 4-19-23	Receive Date: 4-19-23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
2	60 mL CWM HDPE: 5,6
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
4	125 mL GANM: 1-3,5
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
4	250 mL GAWM ~~w/ H_2SO_4~~: 1-3,5
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
2	500 mL CWM HDPE: 5,6
	500 mL CWM PP (MICRO):
2	500 mL HDPE (METALS): 5,6
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
4	1L CWM HDPE: 1-3,5
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	(Y) (within 1 day Y / n) / N	(Y) N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: APR 19 '23 10:32

Login: P81427
Project: 422040-100

6PPDQ Bioretention LG-Treated Columns Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	Date 4/14/23	Time 0705
Received by	Date 4-19-23	Time 800
Sample Numbers		[All]

Sample Number	P81427-1	P81427-2	P81427-3
QC Link			
Locator	60_40 COL A (41)	60_40 COL B (42)	60_40 COL C (43)
Short Loc Desc			
Locator Desc	60 40 BSM Column A	60 40 BSM Column B	60 40 BSM Column C
Site	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE 9/14/23
Comments	Treated LG - 60_40 Column A - T2	Treated LG - 60_40 Column B - T2	Treated LG - 60_40 Column C - T2
Start Date/Time	4/18/23 1519	→ 1528	→ 1541
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-Q-23-024-41	KC6PPD-Q-23-024-42	KC6PPD-Q-23-024-43
COND, FIELD	458.4	458.4	459.4
DO, FIELD	9.76	9.94	9.86
PH, FIELD	6.78	6.89	6.86
REDOX, FIELD	16.8	12.6	13.1
SAMP INFO			
SAMP TEMP	8.771	8.705	8.460
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

Login: P81427 **6PPDQ Bioretention LG-Treated Columns Storm 1** FSU TC: _____

Project: 422040-100 LPM: _____

Sample Number	**P81427-4**	**P81427-5**	**P81427-6**
QC Link			
Locator	**HP1 COL A** (11)	**HP1 COL B** (12)	**HP1 COL C** (13)
Short Loc Desc			
Locator Desc	HP1 BSM Column A	HP1 BSM Column B	HP1 BSM Column C
Site	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE ok 4/14/23
Comments	Treated LG - HP1 Column A - T2	Treated LG - HP1 Column B - T2	Treated LG - HP1 Column C - T2
Start Date/Time	4/18/23 / 1330	→ 1347	→ 1359
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-Q-23-021 - 11	KC6PPD-Q-23-021-12	KC6PPD-Q-23-021-13
COND, FIELD	390.9	388.6	388.0
DO, FIELD	10.70	10.58	10.66
PH, FIELD	7.11	7.26	7.21
REDOX, FIELD	5.4	-3.4	-2.8
SAMP INFO			
SAMP TEMP	9.977	9.559	9.820
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

Login: P81427 | 6PPDQ Bioretention LG-Treated Columns Storm 1 | FSU TC: _____

Project: 422040-100 | LPM: _____

Sample Number	P81427-7	P81427-8	P81427-9
QC Link			
Locator	HP2 COL A (21)	HP2 COL B (22)	HP2 COL C (23)
Short Loc Desc			
Locator Desc	HP2 BSM Column A	HP2 BSM Column B	HP2 BSM Column C
Site	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE gjr 4/14/23
Comments	Treated LG - HP2 Column A - T2	Treated LG - HP2 Column B - T2	Treated LG - HP2 Column C - T2
Start Date/Time	4/18/23 1414	→ 1424	→ 1433
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	RC6PPD-Q-23-022-(21)	RC6PPD-Q-23-022-22	RC6PPD-Q-23-022-~~24~~ 23
COND, FIELD	335.7	337.4	309.8
DO, FIELD	9.01	9.35	9.02
PH, FIELD	7.84	7.73	7.69
REDOX, FIELD	-26.5	-25.2	-24.3
SAMP INFO			
SAMP TEMP	9.776	8.876	9.198
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

Login: P81427 | 6PPDQ Bioretention LG-Treated Columns Storm 1 | FSU TC: _____

Project: 422040-100 | LPM: _____

Sample Number	P81427-10	P81427-11	P81427-12
QC Link			
Locator	HP3 COL A (31)	HP3 COL B (32)	HP3 COL C (33)
Short Loc Desc			
Locator Desc	HP3 BSM Column A	HP3 BSM Column B	HP3 BSM Column C
Site	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE	~~TEMP~~ I-5TAPE SR 4/14/23
Comments	Treated LG - HP3 Column A - T2	Treated LG - HP3 Column B - T2	Treated LG - HP3 Column C - T2
Start Date/Time	4/18/23 1445 →	1455 →	1508
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-Q-23-023-31	KC6PPD-Q-23-023-32	KC6PPD-Q-23-023-33
COND, FIELD	348.6	342.6	344.3
DO, FIELD	8.86	7.97	8.73
PH, FIELD	7.58	7.52	7.53
REDOX, FIELD	-20.2	-18.3	-18.2
SAMP INFO			
SAMP TEMP	9.163	9.186	9.038
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

6PPd-C2

FSU Daily EXO Calibration and QC Checklist

Project Bio ; DOE Analyst CB Date 4-17-2023

Sonde Dolly Handheld Frenchie Cable 6m Instrument Time: ☑ Verified ☐ Recalibrated

	Conductivity 73.9	pH 7 cal	pH 10 cal	pH 6.86 CS	Chlorophyll
Calibration Lot #					
Check Standard Lot #	CCS 253				EWTCS

Sonde Battery Voltage_____
If ≤ 2.2 volts, replace batteries in sonde before run

Calibration BP (mm Hg) 754.3 Time 1130

	Dissolved Oxygen	Conductivity (If > +/- 5%)	pH	pH
True Value	99.2	1000	7	10
Pre Calibration Value	99.9	X	7.03	10.04
Post Calibration Value	99.3	X	7.00	10.00
% Recovery (pre/true*100)				

Initial Check Standard Chla/BGA Standard Temperature:_____

Conductivity	pH	Chlorophyll	BGA	Chlorophyll	BGA
73.9	6.86	0	0		
		X	X	X	X
76.4	6.82				

Depth Calibration ☑ N/A ☐ Verified ☐ Recalibrated in air

Replicates Sample Number

	Dissolved Oxygen	Conductivity	pH	Temperature	Chlorophyll	BGA	Time
Sample Value							
Replicate Value							
% RPD							

Check Standards (CS) Time_____

	Conductivity	pH
True Value	73.9	6.86
Measured Value	X	6.93
% Recovery		

ReDox

Check Standard Acceptance Limits	
DO % Sat	± 4 %
Conductivity	± 10 %
pH	± 0.2 pH units
Chla *a* & BGA-PC Zero Check	≤ 0.5
Chla *a* & BGA-PC Positive Standard	± 10 %

Calculations
DO % Sat True Value = (Current BP mmHg/ 760 mmHg)* 100
BP (mm Hg) = BP (in Hg) x 25.4
% Recovery = s1/true x 100
% RPD = 200 x [(s1-s2)/(s1+s2)]

End Check (CS) BP (mm Hg) 762 Time 0707 Date 4/19/23 Chla/BGA Temp._____

	Dissolved Oxygen	Conductivity	pH	Chlorophyll	BGA	Chlorophyll	BGA
True Value	100.2	73.9	6.86	0	0		
End Check Value (CS)	100.2	76.7	6.88				
% Recovery							

☐ I've notified TC because ___ is out of control window

Handheld on Charger ☐

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 81427-(1-12)	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 4-18-23	Receive Date: 4-19-23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	(1)

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
2	250 mL GAWM ~~w/ H_2SO_4~~: 1-12
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
12	1L CWM HDPE: 1-12
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Samples stored in cooler prior to SM arrival

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / Si (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: SKK

Date / Time Completed: APR 19 '23 08:31

Login: P81428
Project: 422040-100

6PPDQ Bioretention 60:40 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by John Zalosky	*Date* 19-04-23/	*Time* 1015
Received by	*Date* 4-19-23	*Time* 1015
Sample Numbers		*[All]*

Sample Number	**P81428-1**	**P81428-2**	**P81428-3**
QC Link			
Locator	**60_40 COMP**	**60_40 COMP**	**LAB**
Short Loc Desc			IN HOUSE
Locator Desc	60_40 BSM composite	60_40 BSM composite	LAB LOCATOR
Site	~~IEMP~~ I-5TAPE SR 4/14/23	~~IEMP~~ I-5TAPE	ELD
Comments	Treated Stormwater Composite - 60:40 Mix T3	Treated Stormwater Composite - 60:40 Mix T4	Lab dilution water
Start Date/Time	4|18|2023 / 1547	→ / 4-19-23 0929	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KCGPPD-Q-23-024	→	**********
COND, FIELD	461.0	442.6	**********
DO, FIELD	10.06	9.68	**********
PH, FIELD	6.88	7.345	**********
REDOX, FIELD		282.4	**********
SAMP INFO	Colums → 41, 42, 43	→	**********
SAMP TEMP	8 488	11.9	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

Field Parms C WWV C KCEL SR 4/14/23

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 51428-2	Project No.: 432040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 4-19-23	Receive Date: 4-19-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM ~~w/ H_2SO_4~~: -2
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually Inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually Inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually Inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: APR 19 '23 10:36

Login: P81429
Project: 422040-100

6PPDQ Bioretention HP1 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by John Zakrzewski	Date 19-04-23	Time 1015
Received by	Date 4-19-23	Time 1045
Sample Numbers		[All]

Sample Number	P81429-1	P81429-2	P81429-3
QC Link			
Locator	HP1 COMP	HP1 COMP	LAB
Short Loc Desc			IN HOUSE
Locator Desc	HPBSM1 composite	HPBSM1 composite	LAB LOCATOR
Site	~~TEMP~~ I-5TAPE SR 4/14/23	~~TEMP~~ I-5TAPE	ELD
Comments	Treated Stormwater Composite - HP1 Mix T3	Treated Stormwater Composite - HP1 Mix T4	Lab dilution water
Start Date/Time	4/18/2023 1405 / ~~1530~~	→ / 4/19/23 0925	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-Q-23-021	→	**********
COND, FIELD	391.7	376.3	**********
DO, FIELD	10.76	10.42	**********
PH, FIELD	7.27	7.944	**********
REDOX, FIELD	-3.2	259.0	**********
SAMP INFO	Columns 11, 12, 13	→	**********
SAMP TEMP		12.2	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

Field Parms: C WW U | CKCEL | SR 4/14/23

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 514294-2	Project No.: 432040-100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 4-19-23	Receive Date: 4-19-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM w/~~H_2SO_4~~: -2
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: GKT

Date / Time Completed: APR 19 '23 10:39

Login: P81430
Project: 422040-100

6PPDQ Bioretention HP2 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by	*Date* 4/19/23	*Time* 0705
Received by	*Date* 4-19-23	*Time* 8:00
Sample Numbers		*[All]*

Sample Number	**P81430-1**	**P81430-2**
QC Link		
Locator	**HP2 COMP**	**HP2 COMP**
Short Loc Desc		
Locator Desc	HPBSM2 composite	HPBSM2 composite
Site	~~IEMP~~ I-5TAPE 4/14/23	~~IEMP~~ I-5TAPE
Comments	Treated Stormwater Composite - HP2 Mix T3	Treated Stormwater Composite - HP2 Mix T4
Start Date/Time	4/18/23 1438	4/19/23 / 0640
End Date/Time		
Time Span		
Sample Depth		
CLIENT LOC	KC6PPD-Q-23-022	→
COND, FIELD	330.7	333.9
DO, FIELD	9.27	9.97
PH, FIELD	7.70	7.46
REDOX, FIELD	-25.0	-12.4
SAMP INFO	columns → 21, 22, 23	→
SAMP TEMP	9.545	3.189
Dept, Matrix, Prod (Cont ID)		3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)

Field Parms CWWV CKLEL

NO TOX

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 31430-2	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 4-18-23, 4-19-23	Receive Date: 4-19-23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	(Y) / N	
Container	Y / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	(1)

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM ~~w/ H_2SO_4~~: -2
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Samples stored in cooler #11 until SM arrival

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon { T / D } / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M { T / D } / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N / (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: APR 19'23 08:34

Login: P81431
Project: 422040-100

6PPDQ Bioretention HP3 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by Joshua Zuhlke	*Date* 4-04-23	*Time* 1015
Received by	*Date* 4-19-23	*Time* 1015
Sample Numbers		*[All]*

Sample Number	P81431-1	P81431-2	P81431-3
QC Link			
Locator	HP3 COMP	HP3 COMP	LAB
Short Loc Desc			IN HOUSE
Locator Desc	HPBSM3 composite	HPBSM3 composite	LAB LOCATOR
Site	~~TEMP~~ I-5TAPE 4/14/23	~~TEMP~~ I-5TAPE	ELD
Comments	Treated Stormwater Composite - HP3 Mix T3	Treated Stormwater Composite - HP3 Mix T4	Lab dilution water
Start Date/Time	4/18/2023 1512	→ 4/19/2023 0917	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KCGPPD-Q-23-023	→	**********
COND, FIELD	346.4	329.0	**********
DO, FIELD	8.79	9.53	**********
PH, FIELD	7.58	8.137	**********
REDOX, FIELD	-19.6	246.1	**********
SAMP INFO	Columns → 31, 32, 33	→	**********
SAMP TEMP	9.001	11.8	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

Field Parms

C WWU

C KCEL

SR 4/14/23

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 514313	Project No.: 422040-155	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 4-19-23	Receive Date: 4-19-23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM ~~w/ H_2SO_4~~: -2
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
(ICPMS) / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☑ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	(Y) (within 1 day y / n) / N	Y / (N) / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: APR 19 '23 10:40

Login: P81466
Project: 422040-100

6 PPDQ Bioretention 2023 Dosing

FSU TC: _____
LPM: SR

CHAIN OF CUSTODY

SAMPLES COLLECTED AT 9:00 AM

Relinquished by Curtis Hayward	***Date*** 5/3/23	***Time*** 11:00
Received by	***Date***	***Time***
Sample Numbers	5-3-23	1250 [All]

Sample Number	**P81466-1**
QC Link	
Locator	**TEMP**
Short Loc Desc	TEMPLOC
Locator Desc	TEMPORARY LOCATOR
Site	TEMP
Comments	Dosing Water - Dose 3
Start Date/Time	
End Date/Time	
Time Span	
Sample Depth	
Dept, Matrix, Prod (Cont ID)	3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 81966-1
Collect Date(s): 5-3-23
Project No.: 422040-100
Receive Date: 5-3-23

Sub-Contracting: Y / (N)
Changes: Y / (N)
List Product(s):
List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: —
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: —
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: —
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / (N) / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test proper preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature:

Date / Time Completed: MAY 03 '23 14:14

Appendix C - Chemistry Report 259

Login: P82562
Project: 422040-100

6PPDQ Bioretention Grabs

FSU TC: CB
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	Date 9/26/23	Time 1805
Received by	Date 9-27-23	Time 8:00
Sample Numbers -2, -3		[All]

Sample Number	**P82562-1**	**P82562-2**	**P82562-3**
QC Link			
Locator	**I-5 TAPE**	**I-5 TAPE**	**I-5 TAPE**
Short Loc Desc			
Locator Desc	Lake Union Ship Canal TAPE	Lake Union Ship Canal TAPE	Lake Union Ship Canal TAPE
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Grab - T0	Stormwater Grab - T1	Stormwater Grab - T3
Start Date/Time	09/25/2023 / 0715	09/26/2023 0943	→ / 1731
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	C I-5	C WWU	C KCEL
COND, FIELD	289.7	289.3	290.0
DO, FIELD	9.26	9.58	10.53
PH, FIELD	7.33	7.26	7.32
REDOX, FIELD	-19.9	-35.8	-23.7
SAMP INFO	T0 at time of Samplin	T1 @ time of composit	T3 @ Return to KCEL
SAMP TEMP	17.250	9.472	6.184
Dept, Matrix, Prod (Cont ID)	4 LG 6PPDQ (43)	4 LG 6PPDQ (43)	4 LG 6PPDQ (43)

* samples stored overnight in cooler #11
* 19 bottles taken by Aquatox (EF) prior to SM arrival
total ✓

WG-190759

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 81579-1 / 82562-1	Project No.: 42204190	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 9-25-23	Receive Date: 9-25-23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: —
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHEGKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: _____

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Login: P82563
Project: 422040-100

6PPDQ Bioretention LG COMP-Untreated

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

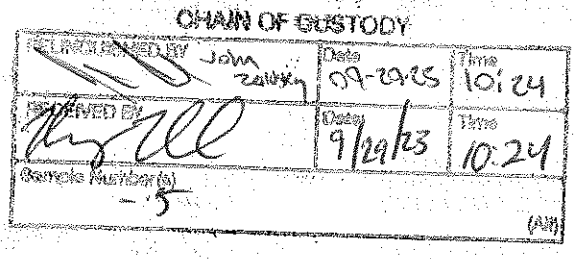
Relinquished by	Date 9/26/23	Time 1805
Received by	Date 9-27-23	Time 800
Sample Numbers	1-4	[All]

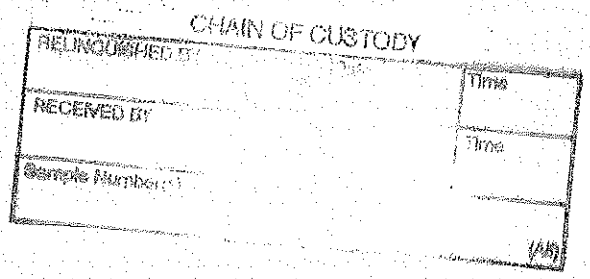
Sample Number	**P82563-1**	**P82563-2**	**P82563-3**
QC Link			
Locator	**LG_TANK**	**LG_TANK**	**LG_TANK**
Short Loc Desc			
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Composite - T1 A	Stormwater Composite - T1 B	Stormwater Composite - T1 C
Start Date/Time	09/27/2023 / 1015	→ / 1136	→ / 1240
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	365.1	277.2	348.7
DO, FIELD	9.51	9.20	9.42
PH, FIELD	7.49	7.23	7.62
REDOX, FIELD	-29.9	-26.9	-32.0
SAMP INFO			
SAMP TEMP	15.013	16.205	15.543
Dept, Matrix, Prod (Cont ID)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)

Login: P82563 | 6PPDQ Bioretention LG COMP-Untreated | FSU TC: _____

Project: 422040-100 | LPM: Susannah Rowles

Sample Number	P82563-4	P82563-5	P82563-6
QC Link			
Locator	LG_TANK	LG_TANK	LAB
Short Loc Desc			IN HOUSE
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Stormwater Composite - T3	Stormwater Composite - T4	Lab dilution water
Start Date/Time	1445		
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			**********
COND, FIELD	290.0		**********
DO, FIELD	10.53		**********
PH, FIELD	7.32		**********
REDOX, FIELD	-23.7		**********
SAMP INFO			**********
SAMP TEMP	6.184		**********
Dept, Matrix, Prod (Cont ID)		3 LG ALK (52) 3 LG DOC (36) 3 LG NH3 (31) 3 LG TSS (6) 4 LG 6PPDQ (43) 4 LG TROUT-ACUTE (2) 6 LG ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)





LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 82563-(1-4)	Project No.: 422040-109	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 9-26-23	Receive Date: 9-27-23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
4	125 mL GANM: 1-4
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
4	1L CWM HDPE: 1-4
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

Samples stored overnight in Cooler #11
6 HDPE bottles taken by Aquatox prior to SM arrival

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: _____

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LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 82563	Project No.: 422090-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 9/27/23	Receive Date: 9/29/23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	Y / (N)	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
2	60 mL CWM HDPE: -5,6
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -5
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
2	500 mL CWM HDPE: -5,6
	500 mL CWM PP (MICRO):
2	500 mL HDPE (METALS): -5,10
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -Tot-5
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

out of hold for DOC and NH3 filtration

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / ~~HG-CVAA-M~~ (T / D) / pH < 2 w/ ULTRA HNO_3	☑ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / (N)	Y / N / (NA)	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / (N)	Y / N / (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: SEP 29 '23 10:55

Appendix C - Chemistry Report

Login: P82564
Project: 422040-100

6PPDQ Bioretention LG-Treated Columns

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	Date 9/26/23	Time 1805
Received by	Date ~~9-26-23~~ 9-27-23	Time 8:00
Sample Numbers		[All]

Sample Number	P82564-1	P82564-2	P82564-3
QC Link			
Locator	60_40 COL A	60_40 COL B	60_40 COL C
Short Loc Desc			
Locator Desc	60 40 BSM Column A	60 40 BSM Column B	60 40 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - 60_40 Column A - T2	Treated LG - 60_40 Column B - T2	Treated LG - 60_40 Column C - T2
Start Date/Time	9/26/23 / 1411	→ / 1420	→ / 1429
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-9-23-029	→	→
COND, FIELD	546	626	543
DO, FIELD	9.82	9.69	9.69
PH, FIELD	6.85	6.85	6.79
REDOX, FIELD	-16.2	-9.0	-11.2
SAMP INFO			
SAMP TEMP	12.380	12.425	12.248
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

WEIGHT 32349.0 | 33035.2 | ~~32678~~ 32635.0

Login: P82564 | 6PPDQ Bioretention LG-Treated Columns | FSU TC: _____

Project: 422040-100 | LPM: Susannah Rowles

Sample Number	**P82564-4**	**P82564-5**	**P82564-6**
QC Link			
Locator	**HP1 COL A**	**HP1 COL B**	**HP1 COL C**
Short Loc Desc			
Locator Desc	HP1 BSM Column A	HP1 BSM Column B	HP1 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - HP1 Column A - T2	Treated LG - HP1 Column B - T2	Treated LG - HP1 Column C - T2
Start Date/Time	9/26/23 | 1304	Spit Time → | 1248	→ | 1314
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KCGPPD-Q-23-026	KCGPPD-Q-23-026	→
COND, FIELD	406.1	409.5	405.6
DO, FIELD	9.70	9.71	9.82
PH, FIELD	7.11	7.17	7.14
REDOX, FIELD	-14.4	-16.2	-18.3
SAMP INFO			
SAMP TEMP	13.149	13.985	13.936
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

32744.0

WEIGHT

W/LID - 32827.0

W/OUT - 32784.0

32192.0

32149.0

Login: P82564 | 6PPDQ Bioretention LG-Treated Columns | FSU TC: _____

Project: 422040-100 | LPM: Susannah Rowles

Sample Number	**P82564-7**	**P82564-8**	**P82564-9**
QC Link			
Locator	**HP2 COL A**	**HP2 COL B**	**HP2 COL C**
Short Loc Desc			
Locator Desc	HP2 BSM Column A	HP2 BSM Column B	HP2 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - HP2 Column A - T2	Treated LG - HP2 Column B - T2	Treated LG - HP2 Column C - T2
Start Date/Time	9/26/23 | 1324	SPLIT TIME → | 1331	→ | 1336
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPDQ-23-027	→	→
COND, FIELD	426.0	419.5	421.5
DO, FIELD	8.28	8.14	9.42
PH, FIELD	7.16	7.04	7.13
REDOX, FIELD	-25.8	-23.2	-26.9
SAMP INFO			
SAMP TEMP	13.252	12.520	12.706
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

WEIGHT			
w/ LID	32774.6	31824.2	33639.6
			33596.2
w/o	32731.6	31781.2	

Login: P82564 | 6PPDQ Bioretention LG-Treated Columns | FSU TC: _____
Project: 422040-100 | LPM: Susannah Rowles

Sample Number	**P82564-10**	**P82564-11**	**P82564-12**
QC Link			
Locator	**HP3 COL A**	**HP3 COL B**	**HP3 COL C**
Short Loc Desc			
Locator Desc	HP3 BSM Column A	HP3 BSM Column B	HP3 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - HP3 Column A - T2	Treated LG - HP3 Column B - T2	Treated LG - HP3 Column C - T2
Start Date/Time	9/26/23/ 1344	→ / 1352	→ / 1400
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC 6PPD-Q-23-028	→	→
COND, FIELD	436.1	452.0	434.1
DO, FIELD	7.77	7.52	8.62
PH, FIELD	7.27	7.16	7.20
REDOX, FIELD	-32.3	-30.8	-35.7
SAMP INFO			
SAMP TEMP	12.300	12.139	12.922
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

WEIGHT
W/LID 32894.2 | 31268.2 | 31805.2
W/O 32851.6 | ~~31225.4~~ 31225.4 | 31762.2

FSU Daily EXO Calibration and QC Checklist

Project Bioretention - 6PPD-Q Analyst CB Date 9/24/23 1608

Sonde GUS Handheld Frenchie Cable ___ Instrument Time: ☐ Verified ☐ Recalibrated

	Conductivity 73.9	pH 7 cal	pH 10 cal	pH 6.86 CS	Chlorophyll
Calibration Lot #					
Check Standard Lot #	CCS 258				EWTCS ___

Sonde Battery Voltage ___
If ≤ 2.2 volts, replace batteries in sonde before run

Calibration BP (mm Hg) 757.8 Time 1608

	Dissolved Oxygen	Conductivity (If > +/- 5%)	pH	pH
True Value	99.7	1000	7	10
Pre Calibration Value	99.6		7.05	10.04
Post Calibration Value	99.7		7.00	10.00
% Recovery (pre/true*100)				

Initial Check Standard Chla/BGA Standard Temperature: ___

Conductivity	pH	Chlorophyll	BGA	Chlorophyll	BGA
73.9	6.86	0	0		
77.0	6.79				

Depth Calibration ☐ N/A ☐ Verified ☐ Recalibrated in air

Replicates Sample Number ___

	Dissolved Oxygen	Conductivity	pH	Temperature	Chlorophyll	BGA	Time
Sample Value							
Replicate Value							
% RPD							

HANNA
7 | 10
7.00
6.86 → 6.79

Check Standards (CS) Time ___

	Conductivity	pH
True Value	73.9	6.86
Measured Value		
% Recovery		

Check Standard Acceptance Limits	
DO % Sat	± 4 %
Conductivity	± 10 %
pH	± 0.2 pH units
Chla *a* & BGA-PC Zero Check	≤ 0.5
Chla *a* & BGA-PC Positive Standard	± 10 %

Calculations

DO % Sat True Value = (Current BP mmHg/ 760 mmHg)* 100

BP (mm Hg) = BP (in Hg) x 25.4

% Recovery = s1/true x 100

% RPD = 200 x [(s1-s2)/(s1+s2)]

End Check (CS) BP (mm Hg) 761.3 Time 1757 Date 9/26/23 Chla/BGA Temp. ___

	Dissolved Oxygen	Conductivity	pH	Chlorophyll	BGA	Chlorophyll	BGA
True Value	100.2	73.9	6.86	0	0		
End Check Value (CS)	101.0	76.4	6.82				
% Recovery							

☐ I've notified TC because ___ is out of control window

Handheld on Charger ☐

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 82384-(1-12)	Project No.: 422040-100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 9-26-23	Receive Date: 9-27-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	1

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
271	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
12	1L CWM HDPE: 1-12
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Samples stored overnight in Cooler #11 @PPDQ bottles taken by Aquatox prior to SM arrival

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: SEP 27 2023

Appendix C - Chemistry Report

Login: P82565
Project: 422040-100

6PPDQ Bioretention 60:40 comp

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by John Zaldivar	*Date* 09-29-23	*Time* 10:24
Received by	*Date* 9/29/23	*Time* 1024
Sample Numbers		*[All]*

Sample Number	**P82565-1**	**P82565-2**
QC Link		
Locator	**60_40 COMP**	**60_40 COMP**
Short Loc Desc		
Locator Desc	60_40 BSM composite	60_40 BSM composite
Site	I-5TAPE	I-5TAPE
Comments	Treated Stormwater Composite - 60:40 Mix T3	Treated Stormwater Composite - 60:40 Mix T4
Start Date/Time		
End Date/Time		
Time Span		
Sample Depth		
CLIENT LOC		
COND, FIELD		
DO, FIELD		
PH, FIELD		
REDOX, FIELD		
SAMP INFO		
SAMP TEMP		
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s):	92565	Project No.:	422040-100
Collect Date(s):	9/27/23	Receive Date:	9/29/23

Sub-Contracting: Y / (N) List Product(s):

Changes: Y (N) List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	Y / N		Holding Times	Y / (N)	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
2 1	500 mL CWM HDPE: -2
-2	500 mL CWM PP (MICRO): -2 pc
2	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

Out of hold for DOC and NH3 filtration

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / ~~HG-CVAA-M~~ (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / (NH3) / SI (Documentation)	Y (within 1 day y / n) / (N)	Y / N / (NA)	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / (N)	Y / N / (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____

Date / Time Completed: SEP 29 '23 10:58

Appendix C - Chemistry Report

.ogin: P82566
Project: 422040-100

6PPDQ Bioretention HP1 comp

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 09-29-23	*Time* 10:24
Received by	*Date* 9/29/23	*Time* 10:24
Sample Numbers		*[All]*

Sample Number	**P82566-1**	**P82566-2**
QC Link		
Locator	**HP1 COMP**	**HP1 COMP**
Short Loc Desc		
Locator Desc	HPBSM1 composite	HPBSM1 composite
Site	I-5TAPE	I-5TAPE
Comments	Treated Stormwater Composite - HP1 Mix T3	Treated Stormwater Composite - HP1 Mix T4
Start Date/Time		
End Date/Time		
Time Span		
Sample Depth		
CLIENT LOC		
COND, FIELD		
DO, FIELD		
PH, FIELD		
REDOX, FIELD		
SAMP INFO		
SAMP TEMP		
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 423566	Project No.: 422049-100	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 9/27/23	Receive Date: 9/29/23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
275	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

Out of filtration hold for DOC and NH3

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / ~~HG-CVAA-M~~ (T / D) / pH < 2 w/ ULTRA HNO_3	☑ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) (N)	Y / N (NA)	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

Appendix C - Chemistry Report

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: _____

Login: P82567
Project: 422040-100

6PPDQ Bioretention HP2 comp

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	Date 9/26/23	Time 1805
Received by	Date 9-27-23	Time 8:00
Sample Numbers		[All]

Sample Number	**P82567-1**	**P82567-2**
QC Link		
Locator	**HP2 COMP**	**HP2 COMP**
Short Loc Desc		
Locator Desc	HPBSM2 composite	HPBSM2 composite
Site	I-5TAPE	I-5TAPE
Comments	Treated Stormwater Composite - HP2 Mix T3	Treated Stormwater Composite - HP2 Mix T4
Start Date/Time	09/26/23 / 1725	→ / 1726
End Date/Time		
Time Span		
Sample Depth		
CLIENT LOC		
COND, FIELD	412.7	412.9
DO, FIELD	9.49	9.47
PH, FIELD	7.03	7.03
REDOX, FIELD	-7.1	-7.1
SAMP INFO		
SAMP TEMP	12.459	12.459
Dept, Matrix, Prod (Cont ID)		3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 82567-2	Project No.: 422040-100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 9-26-23	Receive Date: 9-27-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	1

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
277	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

1) Samples stored overnight in cooler #9
GRRDO bottles taken by Aquatox prior to SM arrival

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / (N)	Y / N / (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: _____

Appendix C - Chemistry Report

Login: P82568
Project: 422040-100

6PPDQ Bioretention HP3 comp

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 09-29-23	*Time* 10:24
Received by	*Date* 9/29/23	*Time* 10:24
Sample Numbers 1-2		*[All]*

Sample Number	**P82568-1**	**P82568-2**
QC Link		
Locator	**HP3 COMP**	**HP3 COMP**
Short Loc Desc		
Locator Desc	HPBSM3 composite	HPBSM3 composite
Site	I-5TAPE	I-5TAPE
Comments	Treated Stormwater Composite - HP3 Mix T3	Treated Stormwater Composite - HP3 Mix T4
Start Date/Time		
End Date/Time		
Time Span		
Sample Depth		
CLIENT LOC		
COND, FIELD		
DO, FIELD		
PH, FIELD		
REDOX, FIELD		
SAMP INFO		
SAMP TEMP		
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 82568	Project No.: 42270-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 9/27/23	Receive Date: 9/29/23	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	Y / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -0
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

279

COMMENTS / NOTIFICATIONS

Samples recieved 72 hours after collection out of hold for NH3 and DOC filtration

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon { T / D } / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS ~~HHG-CVAA-M~~ { T / D } / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 (NH3) SI (Documentation)	Y (within 1 day y / n) (N)	Y / N / (NA)	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: SEP 29 '23 1:00

Appendix C - Chemistry Report

.ogin: ~~P81466~~ 82735
Project: 422040-100 SR 10/26/24

6 PPDQ Bioretention 2023 Dosing

FSU TC: _____
LPM: SR

CHAIN OF CUSTODY

Relinquished by	*Date*	*Time*
CURTIS HINMAN	10/16/23	
Received by	***Date***	***Time***
	10/16/23	
Sample Numbers		***[All]***
~~P81466-2~~ 82735-2		

Sample Number	~~P81466-2~~
QC Link	82735-2 SR 10/26/24
Locator	**TEMP**
Short Loc Desc	TEMPLOC
Locator Desc	TEMPORARY LOCATOR
Site	TEMP
Comments	Dosing Water - Dose 5
Start Date/Time	
End Date/Time	
Time Span	
Sample Depth	
Dept, Matrix, Prod (Cont ID)	3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)

CHAIN OF CUSTODY

RELINQUISHED BY	Date	Time
	10/16/23	2:54
RECEIVED BY	Date	Time
	10-16-23	1459

(All)

Login: P82735
Project: 422040-100

6 PPDQ Bioretention 2023 Aging #4

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by Curtis Hinyman	*Date* 10/26/23	*Time*
Received by [illegible]	*Date* 10/26/23	*Time* 12:50
Sample Numbers		*[All]*

Sample Number	**P82735-4**		
QC Link			
Locator	**TEMP**		
Short Loc Desc	TEMPLOC		
Locator Desc	TEMPORARY LOCATOR		
Site	TEMP		
Comments			
Start Date/Time			
End Date/Time			
Time Span			
Sample Depth			
Dept, Matrix, Prod (Cont ID)	3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)		

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 582735-7	Project No.: 423040-100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 10-16-23	Receive Date: 10-16-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: -2
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
282	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

Appendix C - Chemistry Report

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: OCT 16 '23 15:29

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 82735	Project No.: 482010-100	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 10/26/23	Receive Date: 10/26/23	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	Y / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
1	125 mL CWM HDPE:
	125 mL GANM: -4
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM ~~w/H_2SO_4~~: -4
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
283	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -4
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / Si (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / (N)	Y / (N) / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / (NA)	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: [signature]

Date / Time Completed: OCT 26 '23 15:34

Appendix C - Chemistry Report

Login: P82827
Project: 422040-100

6 PPDQ Bioretention 2023 flush

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

	Relinquished by Curtis Hoffman	***Date*** 11/6/23	***Time***
	Received by Anna Bost	***Date*** 11623	***Time*** 12:50
	Sample Numbers P82827-1	116-23	1430 [All]

Sample Number	**P82827-1**
QC Link	
Locator	**NONE**
Short Loc Desc	UNKNOWNLOC
Locator Desc	UNKNOWN LOCATOR
Site	NONE
Comments	
Start Date/Time	11-6-23
End Date/Time	
Time Span	
Sample Depth	
Dept, Matrix, Prod (Cont ID)	3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 22827-1	Project No.: 422040-09	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 11-6-23	Receive Date: 11-6-23	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: —
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
1	250 mL GAWM w/ ~~H_2SO_4~~: —
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: —
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

NOV 06 '23 14:59

SM Signature: _____ Date / Time Completed: _____

285

Appendix C - Chemistry Report

Login: P83407
Project: 422040-100

6PPDQ Bioretention Grabs

FSU TC: 03
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	Date 3/11/2024	Time 0640
Received by JK	Date 3-12-24	Time 8:00
Sample Numbers -1		[All]

Sample Number	P83407-1	P83407-2	P83407-3
QC Link			
Locator	I-5 TAPE	I-5 TAPE	I-5 TAPE
Short Loc Desc			
Locator Desc	Lake Union Ship Canal TAPE	Lake Union Ship Canal TAPE	Lake Union Ship Canal TAPE
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Grab - T0	Stormwater Grab - T1	Stormwater Grab - T3
Start Date/Time	03/10/2024 / 1302	03/11/2024 / 1025	→ / 1823
End Date/Time			
Time Span			
Sample Depth		CB-Ham	CLCEL
CLIENT LOC			
COND, FIELD	1887	1931	1931
DO, FIELD	11.00	11.02	11.05
PH, FIELD	7.25	7.30	7.49
REDOX, FIELD	-0.7	-12.6	-21.5
SAMP INFO			
SAMP TEMP	9.192	~~3.9~~ 3.878	~~4.353~~ 3.943
Dept, Matrix, Prod (Cont ID)	4 LG 6PPDQ (43)	4 LG 6PPDQ (43)	4 LG 6PPDQ (43)

X X

CHAIN OF CUSTODY

RELINQUISHED BY	3/11/24	1830
RECEIVED BY	3-12-24	8:00
SAMPLE NUMBERS	3,4 JK	

2,3

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83407-3,4	Project No.: 422040-100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 3-11-24	Receive Date: 3-12-24	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	1

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
2	250 mL GAWM: 3,4
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
	1L CWM HDPE:
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Samples stored overnight in cooler #11.
Samples 1 and 2 ~~were~~ was delivered directly to Aquatox on 3-11-24

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: MAR 12 '24 08:52

Appendix 28 Chemistry Report

Login: P83408
Project: 422040-100

6PPDQ Bioretention LG COMP-Untreated Storm 3

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 3/12/24 03/11 2024	*Time* 1232
Received by	*Date* 3-12-24	*Time* 1232
Sample Numbers	1-4	*[All]*

Sample Number	**P83408-1**	**P83408-2**	**P83408-3**
QC Link			
Locator	**LG_TANK**	**LG_TANK**	**LG_TANK**
Short Loc Desc			
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Composite - T1 A	Stormwater Composite - T1 B	Stormwater Composite - T1 C
Start Date/Time	3/11/24 1041	→ 1148	→ 1254
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	1472	1470	1472
DO, FIELD	10.50	9.99	10.20
PH, FIELD	7.53	7.57	7.61
REDOX, FIELD	-11.3	-11.9	-19.9
SAMP INFO	START	MID	END
SAMP TEMP	10.720	11.390	11.814
Dept, Matrix, Prod (Cont ID)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)

Pumps started @ 10:15

Login: P83408 | 6PPDQ Bioretention LG COMP-Untreated Storm 3 | FSU TC: _____

Project: 422040-100 | LPM: Susannah Rowles

Sample Number	P83408-4	P83408-5	P83408-6
QC Link			
Locator	LG_TANK	LG_TANK	LAB
Short Loc Desc			IN HOUSE
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Stormwater Composite - T3	Stormwater Composite - T4	Lab dilution water
Start Date/Time	3/11/24 1508	3/12/24 0915	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			**********
COND, FIELD	1474	547.6	**********
DO, FIELD	10.93	10.21	**********
PH, FIELD	7.69	7.420	**********
REDOX, FIELD	-34.7	-14.6	**********
SAMP INFO			**********
SAMP TEMP	6.397	9.91	**********
Dept, Matrix, Prod (Cont ID)		3 LG ALK (52) 3 LG DOC (36) 3 LG NH3 (31) 3 LG TSS (6) 4 LG 6PPDQ (43) 4 LG TROUT-ACUTE (2) 6 LG ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

X Ag+DX →

FREP @ 1510

1470
10.96
7.68
-34.9
6.559

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83408-(1-4)	Project No.: 422040100	Sub-Contracting: Y / N	List Product(s):
Collect Date(s): 3-11-24	Receive Date: 3-12-24	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N	(2)	Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	(1)

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
3	125 mL GANM: 1-3
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
3	250 mL GAWM: 1-3
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
3	1L CWM HDPE: 1-3
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Samples stored overnight in cooler #11

(2) -4 non-physical sample

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / Si (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

MR 12 24 08:51

SM Signature: _____

Date / Time Completed: _____

Appendix C Chemistry Report

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83408-5,6	Project No.: 422040-700	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 3-12-24	Receive Date: 3-12-24	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
2	60 mL CWM HDPE: 5,6
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -5
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
	250 mL GAWM:
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
2	500 mL CWM HDPE: 5,6
	500 mL CWM PP (MICRO):
2	500 mL HDPE (METALS): 5,6
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -5
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: MAR 12 '24 12:44

Appendix C - Chemistry Report

Login: P83409
Project: 422040-100

6PPDQ Bioretention LG-Treated Columns Storm 3

FSU TC: CB
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	Date 03/11/2024	Time ~~03/11/2024~~ 1830
Received by	Date 3-12-24	Time 8:00
Sample Numbers		[All]

Sample Number	P83409-1	P83409-2	P83409-3
QC Link			
Locator	60_40 COL A	60_40 COL B	60_40 COL C
Short Loc Desc			
Locator Desc	60 40 BSM Column A	60 40 BSM Column B	60 40 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - 60_40 Column A - T2	Treated LG - 60_40 Column B - T2	Treated LG - 60_40 Column C - T2
Start Date/Time	3/11/24 1316	→ 1328	→ 1336
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	4-1	4-2	4-3
COND, FIELD	1409	1410	1456
DO, FIELD	10.65	10.79	10.57
PH, FIELD	7.10	7.14	6.94
REDOX, FIELD	2.9	-0.8	6.2
SAMP INFO			
SAMP TEMP	10.470	9.186	9.740
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

Login: P83409 | 6PPDQ Bioretention LG-Treated Columns Storm 3 | FSU TC: _____

Project: 422040-100 | LPM: Susannah Rowles

Sample Number	P83409-4	P83409-5	P83409-6
QC Link			
Locator	HP1 COL A	HP1 COL B	HP1 COL C
Short Loc Desc			
Locator Desc	HP1 BSM Column A	HP1 BSM Column B	HP1 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - HP1 Column A - T2	Treated LG - HP1 Column B - T2	Treated LG - HP1 Column C - T2
Start Date/Time	3/11/24 1349	→ 1359	→ 1407
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	1-1	1-2	1-3
COND, FIELD	1309	1312	1300
DO, FIELD	10.62	10.58	10.92
PH, FIELD	7.23	7.19	7.25
REDOX, FIELD	-10.4	-8.4	-11.9
SAMP INFO			
SAMP TEMP	9.621	9.998	8.380
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

SAND Layer

Login: P83409 **6PPDQ Bioretention LG-Treated Columns Storm 3** **FSU TC: _____**

Project: 422040-100 **LPM: Susannah Rowles**

Sample Number	**P83409-7**	**P83409-8**	**P83409-9**
QC Link			
Locator	**HP2 COL A**	**HP2 COL B**	**HP2 COL C**
Short Loc Desc			
Locator Desc	HP2 BSM Column A	HP2 BSM Column B	HP2 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - HP2 Column A - T2	Treated LG - HP2 Column B - T2	Treated LG - HP2 Column C - T2
Start Date/Time	3/11/24 1419	→ 1424	→ 1431
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	2-1	2-2	2-3
COND, FIELD	1254	1242	1287
DO, FIELD	8.20	8.69	9.97
PH, FIELD	7.54	7.55	7.52
REDOX, FIELD	-21.5	-22.5	-22.7
SAMP INFO			
SAMP TEMP	9.962	9.176	8.887
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

Polishing Layer

Login: P83409 | 6PPDQ Bioretention LG-Treated Columns Storm 3 | FSU TC: _____

Project: 422040-100 | LPM: Susannah Rowles

Sample Number	P83409-10	P83409-11	P83409-12
QC Link			
Locator	HP3 COL A	HP3 COL B	HP3 COL C
Short Loc Desc			
Locator Desc	HP3 BSM Column A	HP3 BSM Column B	HP3 BSM Column C
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Treated LG - HP3 Column A - T2	Treated LG - HP3 Column B - T2	Treated LG - HP3 Column C - T2
Start Date/Time	3/11/24 1441	→ 1448	→ 1456
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	3-1	3-2	3-3
COND, FIELD	1276	1275	1257
DO, FIELD	8.56	8.17	8.83
PH, FIELD	7.67	7.62	7.55
REDOX, FIELD	-28.1	-25.3	-25.4
SAMP INFO			
SAMP TEMP	8.362	9.175	9.247
Dept, Matrix, Prod (Cont ID)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG TSS (6) 4 LG 6PPDQ (43)

polishing layer

~~Leonardite layer~~

Compost

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 23409-(1-12)	Project No.: 422040-100	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 3-11-24	Receive Date: 31224	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	(1)

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
	125 mL GANM:
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
12	250 mL GAWM: 1-12
	250 mL GAWM w/ H2SO4:
	300 mL WDO (6 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
12	1L CWM HDPE: 1-12
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: MAR 12 '24 08:48

Login: P83410
Project: 422040-100

6PPDQ Bioretention 60:40 comp Storm 3

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date*	*Time*
	3/12/24	1232
Received by	*Date*	*Time*
	3-12-24	1232
Sample Numbers		*[All]*

Sample Number	**P83410-1**	**P83410-2**	
QC Link			
Locator	**60_40 COMP**	**60_40 COMP**	
Short Loc Desc			
Locator Desc	60_40 BSM composite	60_40 BSM composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - 60:40 Mix T3	Treated Stormwater Composite - 60:40 Mix T4	
Start Date/Time	3/11/24 1338	3/12/24 0930	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	1410		
DO, FIELD	10.74	11.22	
PH, FIELD	7.07	7.295	
REDOX, FIELD	4.0	-12.7	
SAMP INFO			
SAMP TEMP	9.402	11.22	
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	

FREP @1339

14.10
10.75
7.08
9.416

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83410-2	Project No.: 42040-100	Sub-Contracting: Y (N)	List Product(s):
Collect Date(s): 3-12-24	Receive Date: 3-12-24	Changes: Y (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	Y / N		Volumes	Y / N	
Container	Y / N		Holding Times	Y / N	
Temperature (w/ ice)	Y / N / NA		Delivery Location	Y / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: -2
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) / N	Y / N / NA	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: MAR 12 24 12:46

Appendix C - Chemistry Report 298

Login: P83411
Project: 422040-100

6PPDQ Bioretention HP1 comp Storm 3

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 3/12/24	*Time* 1232
Received by	*Date* 3-12-24	*Time* 1232
Sample Numbers		*[All]*

Sample Number	**P83411-1**	**P83411-2**	**P83411-3**
QC Link			
Locator	**HP1 COMP**	**HP1 COMP**	**LAB**
Short Loc Desc			IN HOUSE
Locator Desc	HPBSM1 composite	HPBSM1 composite	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Treated Stormwater Composite - HP1 Mix T3	Treated Stormwater Composite - HP1 Mix T4	Lab dilution water
Start Date/Time	3/11/24 1410	3/12/24 0925	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			**********
COND, FIELD	1300	484.1	**********
DO, FIELD	10.76	10.68	**********
PH, FIELD	7.24	7.425	**********
REDOX, FIELD	-9.4	-4.1	**********
SAMP INFO			**********
SAMP TEMP	9.234	10.53	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

SR
2/22/24

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83411-3	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 3-12-24	Receive Date: 3-12-24	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: -2
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☑ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	(Y) (within 1 day y / n) / N	Y (N) NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

MAR 12 '24 12:47

SM Signature: _____ Date / Time Completed: _____

Appendix C - Chemistry Report

Login: P83412
Project: 422040-100

6PPDQ Bioretention HP2 comp Storm 3

FSU TC: CB
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	Date 03/11/2024	Time 1830
Received by	Date 3-12-24	Time 8:00
Sample Numbers		[All]

Sample Number	P83412-1	P83412-2	
QC Link			
Locator	HP2 COMP	HP2 COMP	
Short Loc Desc			
Locator Desc	HPBSM2 composite	HPBSM2 composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - HP2 Mix T3	Treated Stormwater Composite - HP2 Mix T4	
Start Date/Time	3/11/24 1436 →	1816	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	1264	1273	
DO, FIELD	9.18	11.25	
PH, FIELD	7.56	7.47	
REDOX, FIELD	-22.8	-15.8	
SAMP INFO			
SAMP TEMP	8.864	7.08	
Dept, Matrix, Prod (Cont ID)		3 LA DOC (36) 3 LA TSS (6) 4 LA 6PPDQ (43)	

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83412-2	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 3-11-24	Receive Date: 3-12-24	Changes: Y / (N)	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	(1)

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
	60 mL CWM HDPE:
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: -2
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
	500 mL CWM HDPE:
	500 mL CWM PP (MICRO):
	500 mL HDPE (METALS):
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

(1) Samples stored overnight in Cooler #11

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☐ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / Si (Documentation)	Y (within 1 day y / n) / N	Y / N / NA	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N / (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and ~~TOTSULFIDE~~ samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____ Date / Time Completed: MAR 12 '24 08:54

Appendix C Chemistry Report 302

Login: P83413
Project: 422040-100

6PPDQ Bioretention HP3 comp Storm 3

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 3/12/24	*Time* 1232
Received by	*Date* 3-12-24	*Time* 1232
Sample Numbers		*[All]*

Sample Number	**P83413-1**	**P83413-2**	
QC Link			
Locator	**HP3 COMP**	**HP3 COMP**	
Short Loc Desc			
Locator Desc	HPBSM3 composite	HPBSM3 composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - HP3 Mix T3	Treated Stormwater Composite - HP3 Mix T4	
Start Date/Time	3/11/24 1459	3/12/24 0920	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	1273	1473.4	
DO, FIELD	8.88	8.90	
PH, FIELD	7.60	7.306	
REDOX, FIELD	-25.6	-4.3	
SAMP INFO			
SAMP TEMP	8.912	10.19	
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	

LIQUID SAMPLE RECEIPT RECORD

Login Number(s): 83413-2	Project No.: 422040-100	Sub-Contracting: Y / (N)	List Product(s):
Collect Date(s): 3-12-24	Receive Date: 3-12-24	Changes: Y / N	List Parameter(s):

SAMPLE RECEIPT CONDITIONS

CONDITION	Acceptable?	Comment ID	CONDITION	Acceptable?	Comment ID
Labels / Fieldsheets	(Y) / N		Volumes	(Y) / N	
Container	(Y) / N		Holding Times	(Y) / N	
Temperature (w/ ice)	(Y) / N / NA		Delivery Location	(Y) / N	

BOTTLE COUNT (#) AND DESCRIPTION and SAMPLE NUMBERS

#	Bottle Description: Sample Numbers
	40 mL clear vial (VOA):
	60 mL clear glass (PHYTO):
1	60 mL CWM HDPE: -2
	125 mL AWM HDPE:
	125 mL CNM HDPE:
	125 mL CWM HDPE:
1	125 mL GANM: -2
	125 mL GANM w/HCl
	250 mL AWM HDPE:
	250 mL CWM HDPE:
	250 mL CWM HDPE (MICRO):
1	250 mL GAWM: -2
	250 mL GAWM w/ H2SO4:
	300 mL WDO (8 hour HT):
	500 mL AWM HDPE:
1	500 mL CWM HDPE: -2
	500 mL CWM PP (MICRO):
1	500 mL HDPE (METALS): -2
	500 mL HDPE, double-bagged (METALS):
	500 mL Teflon (Hg):
	500 mL Teflon, double-bagged (METALS):
	500 mL GANM / GAWM:
	500 mL Polystyrene Filtration Units (METALS):
	1L AWM HDPE:
1	1L CWM HDPE: -2
	1L CWM PP (MICRO):
	1L GANM:
	1L GCWM:
	1L GAWM w/ H_2SO_4:
	2L CWM HDPE:
	Other:

COMMENTS / NOTIFICATIONS

FIELD PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
BNA / pH 6 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Notify ORG
CN / pH > 12 w/ NaOH within 15 min	☐ Check pH	Y / N	☐ Deliver to CONV
NO23 pH < 2 w/ H_2SO_4	☐ Check pH	Y / N / NA	☐ Preserve by SM
CR(VI) / TOTCR(VI) / pH 9.3 - 9.7 w/ NaOH w/in 15 min	√ field sheet for pH	Y / N	☐ Deliver to CONV
ICP / HG-CVAA-M / pH < 2 w/ HNO_3	☐ Check pH	Y / N	☐ Preserve By SM
O&G / HEM / PHENOL / pH < 2 w/ H_2SO_4	Check documentation	Y / N	☐ Preserve by SM
PHYTOPLANKTON / Lugols	Visually inspect	Y / N	☐ Deliver to MICRO
TKN / COD pH < 2 w/ H_2SO_4 within 15 min	☐ Check pH	Y / N	☐ Preserve By SM
TOC / pH < 2 w/ HCl (NPDES only)	☐ Check pH	Y / N	☐ Preserve By SM
TOTSULFIDE / pH > 9 w/ NaOH, ZnAc	Check documentation	Y / N	☐ Deliver to CONV
WDO / FIXED	Visually inspect	Y / N	☐ Deliver to CONV
Other:			

ROUTINE SM PRESERVATION CHECKLIST (Circle and/or check applicable selections)

PRODUCT / Preservation	SM Action	Acceptable?	Corrective Action
Chlorinated Pesticides / pH 5 - 9 w/ H_2SO_4 or NaOH	√ field sheet for F. pH	Y / N	☐ Adjust pH
HG-CVAA-L-Teflon (T / D) / pH < 2 w/ ULTRA HCl	☐ Preserve & deliver	NA	NA
ICPMS / HG-CVAA-M (T / D) / pH < 2 w/ ULTRA HNO_3	☑ Preserve & deliver	NA	NA
TOC / pH < 2 w/ HCl	☐ Preserve & deliver	NA	NA
Other:			
Other:			

INTERFERENCE TEST (Circle and/or check applicable selections)

Product / Interference (SM Action)	Positive Test?	Treated	Corrective Action
BNA / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to ORG
CN / Chlorine (Check documentation)	Y / N / not tested	Y / N	☐ Deliver to CONV
CN / Sulfide (Check field sheet for DF)	Y / N / not tested	Y / N	☐ Deliver to CONV
VOA / Chlorine (Check documentaion)	Y / N / not tested	Y / N	☐ Deliver to ORG
Other:			

HEADSPACE CHECK

PRODUCT (SM Action)	Check For	Acceptable?	Corrective Action
MICRO (Visually inspect)	Headspace (@ 1")	Y / N	☐ Notify MICRO
TOTSULFIDE (Visually inspect)	Headspace (< 1")	Y / N	☐ Notify CONV
VOA (Visually inspect)	Zero headspace	Y / N	☐ Notify ORG
WDO (Visually inspect)	Zero headspace	Y / N	☐ Notify CONV
Other:			

FIELD FILTRATION CHECKLIST (Circle and/or check applicable selections)

Product (SM Action)	Field Filtered	Field Blank	Corrective Action
ORTHOP (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N	☐ Deliver to CONV
NO2 / NO3 / NO23 / NH3 / SI (Documentation)	(Y) (within 1 day y / n) / N	Y / N (NA)	☐ Deliver to CONV
Dissolved Metals (Check Field Sheet)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to METALS
DOC (Deliver / Notify Unit)	Y (within 15 min or 1 day) (N)	Y / N (NA)	☐ Deliver to CONV
DCOD / CR(VI) (Deliver / Notify Unit)	Y (within 15 min y / n) / N	Y / N / NA	☐ Deliver to CONV
Other:			
Other:			

CC: ☐ AQUATOX, ☐ CONV, ☐ METALS, ☐ MICRO, ☐ ORG, ☐ _____

NOTES

1. Deliver dissolved Hg-CVAF samples to METALS for filtration.
2. Deliver double-bagged metals samples to METALS for preservation.
3. Do not test pH for preserved BNA and TOTSULFIDE samples.
4. Deliver pH, WDO, and all MICRO samples ASAP to appropriate section for immediate processing.
5. Enter " Time Span" for composite samples during sample login.
6. Split algae sample into 60 mL clear glass if PHYTOQUAL is requested.

SM Signature: _____

Date / Time Completed: MAR 12 '24 12:52

Appendix C - Chemistry Report 304

Appendix – D: D5.1-2 Toxicology Report

Author: Francis Sweeney, King County Environmental Lab

1. Corrective action to meet QAPP requirements.....1
2. 48h Fathead Minnow toxicity test 60:40 BSM filtrate.....3
3. Toxicology data storm 1 (04/19/2023).....5
4. Toxicology data storm 2 (09/27/2023).....38
5. Toxicology data storm 3 (03/12/2024).....70

Customer Notification Memorandum

September 26, 2023

To: Jenee Colton

From: Fran Sweeney FS 9/26/23

Subject: Memo to project file, Bioretention

Background

In December of 2022 eyed coho embryos were picked up at the Issaquah Hatchery under a F&W transfer permit . Sufficient number of embryos were received for the following testing prior to June 30th to meet QAPP requirements:

- 3 sampling events of Control, Raw, 60/40, Type 1 and Type 3
- 1 reference toxicant test.

Fish were available for stormwater testing from February 15th to June 30th with one stormwater test on April 19th and one Reference Toxicant test on May 12th . The remaining fish were then held from June 30th until September 27th. Due to the extended holding period and increase in the fish age and size, a second reference toxicant test is needed to validate the results of the September 27th stormwater test. This depletes the current stock of coho after two stormwater tests.

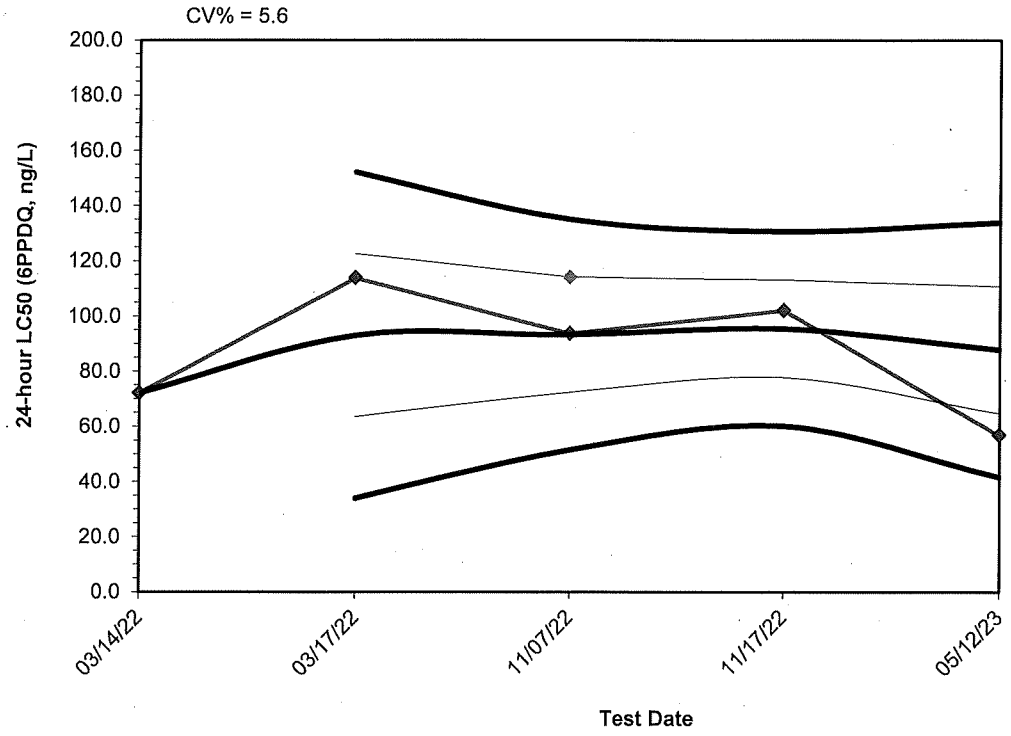
Immediately after the fish are removed from the holding system, electrical upgrades and preventative maintenance will be performed on the fish holding system in preparation for 2024.

Correct Action to meet QAPP requirements for 3 events.

A transfer permit has been obtained for eyed embryos from Issaquah in early December 2023. Additional coho for a third project testing event will be available approx. February 15th to June 30th, 2024. This will complete the final third test required by the QAPP.

Attachment: Coho 6ppd-q LC50 control chart

Control Chart for Acute Reference Toxicant Tests with Coho 24-Hour Survival LC50 (6ppdq ng/L)



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/14/22	72.20	72.2000				
03/17/22	114.00	93.1000	63.5429	33.9859	122.6571	152.2141
11/07/22	93.7	93.3000	72.3971	51.4943	114.2029	135.1057
11/17/22	102.2	95.5250	77.8873	60.2496	113.1627	130.8004
05/12/23	56.90	87.8000	64.7415	41.6830	110.8585	133.9170

6

Pre-Spawn Mortality, Stormwater Project #: 422040-100 Test # 10499
48-hour Acute Test, Fathead Minnow Test Date 230329

ORGANISMS

7 day old larvae (Hatch date: 3-20-2023) purchased from ABS Shipped via FedEx Arrived at KCEL as 8 days old at 1000 h on 3-28 in 1 double plastic bag 0 dead removed. At arrival: pH 7.482, D.O. 11.4 mg/L, Temp 18.0. Placed in 3 1.5L crystallizing dishes. Fed 3 mL *Artemia* nauplii/dish at 1135 h. Placed in 25 °C waterbath at 1130 h with light aeration. Replaced 60 % with WW 3-21. Fed 3ml/dish @1400h on 3-28, Fed 4 ml/dish @1705h on 3-28 on 3-28. Water exchange (x75%) & fed 4 ml/dish @1030h on 3-29 (FS)

DILUTION WATER/SAMPLES

1. Code: Blue Control: Well Water (WW) 3-21, filtered to 0.45 µm. +diluted 30% w/MilliQ
2. Sample: Composite 60/40 Bioretention media filtrate (WW filtered through column containing 60/40 media) by Curtis Hinman of WWU.

Sample Data		Day 0		
Sample #:		L81297-1 ~~LHMS~~ WLGP #WG		
Collect Date:		3/29/23 to —		
Time:		h to		h
By:		Christopher Barnes		
Auto Sample Set (Flow-Paced):		NA mL/		min
Est. Flow/#Smpls:		NA mgd/		
Delv'd to KCEL Date:		3-29-2023		
Time:		1550		
By:		C. Barnes		
# Container(s)/ Type:		1x 5gal teflon-coated plastic carboy		
Vol. (L):		5gal		
In Field:	pH/ Temp/ TRC	— °C	—	mg/L
At KCEL:	pH/ Temp/ D.O.	7.208/7.173	4.2 °C	10.39 mg/L
Storage:		In dark at 4 ± 2°C		

346.3 mV REDOX

3. **Sample Dilutions**

Code	% Sample	mL Sample	mL WW
White	100	Sample only	0
Red	50	Dispense half	⊆ 1000
Orange	25	"	⊆ 1000
Yellow	12.5	"	⊆ 1000
Green	6.25	"	⊆ 1000
Blue	0	0	WW only

Preliminary Data FS

Pre-Spawn Mortality, Stormwater Project #: 422040-100 Test # 10499
48-hour Acute Test, Fathead Minnow Test Date 230329

PROCEDURE

1. Add 200 mL each treatment to each of 5 (five) 250-mL beakers (reps A → D for fish, plus 1 additional beaker per treatment for WQ).
2. Place beakers randomly in water bath (Bath # B); bring solutions to 25°C.
3. Add 10 fish/beaker directly into solutions using nylon screen; rinse w/DW between beakers.
4. **Start** test at 1655 h on 3-29-2023. Start counts verified by JZ & JA. Sample for 0h water quality: ✓ Acidify: — Analyst: JA. Place HOBO/Tidbit temp recorder (SN 10680548) in beaker w/DW into water bath # B.
7. Record # survivors and remove dead larvae daily. Measure temperature daily in 1 rep/treatment and in 6 positions (4 corner + 2 center beakers). Measure pH and D.O. in WQ rep daily for each treatment; return to water bath.
9. **End** test at 1600 h on 3-31-2023 by JA.
10. Measure temp and record survival. Sample for ~~96~~ 48 hour WQ: _____ Acidify: —— Analyst: JA.

MEASUREMENTS

Cumulative % Survival (# Alive / Rep)

	%	24h				48h				Tot #	%
Code	Smpl	A	B	C	D	A	B	C	D	Alive	Surv*
Blue	0	10	10	10	10 1s	10	9	10	10	39	98
Grn	6.25	9	10	10	10	9 1s	10	10	10	39	98
Yel	12.5	10	10	10	10	10	10	10	9	39	98
Or	25	10	10	10	10	10	10	10 1s	10	40	100
Red	50	10	10	10	9	10	10	10 1s	9	39	98
Wh	100	10	10	9	10	10	10 9	9	10	38	95
Analyst:		JA				JA				—	—

s = stressed
*Pass if control survival ≥ 90%

* Preliminary Data * FS

CHEMISTRY

le	% Sample	pH 0 h	pH 24 h	pH 48 h	D. O. mg/L 0 h	D. O. mg/L 24 h	D. O. mg/L 48 h
e	0	8.225 / 8.23	8.465	8.093	8.5	7.8	7.2
en	6.25	8.149 / 8.17	8.500	8.118	9.0	8.06	7.4
low	12.5	8.034	8.518	8.137	9.0	8.22	7.4
nge	25	7.802	8.521	8.117	9.2	8.12	7.3
	50	7.548	8.525	8.131	9.4	8.18	7.3
te	100	7.271	8.504	8.151	9.8	7.96	7.3
	Analyst:	JA	JZ	JA	JA	JZ	JA

	REDOX 24hr	48hr
Blue	196.6	
Green	197.9	
Yellow	199.4	
Orange	200.8	

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King County

Department of Natural Resources and Parks
Water and Land Resources Division
Environmental Laboratory, LAB-NR-0100
322 West Ewing Street
Seattle, WA 98119-1507
206-477-7200 Fax: 206-684-2395

May 1, 2024

Jenee Colton
Water Quality Planner IV
Supervisor of Toxicology and Contaminant Assessment Unit
KSC-NR-5600

Dear Jenee:

The following report summarizes the results of the 24 toxicity tests with Coho initiated on 4/19/23 on stormwater samples and 3 samples of stormwater passed through different bioretention media (LIMS # L81426-6. L81428-2, L81429-2, L81431-2). Detailed findings are in the Results section of the attached report. The tables below show a summary of the test results.

Coho Salmon Tests

TEST #10517	**Lab Code**	**6PPD-Q ug/L**	**Percent Survival %**
L81426-6	Well Water Control	<MDL	100
L81426-5	Untreated Stormwater	0.754	5
L81428-2	60% sand/ 40% Compost	0.0044	100
L81429-2	Type 1	0.0025	100
L81431-2	Type 3	<MDL	100

MDL=0.002 ug/L

As shown in the table above, survival was 100% at 24 hours in samples L81428-2, L81429-2, L81431-2 at both concentrations. Survival was 5% in the untreated stormwater of L81426-5.

If you would like additional information, please call myself or Fran Sweeney at 206-477-7117.

Sincerely,

DocuSigned by:
John Zalusky
7163C30874B34AA...

5/2/2024

John Zalusky
King County Environmental Laboratory

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COHO TESTING HIGH PERFORMANCE BIORETENTION MEDIA BLENDS
PROJECT # 422040-100

KING COUNTY DEPARTMENT OF NATURAL RESOURCES AND PARKS
WATER AND LAND RESOURCES DIVISION
ENVIRONMENTAL LABORATORY SECTION
322 WEST EWING STREET
SEATTLE, WASHINGTON 98119-1507

Test Dates: April 19, 2023
KCEL Test Numbers: #10517
(*Oncorhynchus kisutch*: 24-Hour Acute Test)
Report Date: June 27, 2023, Revised May 1, 2024

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SAMPLE

A sample of stormwater (L81426-5) and three samples of stormwater filtered through High Performance Bioretention Media, HPBRM, (L81428-2, L81429-2, L81431-2) were received by the King Country Environmental Laboratory on 4/19/23. The samples were received in 20-L FDPE carboys and stored in the dark at 12 ±2.0°C until test initiation.

CONTROL WATER

The control water for the test with Coho Salmon was freshwater obtained from a 95-ft. deep well located at the KCEL. Test organisms (Coho Salmon) were acclimated in a flow-through system of chilled well water (WW).

For the test, WW was diluted 30% with Milli-Q RO water to maintain the hardness at approximately 80-100 mg/L as $CaCO_3$. The WW is analyzed for metals annually (last analyzed 2-2023) and organics are measured annually (last analyzed on 2-2023). Hardness, alkalinity, conductivity and pH are measured at the beginning of each test.

METHODS

The acute toxicity tests #10517 were conducted as outlined in US EPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. 5th edition. EPA-821-02-012, October 2002. The specific method code is EPA 2019. Coho embryos are only available from the Issaquah Hatchery in December of each year. Therefore, compromises in fish age and loading rates may be necessary to complete the planned 3 events.

Test Organisms

Swim-up (swim-up on 2/20/23; hatch date 02/3/23 for test 10517) Coho salmon (*Oncorhynchus kisutch*) eggs were received from Issaquah Hatchery located in Issaquah, Washington on 12/16/22. The eggs were raised in a chilled well water flow-through system until they reached the juvenile life stage. During the juvenile life stage, the fish were held at 12.5 °C. Food was withheld from the fish for 48-hours prior to test initiation.

Physical data on salmon used in the tests is shown in the table below.

Test #	Age (days-post swim-up at start of test)	Mean Standard Length (cm)	Mean Weight (grams)	Loading Wt./Vol. (g/L)
10517	58	3.9	0.69	0.69

As indicated in the table the mean weight of the salmon used in the tests was 0.69 g with a mean standard length of 3.9 cm for tests 10517. The mean loading rate in each jar was 0.69 g/L.

Coho Salmon – 24-Hour Static Acute Toxicity Tests

Test chambers were 6-L glass jars, and the jars were partially covered during the test.

Samples of stormwater and each HPBRM sample was transported to KCEL in FDPE carboys packed in ice. Diluted well water was stored in an FDPE carboy with light aeration. The solutions were maintained at 12 ± 2.0°C in an environmental chamber (Hotpack Model 06082, S/N 79718) for approximately 12 hours (overnight) prior to test initiation. The D.O. of each solution at the start of the test was > 80% saturation (> 8.3 mg/L at 12°C).

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At test initiation, 5.0 L aliquots were measured into 7 L glass jars. The glass jars were randomly placed in the same environmental chamber used to store solutions overnight. Five Coho salmon were placed randomly into each test jar.

Survival was monitored during the test and recorded at hourly for the first 9 hours of the test and again at 24-hours. Dissolved Oxygen, Temperature and pH were recorded in each test and control jar at 0 and 24 hours. Test solutions were not renewed during testing. Total alkalinity and hardness were sampled in all concentrations at 0h. Conductivity was measured at 0h and 24h. The photoperiod was 16h L:8h D. The tests (#10517) were initiated at 0823h on 04/19/2023 and ended at 0832h on 02/20/2023.

QUALITY ASSURANCE

Reference Toxicant Test – 24-Hour Static Acute Toxicity Tests

The 24-hour reference toxicant test with Coho (Tests #) using the same respective lot of fish as the standard test was conducted. Test jars were 20-L glass jars. Six fish were placed randomly in each test jar of 6L test solution. The test was initiated at 1101h on 5/11/2023 and ended at 1058h on 5/12/2023. 6PPD-Q was used as a reference toxicant for Coho salmon. The precision table located at the end of this report is maintained to monitor the sensitivity of these organisms to the reference toxicant and thereby provide an indication of their overall sensitivity to other compounds. Quality assurance test parameters are summarized in the table below:

Parameter	Measured	Criterion	Acceptable?
Control Survival%:	100	90	Yes
Survival LC50 ng/L:	56.9	within lab C.L.'s	Yes
Lab Control Limits:	10.87 – 198.16		

The LC50's for the reference toxicant test was 56.9 ng/L and was within current laboratory control limits.

Temperature, pH and dissolved oxygen measurements remained within acceptable limits (US EPA, 2002) throughout this reference toxicant test, and the test met acceptability criteria regarding control survival (US EPA 2002).

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RESULTS

Coho Salmon (Test #10517)

The following table contains survival percentages during the 24-hour tests in which Coho salmon were exposed to dilution water (WW controls) or to stormwater and stormwater treated with different HPBRM blends.

TEST #10517	Sample Name	Measured 6PPD-Q Concentration (µg/L)	Percent Survival (%) 24 h	Number Dead	Number of Fish Tested
L81426-6	Negative Control	<MDL	100	0	20
L81426-5	Untreated Stormwater	0.754	5	19	20
L81428-2	60/40 Mixture	0.0044	100	0	20
L81429-2	Treatment 1	0.0025	100	0	20
L81431-2	Treatment 3	<MDL	100	0	20

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Water Quality

The following tables contain measurements of temperature, pH and dissolved oxygen taken throughout the 24-hour tests. Measurement of Total Hardness, Total Alkalinity and Conductivity are taken from samples collected at the beginning (0-h) of the tests.

Test #10517

Sample:		L81426-6	L81426-5	L81428-2	L81429-2	L81431-2
Parameter		**Well Water**	**Stormwater**	**60/40 Mix**	**Treatment 1**	**Treatment 3**
Temperature (°C)	**Mean**	**12.9**	**12.15**	**12**	**12.9**	**12.45**
	Min.	12.5	11.9	12	12.2	11.8
	Max.	13.3	12.4	-	13.6	13.1
pH	**Mean**	**8.097**	**7.552**	**7.438**	**7.823**	**8.041**
	Min.	7.98	7.52	7.35	7.70	7.94
	Max.	8.22	7.58	7.53	7.94	8.14
D.O. (mg/L)	**Mean**	**9.315**	**9.48**	**8.94**	**9.645**	**8.87**
	Min.	8.68	8.68	8.2	8.82	8.21
	Max.	9.95	10.28	9.68	10.47	9.53
Tot. Hard (mg/L as CaCO3)	0h	96.7	118	108	63.9	32.4
Tot. Alk (mg/L as CaCO3)	0h	69.4	60.4	67.4	45.4	31.5
DOC (mg/L)	0h	-	8.52	12.1	3.14	1.9
NH3 (mg/L)	0h	0.053	0.164	0.141	<MDL	0.0061
TSS (mg/L)	0h	-	384	12.3	5.2	13.3
6PPD-Q	0h	<MDL	0.754	0.0044	0.0025	<MDL
Cond (µmhos/cm)	**Mean**	233.35	457.15	443.3	377.55	331.8
	0h	231.8	457.6	442.6	376.3	329
	24h	234.9	456.7	444	378.8	334.6
ORP (mV) Field Probe	0h	-38.2	-16.1	-24.3	- 6.6	- 16.5

Additional water quality and QC data are listed on the attached photocopied pages from the laboratory notebook. The MDL for 6PPD-Q analysis was 0.002 ug/L.

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Quality Control

Temperature remained within the acceptable limits of 12 ± 2 °C during the test. pH and dissolved oxygen measurements remained within acceptable limits (US EPA 2002) throughout the test, and the test met acceptability criteria regarding control survival (US EPA 2002).

TESTED BY:
King County Environmental Laboratory
322 West Ewing Street
Seattle WA 98119-1507

REFERENCES

APHA. 2017. Standard Methods for the Examination of Water and Wastewater, 23rd Edition. June 2017. Eds: E.W. Rice, R.B. Baird, A.D. Eaton. American Public Health Association, American Waterworks Association, Water Pollution Control Association. Washington D.C.

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WA DOE. 2021. Biological Testing Methods for the designation of Dangerous Waste. DOE 80-12, revised February 2021. Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Program, Olympia, WA.

US EPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. 5th edition. EPA-821-02-012, October 2002. US Environmental Protection Agency, Office of Water (4303T), Washington, DC.

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Coho Toxicity Test

Bench Sheets and Behavioral Notes

Unionized ammonia calculations

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q)
Coho Salmon

Test #: 10517
Test Date: 19-04-23

ORGANISMS

From Supplier:

~500 eggs fish received from Issaquah Hatchery Lot # (Swim-up date): 02-20-23 Shipped via Hand Arrived at KCEL at — h on 12/16/22 in Wet paper/Foam box.
1 dead removed. (Received Day)
At Arrival: pH 7.03 I, D.O. 12.66 mg/L, Temp 3.8 °C. Into Tank # L5 Hold in tank with new well water and aeration for 5 8* days. Feed 2X/day with Trout Startin.
Refer to culture log for feeding & holding information.

From Lab Culture *post swim up

Swim Up Date	Holding Tank pH	Holding Tank Temp	Holding Tank DO
20-02-23	8.366	12.8	10.68

Fast the organisms for 48 hours before testing. - Living stream

Control Media Preparation

1. New Well Water (NWW) —, filtered through nylon netting and 0.335 mm poly screen. Dilute 30% w/ MilliQ.
2. Adjust pH using HCL or Acetic Acid (white vinegar) to within ± 0.250 pH of the holding tank pH.
3. Want D.O. @ 90-100% saturation (9.8-10.7 mg/L) before introducing fish. Aerate with O_2.

Stormwater Media Preparation

1) Received Media at (Date/Time): 19-APR-23/09:29. Media was transported in FLPE 20L CAR BOYS PACKED IN ICE HELD IN 12°C EC
2) Record pH and DO of each media type at time of receipt

0630 / 0800

Media Type	pH	Temp	DO	ORP	SW / Cond.
Well Water	7.977	12.5 / 12.8	9.95	218.3	0.03 / 231.8
TYPE 3	8.137	9.35 / 11.8	9.53	246.1	0.08 / 329.0
TYPE 1	7.944	8.79 / 12.2	10.42	259.0	0.11 / 376.3
60-40	7.345	9.12 / 12.0	9.68	282.1	0.14 / 442.6
UNTREATED	7.521	9.22 / 11.9	10.28	230.4	0.15 / 457.6
		FS			

PROCEDURE

1. Place each media in EC #8446, EAST & WEST shelf. Set the EC to 13 °C, each media should reach 13 °C before testing.
2. Measure D.O. 10.12 mg/L at 12°C. Aerate if not 90-100% saturated (9.7 – 10.8 mg/L @ 13°C). Aeration: O_2 @ — L/min for overnight sec.
3. Fill each jar with 5L of media type.
4. Take 0h sample for pH, DO, Temp, ORP, TSS, Tot. Alk, Tot. Hard, DOC, Cond., and 6PPD-Q by ICMS
   60-40 Mix: L81428-2 Analyst: JZ
   Treated SW 1: L81429-2 Analyst: JZ
   Treated SW 3: L81431-2 Analyst: JZ
   Untreated SW: L81426-5 Analyst: JZ
5. Take 0hr for pH, DO, Temp, ORP, TSS, DOC, and 6PPD-Q by LCMS
   Treated SW 2: L81430-2 Analyst: JZ

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Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10517
Coho Salmon **Test Date:** 19-04-23

l 5 fish per jar using dip net, one at a time to randomize. Counts verified by JZ & FS.
rt test at 09 23 h on 19-APR-23. Measure and record pH, DO, Temp and survival (#
e) daily in all reps/trtmt.
l test at 0832 h on 20-APR-23 by JZ.
e 24h samples for pH, DO, Temp, Tot Alk, Tot Hard, Cond., and 6PPD-Q by ICMS JZ Analyst: —
ALITY MEASUREMENTS

Code (Trtmt)	Rep	# Dead - 24 hours	Total #	Average Mortality Rate	6PPd-Q (ug/L)	Analyst	Notes
Well Water (Negative Control)	A	0		0	LNDL	JZ	
	B	0					
	C	0					
	D	0					
Untreated Storm Water	A	4		95	0.754		
	B	5					
	C	5					
	D	5					
Treated SW Type 1	A	0		0*	0.0025		
	B	0					
	C	0					
	D	0					
Treated SW Type 3	A	0		0	LNDL		
	B	0					
	C	0					
	D	0					
Treated SW 60/40 Mix	A	0		0	0.0044		
	B	0					
	C	0					
	D	0					

s = stressed *Pass if mean control survival ≥ 90%

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q)
Coho Salmon

Test #: 10577
Test Date: 19-04-23

Chemistry

Treatment	pH		D. O. (mg/L)		Cond. (µs/cm)		ORP (mV) *	
	0 h	24 h	0 h	24 h	0 h	24 h	0 h	24 h
Control (WW)	7.977	8.216	9.95	8.68	231.8	234.9	218.3	247.8 (-38.2)
Type-1	7.944	7.701	10.42	8.82	376.3	378.8	259.0	268.6 (-16.1)
Type 3	8.137	7.944	9.53	8.21	329.0	334.6	246.1	272.2 (-24.3)
60-40	7.345	7.530	9.68	8.20	442.6	444.0	282.1	276.3 (-6.6)
SW Untreated	7.521	7.582	10.28	8.68	457.6	456.7	230.4	265.5 (-16.5

* Parentheses are measurements made with Field Unit Probe

Position	Temperature (°C)		Treatment
	0h	24h	
A (left front)	13.5	13.6	TYPE 1 D
B (right front)	11.9	12.3	TYPE 3 B
C (center)	13.2	13.3	CONTROL C
D (center)	12.2	12.7	TYPE 1 A
E (left back)	12.9	13.1	TYPE 3 D
F (right back)	12.0	12.4	SW B
Analyst:	JZ	JZ	

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04-17-23

TEST # 10517

Well Water - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2										NO OBSERVATIONS TAKEN DURING THIS														
Stage 3														TIME										
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2											NO OBSERVATIONS TAKEN DURING													
Stage 3													THIS TIME											
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Table 1
Behavioral sequence for the urban runoff-elicited mortality syndrome in juvenile coho salmon.

	Behavior Characteristics
Stage 1[a]	Asymptomatic. Discrete surfacing events shorter than 0.25 s. Fish swimming within 1 cm of the surface of the exposure tank were scored. Events that only included the tail were not counted.
Stage 2[a]	Short episodes of surface swimming ranging from 0.25-2 s.
Stage 3[a]	Sustained continuous surface swimming. All durations were greater than 2 s, included linear and circular swimming.
Stage 4[a]	Loss of equilibrium including side swimming, inability to stay parallel to the surface, and spiraling.
Stage 5[b]	Loss of buoyancy, as indicated by settlement to the bottom of the tank.
Stage 6[b]	Moribund (near death), exhibiting changes in ventilation rates (i.e., gilling), along with spasms and gaping. Moribund coho were also unresponsive to touch.

[a] visible at the water surface.
[b] visible from the tank bottom.

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TEST # 10517

SW Untreated - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	4	5		1	1	1	1	1	1															4
Stage 2																								
Stage 3			1							—	—	—	—	—	—	—	—	—	—	—	—			
Stage 4			2								NO OBSERVATIONS TAKEN DURING													
Stage 5												THIS TIME												
Stage 6			1	3	3	4	4	4	4													5	—	4

SW Untreated - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	4	2	3	3	8	1																		
Stage 2	1																							
Stage 3										—	—	—	—	—	—	—	—	—	—	—	—			
Stage 4				1																				
Stage 5																								
Stage 6			1	1	3	4	5	5	5													5	—	—

SW Untreated - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	2	2	2	2																				
Stage 2																								
Stage 3										—	—	—	—	—	—	—	—	—	—	—	—			
Stage 4			1																					
Stage 5																								
Stage 6				2	5	5	5	5	5													5	—	—

SW Untreated - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	2	2	5				1																	
Stage 2	1			1	1	1																		
Stage 3										—	—	—	—	—	—	—	—	—	—	—	—			
Stage 4				1				1																
Stage 5				1																				
Stage 6				2	4	4	4	4	5													5	—	—

Table 1
Behavioral sequence for the urban runoff-elicited mortality syndrome in juvenile coho salmon.

	Behavior Characteristics
Stage 1[a]	Asymptomatic. Discrete surfacing events shorter than 0.25 s. Fish swimming within 1 cm of the surface of the exposure tank were scored. Events that only included the tail were not counted.
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Stage 3[a]	Sustained continuous surface swimming. All durations were greater than 2 s, included linear and circular swimming.
Stage 4[a]	Loss of equilibrium including side swimming, inability to stay parallel to the surface, and spiraling.
Stage 5[b]	Loss of buoyancy, as indicated by settlement to the bottom of the tank.
Stage 6[b]	Moribund (near death), exhibiting changes in ventilation rates (i.e., gilling), along with spasms and gaping. Moribund coho were also unresponsive to touch.

[a] visible at the water surface.
[b] visible from the tank bottom.

* SW sample Dark DIFFICULT TO see Fish. Visible Fish Recorded. FS

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04-17-23
TEST # 10517

60/40 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	4	5	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2										NO OBSERVATIONS TAKEN DURING														
Stage 3												THIS TIME												
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	4	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	4	3	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
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[a] visible at the water surface.
[b] visible from the tank bottom.

Reading 9, Day 0 ; Sample cloudy; recorded #visible fish

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04-17-05
TEST # 10517

SW Treatment 1 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	3	3	2	2	3	3	3	3													8	5	
Stage 2										NO OBSERVATIONS TAKEN DURING												2		
Stage 3												THIS		TIME										
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	4	4	2	2	3	2	1	3	2													5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	4	2	2	1	2	3	2	1	1													3	5	5
Stage 2	1	1																				2		
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	2	2	2	2	3	3	1	2													4	5	5
Stage 2																						1		
Stage 3																								
Stage 4																								
Stage 5									1															
Stage 6																								

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[a] visible at the water surface.
[b] visible from the tank bottom.

Reading 9, Day 0: sample cloudy; recorded # visible fish

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04-17-23
TEST #10577

SW Treatment 3 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5	NO OBSERVATIONS TAKEN DURING THIS TIME												5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	3 5	4 5	5 #5	5	5	5	5	5	5													5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	5	5													5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	3 5	5 #5	5	5	5	5	5	5	5													5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

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[b] visible from the tank bottom.

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Coho Toxicity Test

Random # Position

10517
4/17/23

Code	Rep	Random #	Code	Rep	Random #
Well Water	A	6	60/40	A	7
	B	18		B	5
	C	10		C	19
	D	3		D	13
Treatment 1	A	11	Treatment 3	A	15
	B	14		B	20
	C	16		C	8
	D	17		D	1
Untreated Stormwater	A	12			
	B	4			
	C	9			
	D	2			

NOTES

Glassware rinsed with hot tap and DW before use.

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Unionized Ammonia in Bioretention Media Samples - Test # 10517

Chronic Test		Time (d)	pH_{max}	°C	T (°K)	Sal (ppt)	I	$pKa^{(S,298)}$	$pKa^{(S,T)}$	Total Ammonia (mg/L)	NH_3-N, (mg/L)
L81426-6	WW	1	8.216	13.3	286.5	0	0.000	9.241	9.613	0.053	0.002
L81426-5	Untreated SW	1	7.582	12.4	285.6	0	0.000	9.24060	9.64356	0.163	0.001
L81428-2	60/40 Mix	1	7.530	12.0	285.2	0	0.000	9.24060	9.65699	0.141	0.001
L81429-2	Treatment 1	1	7.944	13.6	286.8	0	0.000	9.24060	9.60348	0.000	0.000
L81431-2	Treatment 3	1	8.197	13.1	286.3	0	0.000	9.241	9.622	0.006	0.000

$I = [(19.9273)(Sal)] / [1000 - (1.005109)(Sal)]$

$pKa^{(S,298)} = 9.2406 + (0.12375 \times I)$

$pKa^{(S,T)} = (2729.69/T) + (pKa^{(S,298)} - 9.1345) - (7.1 \times 10^{-5} T)$

$NH_3\text{-}N = Tot\ Amm / [1 + 10^{(pKa - pH)}]$

Temperature data from 4 corners and center

MAX	0.002
MEAN	0.001
MIN	0.000

King County Environmental Lab Analytical Report

Project:	422040-100	422040-100	422040-100
Locator:	LG_TANK	LAB	60_40 COMP
Descrip:	Stormwater tank Hi	LAB CONTROL	60_40 BSM composit
Sample:	L81426-5	L81426-6	L81428-2
Matrix:	LG STORM WTR	LN BLANK WTR	LA OTHR WTR
ColDate:	4/19/23 9:02	4/19/23 0:00	4/19/23 9:29
	WET Weight Basis	**WET Weight Basis**	**WET Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	1.19		0.002	0.01	ug/L						0.0044	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen	0.164		0.01	0.05	mg/L	0.0528		0.002	0.01	mg/L	0.141		0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity	60.4		1	5	mg CaCO3/L	69.4		1	5	mg CaCO3/L	67.4		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	384		8.8	35.1	mg/L						12.3		1.1	4.46	mg/L
CV SM5310-B															
Dissolved Organic Carbon	8.52		0.5	2	mg/L						12.1		1	4	mg/L
ES KCEL SOP# 245															
Conductivity, Field	457.6		0.5	10	umhos/cm						442.6		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.28		0.5	1	mg/L						9.68		0.5	1	mg/L
pH, Field	7.52				pH						7.35				pH
Sample Temperature, Field	11.9				deg C						11.9				deg C
ES NONE															
Oxidation Reduction Potential, Field															
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS	32800		50	50	ug/L	25200		50	50	ug/L	27500		50	50	ug/L
Magnesium, Total, ICP-MS	8810		50	50	ug/L	8210		50	50	ug/L	9480		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc	118		0.331	0.331	mg CaCO3/L	96.7		0.331	0.331	mg CaCO3/L	108		0.331	0.331	mg CaCO3/L

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King County Environmental Lab Analytical Report

Project:	422040-100					Project:	422040-100				
Locator:	HP1 COMP					Locator:	HP3 COMP				
Descrip:	HPBSM1 composite					Descrip:	HPBSM3 composite				
Sample:	L81429-2					Sample:	L81431-2				
Matrix:	LA OTHR WTR					Matrix:	LA OTHR WTR				
ColDate:	4/19/23 9:25					ColDate:	4/19/23 9:17				
	WET Weight Basis						**WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**		**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ KCEL SOP 4077: 6PPDQ by LCMS											
6ppd-quinone	0.0025	<RDL	0.002	0.01	ug/L			<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997											
Ammonia Nitrogen		<MDL	0.002	0.01	mg/L		0.0061	<RDL	0.002	0.01	mg/L
CV SM2320-B											
Total Alkalinity	45.4		1	5	mg CaCO3/L		31.5		1	5	mg CaCO3/L
CV SM2540-D											
Total Suspended Solids	5.2		0.5	2	mg/L		13.3		0.5	2	mg/L
CV SM5310-B											
Dissolved Organic Carbon	3.14		0.5	2	mg/L		1.9	<RDL	0.5	2	mg/L
ES KCEL SOP# 245											
Conductivity, Field	376.3		0.5	10	umhos/cm		329		0.5	10	umhos/cm
Dissolved Oxygen, Field	10.42		0.5	1	mg/L		9.53		0.5	1	mg/L
pH, Field	7.94				pH		8.14				pH
Sample Temperature, Field	12.2				deg C		11.8				deg C
ES NONE											
Oxidation Reduction Potential, Field											
MT EPA 200.8 (MOD)											
Calcium, Total, ICP-MS	14700		50	50	ug/L		8200		50	50	ug/L
Magnesium, Total, ICP-MS	6600		50	50	ug/L		2890		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B											
Hardness, Calc	63.9		0.331	0.331	mg CaCO3/L		32.4		0.331	0.331	mg CaCO3/L

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Reference Toxicant Test:

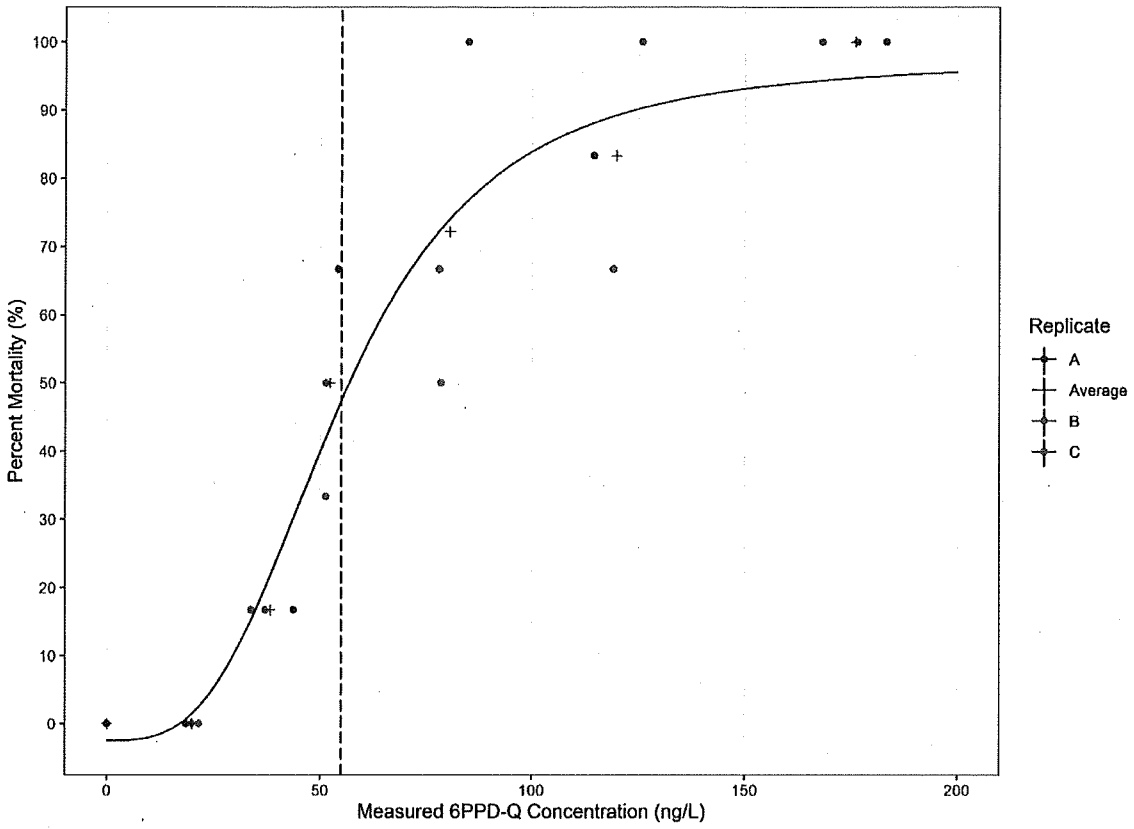
Statistics

Bench Sheets

Control Chart

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Reference Toxicant Statistics

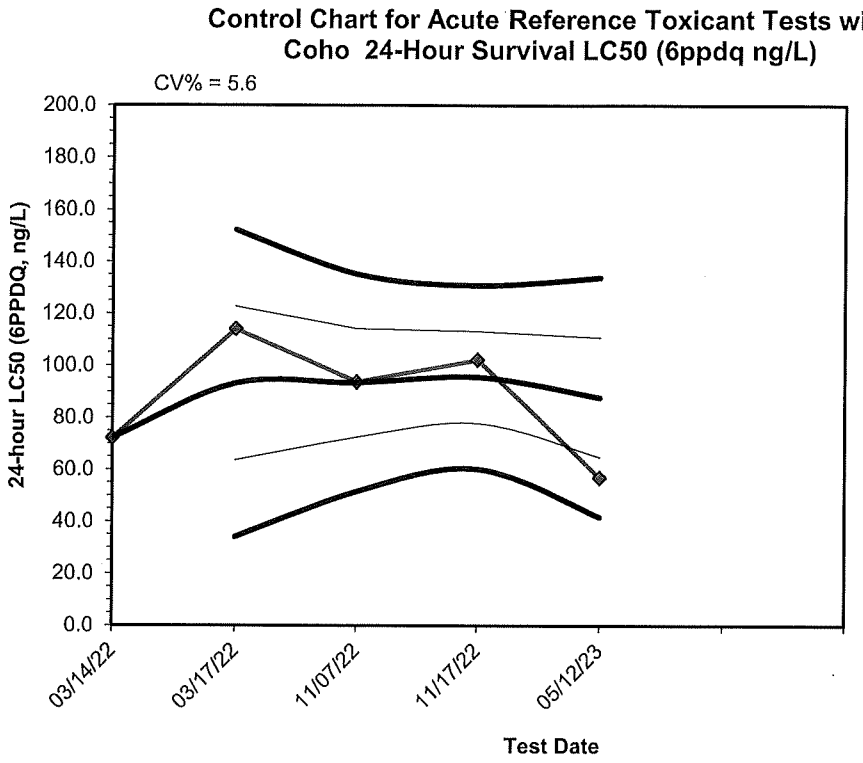


Dose response curve of reference toxicant test conducted on 12-May-2023. Dotted line shows the LC-50 of 56.9 ng/L.

Effect Level	ug/L	95% LCL	95% UCL
EC 50	56.924	-0.123	5.960

All statistics calculated using R statistical software version 1.4.1717. Dose response curves were calculated using the R package 'drc' version 3.0-1.

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Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/14/22	72.20	72.2000				
03/17/22	114.00	93.1000	63.5429	33.9859	122.6571	152.2141
11/07/22	93.7	93.3000	72.3971	51.4943	114.2029	135.1057
11/17/22	102.2	95.5250	77.8873	60.2496	113.1627	130.8004
05/12/23	56.90	87.8000	64.7415	41.6830	110.8585	133.9170

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** N/A
Coho Salmon **Test Date:** 05-~~11~~-23
11 Fs

ORGANISMS
From Supplier: See Test # 10517

~500 fish received from Issaquah Hatchery Lot # (Swim-up date): 02-20-23 Shipped via KCEL Arrived at KCEL at — h on 12/16/22 in Foam Cooler. ____ dead removed.

At Arrival: pH —, D.O. — mg/L, Temp — °C. Into Tank # LS Hold in tank with new well water and aeration for — days. Feed 2X/day with Trout Starter ____. Refer to culture log for feeding & holding information.

From Lab Culture:

Swim Up Date	Holding Tank pH	Holding Tank Temp	Holding Tank DO
2-20-23	7.932	13.7	9.21

Fast the organisms for 48 hours before testing.

Average length (cm) - 3.43
Average mass (g) - 0.515

WATER/Media Preparation

1. New Well Water (NWW) —, filtered through nylon netting and 0.335 mm poly screen. Dilute 30% w/ MilliQ.
   Adjust pH using HCL or Acetic Acid (white vinegar) to within ± 0.250 pH of culture media.
   Want D.O. @ 90-100% saturation (9.8-10.7 mg/L) before add sample. Aerate with O_2.

Dilution Preperation

1) Add the amount of 6PPD-Q in accordance with the dilution table. Start at 1101 h on 05-11-23 Analyst: JZ.
2) Add 6 L of NWW into each of 3 (three) 7-L glass jars and cap with glass lids.

DILUTIONS

Code	Final ng/L 6PPD-Q	µL Standard (100µL/mL)	Dilution water (L)
White	200	40 ~~36~~ µL	20 ~~18~~ JZ
Red	150	30 ~~27~~	20 ~~18~~
Orange	100	20 ~~18~~	20 ~~18~~
Yellow	75	15 ~~13.5~~	20 ~~18~~
Green	50	10 ~~9~~	20 ~~18~~
Gray	25	5 ~~4.5~~	20 ~~18~~
Blue	0	0	20 ~~18~~

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** N/A
Coho Salmon **Test Date:** 05-11-23

PROCEDURE

1. Prep dilutions as above in 20-L FDPE carboys and place in EC # 8246 EAST & WEST shelf. Fill each jar with 6-L of respective solution
2. Measure D.O. 9.87 mg/L at 12°C. Aerate if not 90-100% saturated (9.7 – 10.8 mg/L @ 12°C). Aeration: O_2 @ 32 L/min for ____ sec.
3. Take 0h sample for pH, DO, Temp, Tot. Alk, Tot. Hard, Cond., and 6PPD-Q by ICMS ✓ Analyst: JZ
4. Add 5 fish per jar using dip net, one at a time to randomize. Counts verified by JZ & —.
5. **Start** test at 1101 h on 05-11-23. Place video cameras above treatments with all containers in field of view. Measure and record pH, DO, Temp and survival (# alive) daily in all reps/trtmt.
6. **End** test at 1058 h on 05-12-23 by JZ.
7. Take 24h samples for pH, DO, Temp, ~~Tot Alk~~, ~~Tot Hard~~, ~~Cond.~~, and 6PPD-Q by ICMS ✓ Analyst: JZ

MEASUREMENTS

Code (Trtmt)	Rep	# Dead - 24 hours	Total #	Average Mortality Rate	Analyst	Notes
Blue (0 ng/L)	A	0	6	0	JZ	
	B	0	6			
	C	0	6			
Grey (25 ng/L)	A	0	6	0		
	B	0	6	0		
	C	0	6	0		
Green (50 ng/L)	A	1	6	16.67		
	B	1	6			
	C	1	6			
Yellow (75 ng/L)	A	4	6	50		
	B	2	6			
	C	3 (1s)	6			
Orange (100 ng/L)	A	6	6	72.2		
	B	4	6			
	C	3	6			
Red (150 ng/L)	A	5 (1s)	6	83.3		
	B	4 (1s)	6			
	C	6	6			
White (200 ng/L)	A	6	6	100%		
	B	6	6			
	C	6	6			

s = stressed *Pass if mean control survival ≥ 90%

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** N/A
Coho Salmon **Test Date:** 05-11-23

Chemistry

Treatment	Conc 6PPD-Q (mg/L)	Rep	Measured Concentrations	
			0 h	24h
Control	0 (WW/MQ)	A	N/A	0
		B		~~18.4~~ 0
		C		~~43~~ 0
Grey	25 ng/L	A		18.4
		B		19.8
		C		21.5
Green	50ng/L	A		43.8
		B		37.2
		C		33.8
Yellow	75 ng/L	A		54.3
		B		51.4
		C		51.4
Orange	100 ng/L	A		84.9
		B		78.1
		C		78.6
Red	150 ng/L	A		114.6
		B		119.2
		C		126.0
White	200 ng/L	A		183.2
		B		176.2
		C		169.1
Analyst:				

Position	Temperature (°C)		Treatment
	0h	24h	
A (left front)	13.2	12.8	Grey A
B (right front)	13.2	10.6	Blue C
C (center)	13.0	12.3	Red B
D (center)	13.0	11.7	White C
E (left back)	13.3	12.2	Green C
F (right back)	12.5	11.3	Yellow A
Analyst:	JZ	JZ	

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** N/A
Coho Salmon **Test Date:** 05-11-23

Treatment	pH		D. O. (mg/L)	
	0 h	24 h	0 h	24 h
Control (WW)	8.162	7.945	9.64	9.01
Grey (25 ng/L)	8.116	7.926	9.92	9.26
Green (50 ng/L)	8.148	7.905	9.87	9.28
Yellow (75 ng/L)	8.157	7.924	9.99	9.73
Orange (100 ng/L)	8.153	7.930	10.05	9.65
Red (150 ng/L)	8.175	7.946	9.98	9.81
White (200 ng/L)	8.179	7.954	9.92	9.72

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DocuSign Envelope ID: 7706BB16-93CB-4F15-B669-1AF3B6449B6F

Chain of Custody

DocuSign Envelope ID: A0AE77F6-CC42-45C8-91DB-ED706BBCA272

Login: P81426
Project: 422040-100

6PPDQ Bioretention LG COMP-Untreated Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by Sinnzalesky	*Date* 4-04-23	*Time* 1015
Received by	*Date* 4/4/23	*Time* 1015
Sample Numbers		*[All]*

Sample Number	P81426-1	P81426-2	P81426-3
QC Link			
Locator	LG_TANK	LG_TANK	LG_TANK
Short Loc Desc			
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Composite - T1 A	Stormwater Composite - T1 B	Stormwater Composite - T1 C
Start Date/Time	4/18/23 1040	1150	1310
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	INFLUENT	→	→
COND, FIELD	469.0	473.4	473.2
DO, FIELD	10.49	10.94	10.98
PH, FIELD	7.47	7.57	7.59
REDOX, FIELD	~~-10.5~~ NF -14.3	-17.9	-17.4
SAMP INFO			
SAMP TEMP	8.349	8.762	9.155
Dept, Matrix, Prod (Cont ID)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)

DocuSign Envelope ID: A0AE77F6-CC42-45C8-91DB-ED706BBCA272

LogIn: P81426 **6PPDQ Bioretention LG COMP-Untreated Storm 1** **FSU TC:** _____

Project: 422040-100 **LPM:** _____

Sample Number	**P81426-4**	**P81426-5**	**P81426-6**
QC Link			
Locator	**LG_TANK**	**LG_TANK**	**LAB**
Short Loc Desc			IN HOUSE
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Stormwater Composite - T3	Stormwater Composite - T4	Lab dilution water
Start Date/Time	4/18/23 1557	4/19/2023 0902	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	INFLUENT		**********
COND, FIELD	471.5	457.6	**********
DO, FIELD	11.18	10.28	**********
PH, FIELD	7.59	7.521	**********
REDOX, FIELD	-20.2	230.4	**********
SAMP INFO			**********
SAMP TEMP	6.295	11.9	**********
Dept, Matrix, Prod (Cont ID)		3 LG ALK (52) 3 LG DOC (36) 3 LG NH3 (31) 3 LG TSS (6) 4 LG 6PPDQ (43) 4 LG TROUT-ACUTE (2) 6 LG ICPMS (63)	3 LG ALK (52) 3 LG NH3 (31) 6 LG ICPMS (63)

DocuSign Envelope ID: A0AE77F6-CC42-45C8-91DB-ED706BBCA272

Login: P81428
Project: 422040-100

6PPDQ Bioretention 60:40 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by: John Zalusky	Date: 19-04-23	Time: 1015
Received by:	Date: 4-19-23	Time: 1015
Sample Numbers		[All]

Sample Number	P81428-1	P81428-2	P81428-3
QC Link			
Locator	60_40 COMP	60_40 COMP	LAB
Short Loc Desc			IN HOUSE
Locator Desc	60_40 BSM composite	60_40 BSM composite	LAB LOCATOR
Site	~~TEMP~~ I-5TAPE 4/14/23	~~TEMP~~ I-5TAPE	ELD
Comments	Treated Stormwater Composite - 60:40 Mix T3	Treated Stormwater Composite - 60:40 Mix T4	Lab dilution water
Start Date/Time	4|18|2023 / 1547	→ / 4-19-23 0929	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KCGPPD-Q-23-024	→	**********
COND, FIELD	461.0	442.6	**********
DO, FIELD	10.06	9.68	**********
PH, FIELD	6.88	7.345	**********
REDOX, FIELD		282.4	**********
SAMP INFO	Colums → 41, 42, 43	→	**********
SAMP TEMP	8.488	11.9	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

Field PARMS C WWV C KCEL BR 4/14/23

DocuSign Envelope ID: A0AE77F6-CC42-45C8-91DB-ED706BBCA272

Login: P81431
Project: 422040-100

6PPDQ Bioretention HP3 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by Joshua Zuehlke	Date 19-04-23	Time 1015
Received by	Date 4-19-23	Time 1015
Sample Numbers		[All]

Sample Number	P81431-1	P81431-2	P81431-3
QC Link			
Locator	HP3 COMP	HP3 COMP	LAB
Short Loc Desc			IN HOUSE
Locator Desc	HPBSM3 composite	HPBSM3 composite	LAB LOCATOR
Site	~~TEMP~~ I-5TAPE 4/14/23	~~TEMP~~ I-5TAPE	ELD
Comments	Treated Stormwater Composite - HP3 Mix T3	Treated Stormwater Composite - HP3 Mix T4	Lab dilution water
Start Date/Time	4/18/2023 1512	→ 4/19/2023 0917	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-Q-23-023	→	**********
COND, FIELD	346.4	329.0	**********
DO, FIELD	8.79	9.53	**********
PH, FIELD	7.58	8.137	**********
REDOX, FIELD	-19.6	246.1	**********
SAMP INFO	columns → 31, 32, 33	→	**********
SAMP TEMP	9.001	11.8	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

Field PARMS

© WWU

© KCEL

SR 4/14/23

DocuSign Envelope ID: A0AE77F6-CC42-45C8-91DB-ED706BBCA272

Login: P81429
Project: 422040-100

6PPDQ Bioretention HP1 comp Storm 1

FSU TC: _____
LPM: _____

CHAIN OF CUSTODY

Relinquished by John Zelasky	Date 19-04-23	Time 1015
Received by [signature]	Date 4-19-23	Time 1045
Sample Numbers		[All]

Sample Number	P81429-1	P81429-2	P81429-3
QC Link			
Locator	HP1 COMP	HP1 COMP	LAB
Short Loc Desc			IN HOUSE
Locator Desc	HPBSM1 composite	HPBSM1 composite	LAB LOCATOR
Site	~~TEMP~~ I-5TAPE GR 4/14/23	~~TEMP~~ I-5TAPE	ELD
Comments	Treated Stormwater Composite - HP1 Mix T3	Treated Stormwater Composite - HP1 Mix T4	Lab dilution water
Start Date/Time	4/18/2023 1405 / ~~1530~~	→ / 4/19/23 0925	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	KC6PPD-Q-23-021	→	**********
COND, FIELD	391.7	376.3	**********
DO, FIELD	10.76	10.42	**********
PH, FIELD	7.27	7.944	**********
REDOX, FIELD	-3.2	259.0	**********
SAMP INFO	Columns 11, 12, 13	→	**********
SAMP TEMP		12.2	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

Field PARMS CWWU CKCEL GR 4/14/23

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King County

Department of Natural Resources and Parks
Water and Land Resources Division
Environmental Laboratory, LAB-NR-0100
322 West Ewing Street
Seattle, WA 98119-1507
206-477-7200 Fax: 206-684-2395

May 1st, 2024

Jenee Colton
Water Quality Planner IV
Supervisor of Toxicology and Contaminant Assessment Unit
KSC-NR-5600

Dear Jenee:

The following report summarizes the results of the 24-hour toxicity test with Coho initiated on 09/27/23 with stormwater samples and 3 samples of stormwater passed through different bioretention media (LIMS # L82563-5, L82566-2, L82568-2). Detailed findings are in the Results section of the attached report. The tables below show a summary of the test results.

Coho Salmon Tests

TEST #10718	**Lab Code**	**6PPD-Q ug/L ***	**Percent Survival %**
L82563-6	Well Water Control	<MDL	100
L82563-5	Untreated Stormwater	0.225	0
L82565-2	60% sand/ 40% Compost	0.003	100
L82566-2	Type 1	<MDL	100
L82568-2	Type 3	<MDL	100

* MDL=0.002 ug/L

Survival was 100% at 24 hours in samples L82568-2, L82565-2, L82566-2. Survival was 0% in the untreated stormwater of L82563-5.

If you would like additional information, please call myself or Fran Sweeney at 206-477-7117.

Sincerely,

DocuSigned by:
John Zalusky
7163C30874B34AA...

5/2/2024

John Zalusky
King County Environmental Laboratory

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COHO TESTING HIGH PERFORMANCE BIORETENTION MEDIA BLENDS

SWS Bioretention Media Project #422040-200
September 2023

KING COUNTY DEPARTMENT OF NATURAL RESOURCES AND PARKS
WATER AND LAND RESOURCES DIVISION
ENVIRONMENTAL LABORATORY SECTION
322 WEST EWING STREET
SEATTLE, WASHINGTON 98119-1507

Test Dates:	**September 27th, 2023**
KCEL Test Numbers:	**#10718**
	(*Oncorhynchus kisutch*: 24-Hour Acute Test)
Report Date:	**October 5th, 2023, Revised May 1, 2024**

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SAMPLE

A sample of stormwater (L82563-5) and three samples of stormwater filtered through Bioretention Soil Media, BSM, (L82565-2, L82566-2, L82568-2) were received by the King County Environmental Laboratory on 09-26-23. The samples were received in 20-L FDPE carboys and stored in the dark at 12 ±2.0°C until test initiation.

CONTROL WATER

The control water for the test with Coho Salmon was freshwater obtained from a 95-ft. deep well located at the KCEL. Test organisms (Coho Salmon) were acclimated in a flow-through system of chilled well water (WW).

For the test, WW was diluted 30% with Milli-Q water to maintain the hardness at approximately 80-100 mg/L as $CaCO_3$. The WW is analyzed for metals annually (last analyzed 2-2023) and organics are measured annually (last analyzed on 2-2023). Hardness, alkalinity, conductivity and pH are measured at the beginning of each test.

METHODS

The acute toxicity test #10718 was conducted as outlined in US EPA (2002). The specific method code is EPA 2019.0.

Test Organisms

Swim-up (swim-up on 2-20-23; hatch date 02-03-22 for test 10718) Coho salmon (*Oncorhynchus kisutch*) eggs were received from Issaquah Hatchery located in Issaquah, Washington on 12-16-22. The eggs were raised in a chilled well water flow-through system until they reached the juvenile life stage. During the juvenile life stage, the fish were held at 12.5 °C. Food was withheld from the fish for 48-hours prior to test initiation.

Physical data on salmon used in the tests is shown in the table below.

Test #	Age (days-post swim-up at start of test)	Mean Standard Length (cm)	Mean Weight (grams)	Loading Wt./Vol. (g/L)
10718	290	5.66	2.64	2.64

The mean weight of the salmon used in the tests was 2.64 g with a mean standard length of 5.7 cm for tests 10718. The mean loading rate in each jar was 2.64 g/L. Loading rate weight to media volume exceeded the limit of 0.8 g/L due to fish availability. Coho embryos are only available from the Issaquah Hatchery in December of each year. Therefore, compromises in fish age and loading rates were necessary to complete this test.

Coho Salmon – 24-Hour Static Acute Toxicity Test

Test chambers were 9-L glass jars, and the jars were partially covered during the test.

Samples of stormwater and each BSM sample were transported to KCEL in FLPE carboys packed in ice. Diluted well water was stored in an FLPE carboy with light aeration. The solutions were maintained at 12 ± 2.0°C in an environmental chamber (Hotpack Model 06082, S/N 79718) for approximately 12 hours (overnight) prior to test initiation. The DO of each solution at the start of the test was > 80% saturation (>

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8.3 mg/L at 12°C). Due to loading rates exceeding 0.8 g/L, gentle aeration was provided to each test chamber.

At test initiation, 5.0 L aliquots were measured into 9-L glass jars. The glass jars were randomly placed in the same environmental chamber used to store solutions overnight. Five Coho salmon were placed randomly into each test jar.

Survival was monitored during the test and recorded hourly for the first 9 hours of the test and again at 24-hours. Dissolved Oxygen, temperature and pH were recorded in each test and control jar at 0 and 24 hours. Test solutions were not renewed during testing. Total alkalinity and hardness were sampled in all concentrations at 0h. Conductivity was measured at 0h and 24h. The photoperiod was 16h L:8h D. The test (#10718) was initiated at 1002h on 09-27-2023 and ended at 0958h on 09-28-2023.

QUALITY ASSURANCE

Reference Toxicant Test – 24-Hour Static Acute Toxicity Test

The 24-hour reference toxicant test with Coho (Tests # N/A) using the same lot of fish as the standard test was conducted. Test jars were 9-L glass jars. Five fish were placed randomly in each test jar of 6L test solution. The test was initiated at 1002h on 10-03-2023 and ended at 1008h on 10-04-2023. 6PPD-Q was used as a reference toxicant for Coho salmon. The control chart located at the end of this report is maintained to monitor the sensitivity of these organisms to the reference toxicant and thereby provide an indication of their overall sensitivity to other compounds. Quality assurance test parameters are summarized in the table below:

Parameter	Measured	Criterion	Acceptable?
Control Survival%:	100	90	Yes
Survival LC50 ng/L:	92.5	within lab C.L.'s	Yes
Lab Control Limits:	47.16 – 130.02		

The LC50's for the reference toxicant test was 92.5 ng/L and was within current laboratory control limits.

Temperature, pH and dissolved oxygen measurements remained within acceptable limits (US EPA, 2002) throughout this reference toxicant test, and the test met acceptability criteria regarding control survival (US EPA 2002).

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RESULTS

Coho Salmon (Test #10718)

The following table contains survival percentages during the 24-hour test in which Coho salmon were exposed to dilution water (WW controls) or to stormwater and stormwater treated with different BSM blends.

	Sample Name	Measured 6PPD-Q Concentration (µg/L)	Percent Survival (%) 24 h	Number Dead	Number of Fish Tested
TEST #10718					
L82563-6	Negative Control	<MDL	100	0	20
L82563-5	Untreated Stormwater	0.225	0	20	20
L82565-2	60/40 Mixture	0.003	100	0	20
L82566-2	Treatment 1	<MDL	100	0	20
L82568-2	Treatment 3	<MDL	100	0	20

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Water Quality

The following tables contain measurements of temperature, pH and dissolved oxygen taken throughout the 24-hour test. Measurement of Total Hardness, Total Alkalinity and Conductivity are taken from samples collected at the beginning (0-h) of the test.

Test #10718

Sample:		**Control** L82563-6	L82563-5	L82565-2	L82566-2	L82568-2
Parameter		**Well Water**	**Stormwater**	**60/40 Mix**	**Treatment 1**	**Treatment 3**
Temperature (°C)	**Mean**	**12.3**	**11.2**	**11.4**	**12.1**	**11.7**
	Min.	12.2	11.4	11.0	11.9	11.4
	Max.	12.4	11.9	11.8	12.2	12.0
pH	**Mean**	**7.33**	**7.45**	**7.29**	**7.29**	**7.33**
	Min.	7.276	7.315	7.134	7.218	7.193
	Max.	7.390	7.582	7.452	7.357	7.461
D.O. (mg/L)	**Mean**	**10.0**	**9.7**	**9.7**	**9.7**	**9.5**
	Min.	9.93	9.46	9.43	9.56	9.02
	Max.	10.15	9.84	9.98	9.76	9.91
Tot. Hard (mg/L as CaCO3)	0h	36.3	68.4	83.8	54.7	53.6
Tot. Alk (mg/L as CaCO3)	0h	39.9	65.1	58.7	56.9	56.8
DOC (mg/L)	0h	-	9.72	16.9	7.17	3.58
NH3 (mg/L)	0h	0.0413	0.0121	0.0124	0.0037	0.0087
TSS (mg/L)	0h	-	20.3	23.4	9.9	3.3
6PPD-Q (µg/L)	0h	< MDL	0.225	0.003	<MDL	< MDL
Cond (µmhos/cm)	**Mean**	**51**	**147**	**203**	**162**	**173**
	0h	48.3	144.3	200.2	161.1	173.4
	24h	52.9	150.3	207.2	163.6	173.2
ORP (mV)	**Mean**	**-37.9**	**-29.1**	**-23.9**	**-28.8**	**-25.6**
	0h	-32.3	-28.0	-14.0	-23.5	-13.0
	24h	-43.6	-30.1	-33.7	-34.0	-38.2

Additional water quality and QC data are listed on the attached photocopied pages from the laboratory notebook. The MDL for 6PPD-Q analysis was 0.002 ug/L.

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Quality Control

Temperature remained within the acceptable limits of 12 ± 2 °C during the test. pH and dissolved oxygen measurements remained within acceptable limits (US EPA 2002) throughout the test, and the test met acceptability criteria regarding control survival (US EPA 2002).

TESTED BY:
King County Environmental Laboratory
322 West Ewing Street
Seattle WA 98119-1507

REFERENCES

APHA. 2017. Standard Methods for the Examination of Water and Wastewater, 23rd Edition. June 2017. Eds: E.W. Rice, R.B. Baird, A.D. Eaton. American Public Health Association, American Waterworks Association, Water Pollution Control Association. Washington D.C.

U.S. E.P.A. 2020. Code of Federal Regulations, 40CFR, Appendix A, Part 136, July 2020. U.S. Environmental Protection Agency, Office of Federal Registry, Washington, D.C.

WA DOE. 2021. Biological Testing Methods for the designation of Dangerous Waste. DOE 80-12, revised February 2021. Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Program, Olympia, WA.

US EPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. 5th edition. EPA-821-02-012, October 2002. US Environmental Protection Agency, Office of Water (4303T), Washington, DC.

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Coho Toxicity Test

Bench Sheets and Behavioral Notes

Unionized ammonia calculations

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10718
Coho Salmon **Test Date:** 27-09-23

ORGANISMS

From Supplier:

500 ~~fish~~ eggs received from Issaquah Hatchery Lot # (Swim-up date): 02-20-23 Shipped via _____ Arrived at KCEL at 1000 h on 12-16-22 in eggs in cooler.
0 dead removed.
At Arrival: pH 7.031, D.O. 12.66 mg/L, Temp 3.8 °C. Into Tank # LS1/2 Hold in tank with new well water and aeration for 290 days. Feed 2X/day with Zeiglers #5. Refer to culture log for feeding & holding information.

From Lab Culture

Swim Up Date	Holding Tank pH	Holding Tank Temp	Holding Tank DO
02-20-23	7.301 / 7.380 / 7.257	11.7 / 11.9 / 10.4	9.84 / 9.83 / 10.13

Fast the organisms for 48 hours before testing.

Control Media Preparation

1. New Well Water (NWW) 26-09-23, filtered through nylon netting and 0.335 mm poly screen. Dilute 30% w/ MilliQ.
2. Adjust pH using HCL or Acetic Acid (white vinegar) to within ± 0.250 pH of the holding tank pH.
3. Want D.O. @ 90-100% saturation (9.8-10.7 mg/L) before introducing fish. Aerate with O_2.

Stormwater Media Preparation

1) Received Media at (Date/Time): 1750 / 09-26. Media was transported in FDPE CARBOYS
2) Record pH and DO of each media type at time of receipt

Media Type	pH	Temp (7am)	DO (7am)	ORP	Cond.
COM	7.276	11.9 /	10.1 /	-32.3	48.3
Nav	7.315	11.9 /	9.8 /	-23.5	161.1
60/40	7.134	11.5 /	10.1 /	-13.0	173.4
#1	7.218	11.8 /	9.8 /	-14.0	200.2
#3	7.193	12.0 /	10.1 /	-28.0	144.3
	JZ	FS /	FS /	JZ	JZ

PROCEDURE

1. Place each media in EC # LARGE 1 & 2 shelf. Set the EC to 13 °C, each media should reach 13 °C before testing.
2. Measure D.O. FS mg/L at 12°C. Aerate if not 90-100% saturated (9.7 – 10.8 mg/L @ 13°C).
   Aeration: O_2 @ ~ L/min for ~ sec.
3. Fill each jar with 5L of media type.
4. Take 0h sample for pH, DO, Temp, ORP, TSS, Tot. Alk, Tot. Hard, DOC, Cond., and 6PPD-Q by ICMS
   60-40 Mix: ~~L81428-2~~ L82565-2 Analyst: JZ
   Treated SW 1: L82566-2 Analyst: JZ
   Treated SW 3: L82568-2 Analyst: JZ
   Untreated SW: L82563-5 Analyst: JZ
5. Take 0hr for pH, DO, Temp, ORP, TSS, DOC, and 6PPD-Q by LCMS
   Treated SW 2: L82567-2 Analyst: ~~JZ~~

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q)
Coho Salmon

Test #: 10718
Test Date: 27-09-23

6. Add 5 fish per jar using dip net, one at a time to randomize. Counts verified by JZ & [illegible].
7. **Start** test at 1007 h on 27-09-23. Measure and record pH, DO, Temp and survival (# alive) daily in all reps/trtmt. Aeration started 1400 in all treatments.
8. **End** test at 0958 h on 28-09-23 by JZ.
9. Take 24h samples for pH, DO, Temp, Tot Alk, Tot Hard, Cond., and 6PPD-Q by ICMS ✓ Analyst: JZ

MORTALITY MEASUREMENTS

Code (Trtmt)	Rep	# Dead - 24 hours	Total #	Average Mortality Rate	6PPd-Q (ug/L)	Analyst	Notes
Well Water (Negative Control) BLUE TAPE	A	0	5	0%		JZ	
	B	0					
	C	0					
	D	0					
Untreated Storm Water WHITE TAPE	A	5		100%	0.225		
	B	5					
	C	5					
	D	5					
Treated SW Type 1 GREEN TAPE	A	0		0%	0.033		
	B	0					
	C	0					
	D	0					
Treated SW Type 3 YELLOW TAPE	A	0		0%	<MDL		
	B	0					
	C	0					
	D	0					
Treated SW 60/40 Mix ORANGE TAPE	A	0		0%	<MDL		
	B	0					
	C	0					
	D	0					

s = stressed

*Pass if mean control survival ≥ 90%

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) Test #: 10718
Coho Salmon Test Date: 27-09-23

Chemistry

Treatment	pH		D. O. (mg/L)		Cond. (µs/cm)		ORP (mV)	
	0 h	24 h	0 h	24 h	0 h	24 h	0 h	24 h
Control (WW)	7.276	7.390	9.93	10.15	48.3	52.9	-32.3	-43.6
Type-1	7.218	7.357	9.56	9.76	161.1	163.6	-23.5	-34.0
Type 3	7.193	7.461	9.02	9.91	173.4	173.2	-13.0	-38.2
60-40	7.134	7.452	9.43	9.98	200.2	207.2	+4.0	-33.7
SW Untreated	7.315	7.582	9.46	9.84	144.3	150.3	-28.0	-30.1

Position	Temperature (°C)		Treatment
	0h	24h	
A (left front)	12.3	12.4	CONTROL C
B (right front)	11.1	11.4	UNTREATED B
C (center)	11.9	12.2	TYPE 1 B
D (center)	11.4	11.8	60/40 A
E (left back)	12.2	12.3	CONTROL D
F (right back)	11.0	11.2	60/40 C
Analyst:	JZ	JZ	

Test Organism Data at ~~0h~~ 24h

Sampled From: Composite of all fish **Rep** _____

Fish	Length (cm)	Weight (g)	
1	5.5	2.474	
2	6.2	3.373	
3	5.0	1.766	
4	5.7	2.674	
5	4.9	1.823	
6	6.5	3.985	
7	6.7	4.000	
8	5.8	2.100	
9	5.5	2.615	
10	4.8	1.559	
Mean:	5.66	2.6369	**Load Rate:**

Load Rate = [(Wt)(# Fish)]/ Vol
Where:
Wt = Mean Wt in g
Vol = Total Test Vol in L
Fish = # Fish/Rep

(Want <~~1~~ 0.8 g/fish; ≤ 0.8 g/L Load Rate)

(2.6369 g)(5)/ 5 L

= 2.6369 g/L

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TEST # 10714 27-09-23

Well Water - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2									NO OBSERVATIONS TAKEN DURING THIS TIME															
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

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Behavioral sequence for the urban runoff-elicited mortality syndrome in juvenile coho salmon.

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Stage 6[b]	Moribund (near death), exhibiting changes in ventilation rates (i.e., gilling), along with spasms and gaping. Moribund coho were also unresponsive to touch.

[a] visible at the water surface.
[b] visible from the tank bottom.

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TEST # 10718 27-09-23

SW Untreated - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	4	4	4	1	1	1													8				
Stage 2		1	1	2	1														FS					
Stage 3				FS	1	2		—	—	—	—	—	—	—	—	—	—	—						
Stage 4					1		1	NO OBSERVATIONS TAKEN DURING THIS TIME																
Stage 5					1	2																		
Stage 6							3													5	5	5	5	5

SW Untreated - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	4	5	1	1	1																	
Stage 2			1																					
Stage 3					2			—	—	—	—	—	—	—	—	—	—	—						
Stage 4						1																		
Stage 5					2																			
Stage 6						3	4													5	5	5	5	5

SW Untreated - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	2	2	2	2	1	1																	
Stage 2		3	3	2																				
Stage 3				1		1		—	—	—	—	—	—	—	—	—	—	—						
Stage 4																								
Stage 5					3																			
Stage 6						3	4													5	5	5	5	5

SW Untreated - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	4	4	2	2																			
Stage 2		4½	1	1	1																			
Stage 3								—	—	—	—	—	—	—	—	—	—	—						
Stage 4				2	1	1																		
Stage 5					1																			
Stage 6						4	5													5	5	5	5	5

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TEST # 10718 27.09.23

60/40 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2								NO OBSERVATIONS TAKEN DURING THIS TIME																
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2								NO OBSERVATIONS TAKEN DURING THIS TIME																
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour Dam Fs																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
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Stage 6																								

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TEST # 10718 27.09.23

SW Treatment 1 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	NO OBSERVATIONS TAKEN DURING THIS TIME												5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5													5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5													5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5													5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

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TEST # 10718 27-09-23

SW Treatment 3 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2								NO OBSERVATIONS TAKEN DURING THIS TIME																
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
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10718
9/27/23

Coho Toxicity Test

Random # Position

Code	Rep	Random #	Code	Rep	Random #
Well Water	A	19	60/40	A	3
	B	8		B	10
	C	17		C	7
	D	1		D	16
Treatment 1	A	13	Treatment 3	A	11
	B	5		B	14
	C	9		C	4
	D	6		D	18
Untreated Stormwater	A	15			
	B	20			
	C	2			
	D	12			

NOTES

Glassware rinsed with hot tap and DW before use.

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Unionized Ammonia in Bioretention Media Samples - Test # 10718

Chronic Test		Time (d)	pH_{max}	°C	T (°K)	Sal (ppt)	I	$pKa^{(S,298)}$	$pKa^{(S,T)}$	Total Ammonia (mg/L)	NH_3-N, (mg/L)
L82563-6	WW	1	7.454	12.8	286.0	0	0.000	9.241	9.631	0.041	0.000
L82563-5	Untreated SW	1	7.220	12.5	285.7	0	0.000	9.24060	9.64121	0.314	0.001
L82565-2	60/40 Mix	1	7.111	11.8	285.0	0	0.000	9.24060	9.66305	0.004	0.000
L82666-2	Treatment 1	1	7.089	12.2	285.4	0	0.000	9.24060	9.64994	0.000	0.000
L82568-2	Treatment 3	1	7.141	13.1	286.3	0	0.000	9.241	9.622	0.017	0.000

$I = [(19.9273)(Sal)] / [1000 - (1.005109)(Sal)]$

$pKa^{(S,298)} = 9.2406 + (0.12375 \times I)$

$pKa^{(S,T)} = (2729.69/T) + (pKa^{(S,298)} - 9.1345) - (7.1 \times 10^{-5} T)$

$NH_3\text{-}N = \text{Tot Amm} / [1 + 10^{(pKa - pH)}]$

Temperature data from 4 corners and center

MAX	0.001
MEAN	0.000
MIN	0.000

King County Environmental Lab Analytical Report

Project:	422040-100					Project:	422040-100					Project:	422040-100			
Locator:	LG_TANK					Locator:	LAB					Locator:	60_40 COMP			
Descrip:	Stormwater tank Hi					Descrip:	LAB CONTROL					Descrip:	60_40 BSM composit			
Sample:	L82563-5					Sample:	L82563-6					Sample:	L82565-2			
Matrix:	LG STORM WTR					Matrix:	LA OTHR WTR					Matrix:	LA OTHR WTR			
ColDate:	9/27/23 7:00					ColDate:	9/27/23 7:00					ColDate:	9/27/23 7:00			
WET Weight Basis						**WET Weight Basis**						**WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.225		0.002	0.01	ug/L						0.0033	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen	0.0121	H	0.002	0.01	mg/L	0.0413	H	0.002	0.01	mg/L	0.0124	H	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity	65.1		1	5	mg CaCO3/L	39.9		1	5	mg CaCO3/L	58.7		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	20.3		1.6	6.56	mg/L						23.4		1	4	mg/L
CV SM5310-B															
Dissolved Organic Carbon	9.72	SH,H	0.5	2	mg/L						16.9	SH,H	1	4	mg/L
ES KCEL SOP# 245															
Conductivity, Field	161.1		0.5	10	umhos/cm						173.4		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.8		0.5	1	mg/L						10.1		0.5	1	mg/L
pH, Field	7.32				pH						7.13				pH
Sample Temperature, Field	11.9				deg C						11.5				deg C
ES NONE															
Oxidation Reduction Potential, Field	-23.5				mV						-13				mV
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS	18300		50	50	ug/L	9600		50	50	ug/L	22800		50	50	ug/L
Magnesium, Total, ICP-MS	5490		50	50	ug/L	3110		50	50	ug/L	6530		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc	68.4		0.331	0.331	mg CaCO3/L	36.8		0.331	0.331	mg CaCO3/L	83.8		0.331	0.331	mg CaCO3/L

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King County Environmental Lab Analytical Report

Project:	422040-100				Project:	422040-100			
Locator:	HP1 COMP				Locator:	HP3 COMP			
Descrip:	HPBSM1 composite				Descrip:	HPBSM3 composite			
Sample:	L82566-2				Sample:	L82568-2			
Matrix:	LA OTHR WTR				Matrix:	LA OTHR WTR			
ColDate:	9/27/23 7:00				ColDate:	9/27/23 7:00			
WET Weight Basis					**WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ KCEL SOP 4077: 6PPDQ by LCMS										
6ppd-quinone		<MDL	0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997										
Ammonia Nitrogen	0.0037	<RDL,H	0.002	0.01	mg/L	0.0087	<RDL,H	0.002	0.01	mg/L
CV SM2320-B										
Total Alkalinity	56.9		1	5	mg CaCO3/L	56.8		1	5	mg CaCO3/L
CV SM2540-D										
Total Suspended Solids	9.9		0.5	2	mg/L	3.3		0.5	2	mg/L
CV SM5310-B										
Dissolved Organic Carbon	7.17	SH,H	0.5	2	mg/L	3.58	SH,H	0.5	2	mg/L
ES KCEL SOP# 245										
Conductivity, Field	200.2		0.5	10	umhos/cm	144.3		0.5	10	umhos/cm
Dissolved Oxygen, Field	9.8		0.5	1	mg/L	10.1		0.5	1	mg/L
pH, Field	7.22				pH	7.14				pH
Sample Temperature, Field	11.8				deg C	12				deg C
ES NONE										
Oxidation Reduction Potential, Field	-14				mV	-28				mV
MT EPA 200.8 (MOD)										
Calcium, Total, ICP-MS	14500		50	50	ug/L	12700		50	50	ug/L
Magnesium, Total, ICP-MS	4490		50	50	ug/L	5310		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B										
Hardness, Calc	54.7		0.331	0.331	mg CaCO3/L	53.6		0.331	0.331	mg CaCO3/L

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DocuSign Envelope ID: EAB60732-BAFA-4AE4-8D3F-8D9B5138591F

Reference Toxicant Test:

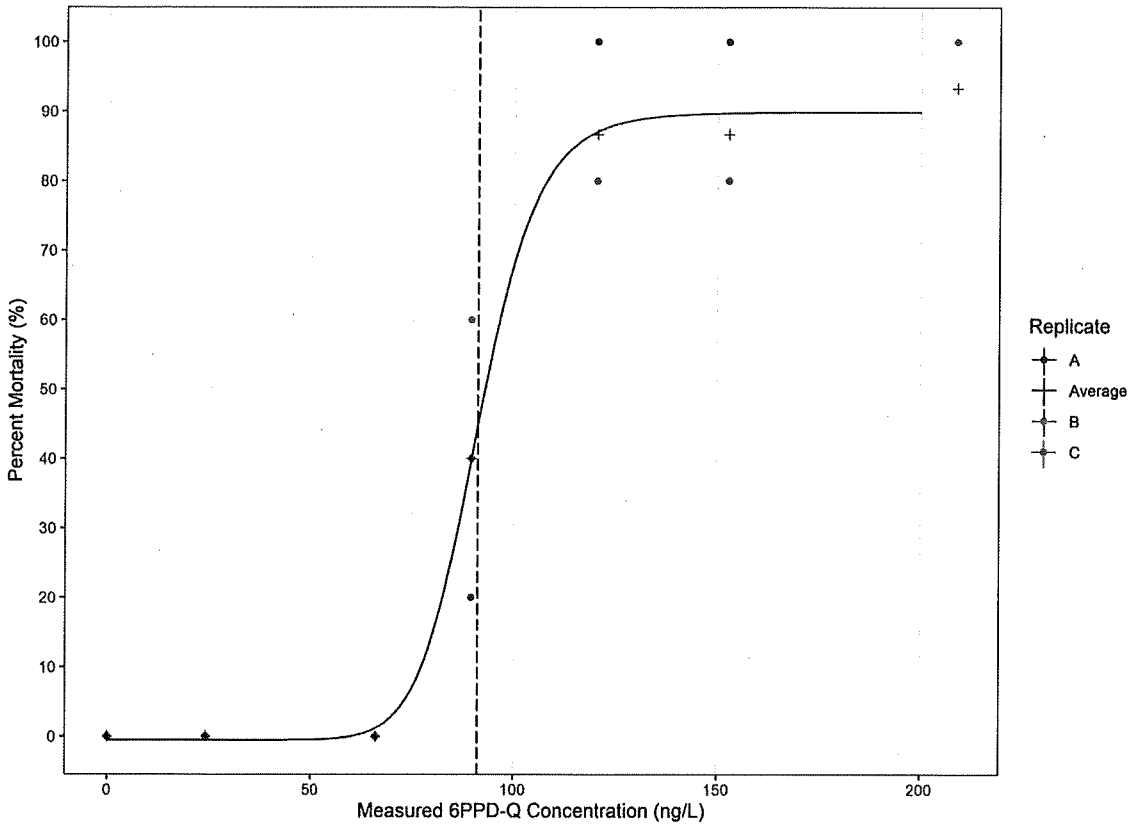
Statistics

Bench Sheets

Control Chart

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DocuSign Envelope ID: EAB60732-BAFA-4AE4-8D3F-8D9B51385911

Reference Toxicant Statistics

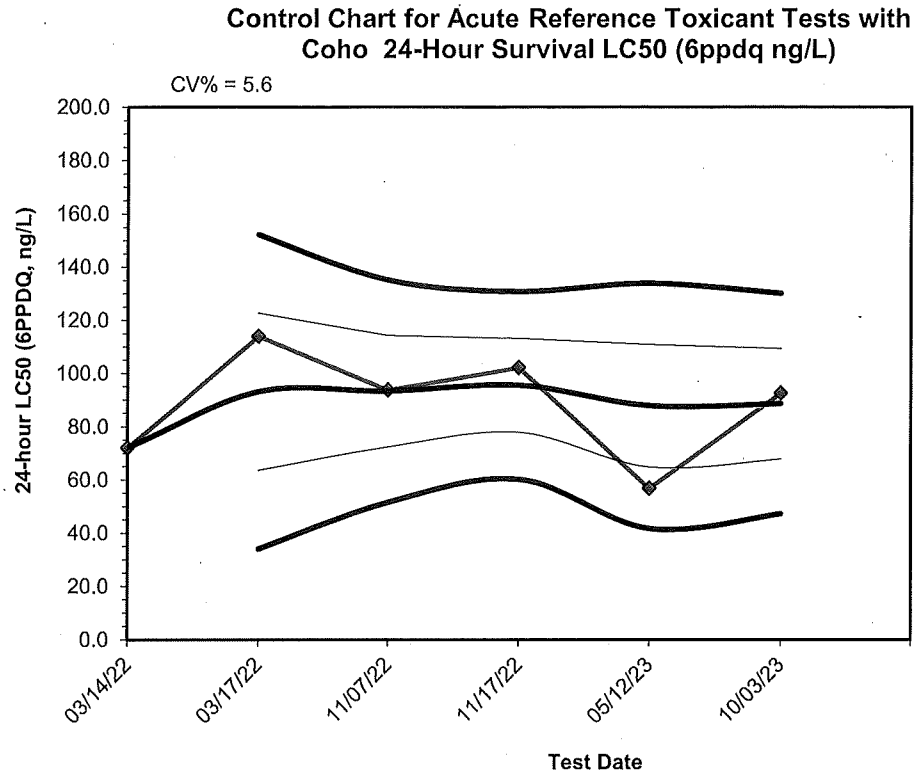


Dose response curve of reference toxicant test conducted on 12-May-2023. Dotted line shows the LC-50 of 56.9 ng/L.

Effect Level	ug/L	95% LCL	95% UCL
EC 50	92.545	-0.005	4.677

All statistics calculated using R statistical software version 1.4.1717. Dose response curves were calculated using the R package 'drc' version 3.0-1.

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Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/14/22	72.20	72.2000				
03/17/22	114.00	93.1000	63.5429	33.9859	122.6571	152.2141
11/07/22	93.7	93.3000	72.3971	51.4943	114.2029	135.1057
11/17/22	102.2	95.5250	77.8873	60.2496	113.1627	130.8004
05/12/23	56.90	87.8000	64.7415	41.6830	110.8585	133.9170
10/03/23	92.54	88.5900	67.8753	47.1605	109.3047	130.0195

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** NA
Coho Salmon **Test Date:** 10-03-23

ORGANISMS

From Supplier: See Test #10714

500 fish received from ISSAQUAH HATCHERY Lot # (Swim-up date): 02-20-23 Shipped via Ecofo
Arrived at KCEL at 1000 h on 12-16-22 in EGGS IN COOLER.
0 dead removed.
At Arrival: pH —, D.O. — mg/L, Temp — °C. Into Tank # LS/1/2 Hold in tank with new well water and aeration for 295 days. Feed 2X/day with Zeigler's #5. Refer to culture log for feeding & holding information.

From Lab Culture:

Swim Up Date	Holding Tank pH	Holding Tank Temp	Holding Tank DO
02-20-23	7.145	10.7	10.29

Fast the organisms for 48 hours before testing.

WATER/Media Preparation

1. New Well Water (NWW) 02-10-23, filtered through nylon netting and 0.335 mm poly screen. Dilute 30% w/ MilliQ.
   Adjust pH using HCL or Acetic Acid (white vinegar) to within ± 0.250 pH of culture media.
   Want D.O. @ 90-100% saturation (9.8-10.7 mg/L) before add sample. Aerate with O_2.

Dilution Preperation

1) Add the amount of 6PPD-Q in accordance with the dilution table. Start at 0830 h on 10-03-23 Analyst: JZ.
2) Add 3.5 L of NWW into each of 3 (three) 7-L glass jars and cap with glass lids.

DILUTIONS

Code	Final ng/L 6PPD-Q	µL Standard (100µL/mL)	Dilution water (L)
White	200	40 µL	20
Red	150	30	20
Orange	100	20	20
Yellow	75	15	20
Green	50	10	20
Gray	25	5	20
Blue	0	0	20

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** NA
Coho Salmon **Test Date:** 10-03-23

PROCEDURE

1. Prep dilutions as above in 6L jars and place in EC # LARGE, 1 & 2 shelf. Fill each jar with 3.5L of 70% WW and 30% MiliQ water. Then prepare each serial dilution in a 2L graduated cylinder. Decant 500mL into both duplicate treatment.
2. Measure D.O. — mg/L at 12°C. Aerate if not 90-100% saturated (9.7 – 10.8 mg/L @ 12°C). Aeration: O_2 @ — L/min for — sec.
3. Take 0h sample for pH, DO, Temp, Tot. Alk, Tot. Hard, Cond., and 6PPD-Q by ICMS ✓
   Analyst: JZ/EF
4. Add 5 fish per jar using dip net, one at a time to randomize. Counts verified by JZ & FS. 10:02-10-23
5. **Start** test at 1002 h on 10-04-23. Place video cameras above treatments with all containers in field of view. Measure and record pH, DO, Temp and survival (# alive) daily in all reps/trtmt.
6. **End** test at 1004 h on 10-04-23 by JZ.
7. Take 24h samples for pH, DO, Temp, ~~Tot Alk~~, ~~Tot Hard~~, Cond., and 6PPD-Q by ICMS ✓ Analyst: JZ

MEASUREMENTS

Code (Trtmt)	Rep	# Dead - 24 hours	Total #	Average Mortality Rate	Analyst	Notes
Blue (0 ng/L)	A	~~0~~	5	0	JZ	
	B	~~0~~	5			
	C	~~0~~	5			
Grey (25 ng/L)	A	~~0~~	5	0		
	B	~~0~~	5			
	C	~~0~~	5			
Green (50 ng/L)	A	0	5	0		
	B	0	5			
	C	0	5			
Yellow (75 ng/L)	A	1 (1s)	5	~~52.5%~~ ~~40%~~		
	B	2 (1s)	5	~~40%~~		
	C	3	5	~~37.5%~~		
Orange (100 ng/L)	A	~~0~~ 5 JZ	5	86.7		
	B	4	5			
	C	4	5			
Red (150 ng/L)	A	~~0~~ 5 JZ	5	86.7		
	B	4	5			
	C	4 (1s)	5			
White (200 ng/L)	A	5	5	93.3		
	B	5	5			
	C	4	5		↓	surviving fish kept for observation.

s = stressed *Pass if mean control survival ≥ 90%

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** NA
Coho Salmon **Test Date:** 10-03-23

Chemistry

Treatment	pH		D. O. (mg/L)	
	0 h	24 h	0 h	24 h
Control 1 (WW)	7.255	7.617	9.51	10.18
Control 2 (WW)	7.362	7.709	9.67	9.85
Control 3 (WW)	7.369	7.651	9.88	10.25
	JZ	JZ	JZ	JZ

Treatment	Conc 6PPD-Q (mg/L)	Rep	Measured Concentrations	
			0 h	24h
Control	0 (WW/MQ)	A	< MDL	NOT MEASURED
		B	↓	↓
		C	↓	↓
Grey	25 ng/L	A	24.1	
		B	↓	↓
		C	↓	↓
Green	50ng/L	A	66.1	
		B	↓	↓
		C	↓	↓
Yellow	75 ng/L	A	89.6	
		B	↓	↓
		C	↓	↓
Orange	100 ng/L	A	120.5	
		B	↓	↓
		C	↓	↓
Red	150 ng/L	A	152.7	
		B	↓	↓
		C	↓	↓
White	200 ng/L	A	209.1	
		B	↓	↓
		C	↓	↓
Analyst:				

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** NA
Coho Salmon **Test Date:** 10-03-23

Position	Temperature (°C)		Treatment
	0h	24h	
A (left front)	12.3	11.5	Green B
B (right front)	11.7	11.1	Green C
C (center)	12.5	11.5	Blue C
D (center)	11.8	~~10.8~~ 11.1	White C
E (left back)	12.2	11.4	Green A
F (right back)	11.5	10.8	Grey A
Analyst:	JZ	JZ	

Test Organism Data at 24h:

Sampled From: Composite of All Reps **Rep** _____

Fish	Length (cm)	Weight (g)	
1	6.0	3.040	
2	5.1	2.031	
3	5.8	2.942	
4	6.5	4.231	
5	5.A	3.207	
6	6.2	3.606	
7	6.6	4.274	
8	5.6	2.495	
9	5.1	1.864	
10	5.3	2.165	
Mean:	5.81	2.9851	**Load Rate:**

Load Rate = [(Wt)(# Fish)]/ Vol
Where:
Wt = Mean Wt in g
Vol = Total Test Vol in L
Fish = # Fish/Rep

(Want < 0.8 g/fish; ≤ 0.8 g/L Load Rate)

(2.9851 g)(5)/ 6 L

= 2.488 g/L

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Chain of Custody

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DocuSign Envelope ID: EAB60732-BAFA-4AE4-8D3F-8D9B5138591F

LogIn: P81298
Project: 422040-100

SWS Bioretention 6PPDQ - FHM

LPM ~~FSU TC~~: Susannah Rawles
FSU TC: ~~LPM~~: C. Barnes

CHAIN OF CUSTODY

Relinquished by: J. Alaimo	Date: 3-29-2023	Time: 1605
Received by: [signature]	Date: 3-29-23	Time: 16:05
Sample Numbers: L81298-1,2		[All]

Sample Number	P81298-1	P81298-2	
QC Link			
Locator	TEMP	TEMP	
Short Loc Desc	TEMPLOC	TEMPLOC	
Locator Desc	TEMPORARY LOCATOR	TEMPORARY LOCATOR	
Site	TEMP	TEMP	
Comments	Stormwater	Well Water Control	
Start Date/Time			
End Date/Time			
Time Span			
Sample Depth			
Dept, Matrix, Prod (Cont ID)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)	

DocuSign Envelope ID: 1F8A6FF2-052D-4C9A-A708-E13826086DBD
DocuSign Envelope ID: EAB60732-BAFA-4AE4-8D3F-8D9B513659TF

Login: P82565 | **6PPDQ Bioretention 60:40 comp** | **FSU TC:** _____
Project: 422040-100 | **LPM: Susannah Rowles**

CHAIN OF CUSTODY

Relinquished by John Zaloga	***Date*** 09.29.23	***Time*** 10:24
Received by	***Date*** 9/29/23	***Time*** 1024
Sample Numbers		***[All]***

Sample Number	**P82565-1**	**P82565-2**	
QC Link			
Locator	**60_40 COMP**	**60_40 COMP**	
Short Loc Desc			
Locator Desc	60_40 BSM composite	60_40 BSM composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - 60:40 Mix T3	Treated Stormwater Composite - 60:40 Mix T4	
Start Date/Time			
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD			
DO, FIELD			
PH, FIELD			
REDOX, FIELD			
SAMP INFO			
SAMP TEMP			
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	

DocuSign Envelope ID: 1F8A6FF2-052D-4C9A-A708-E13826086DBD

Login: P82566
Project: 422040-100

6PPDQ Bioretention HP1 comp

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 09-29-23	*Time* 10:24
Received by	*Date* 9/29/23	*Time* 10:24
Sample Numbers		*[All]*

Sample Number	P82566-1	P82566-2	
QC Link			
Locator	HP1 COMP	HP1 COMP	
Short Loc Desc			
Locator Desc	HPBSM1 composite	HPBSM1 composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - HP1 Mix T3	Treated Stormwater Composite - HP1 Mix T4	
Start Date/Time			
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD			
DO, FIELD			
PH, FIELD			
REDOX, FIELD			
SAMP INFO			
SAMP TEMP			
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	

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DocuSign Envelope ID: EAB07732-BAFA-4AE4-8D3F-8D9B5138591F

Login: P82568
Project: 422040-100

6PPDQ Bioretention HP3 comp

FSU TC: _____
LPM: Susannah Rowles

CHAIN OF CUSTODY

Relinquished by	*Date* 09-29-23	*Time* 10:24
Received by	*Date* 9/29/23	*Time* 10:24
Sample Numbers - 2		*[All]*

Sample Number	**P82568-1**	**P82568-2**
QC Link		
Locator	**HP3 COMP**	**HP3 COMP**
Short Loc Desc		
Locator Desc	HPBSM3 composite	HPBSM3 composite
Site	I-5TAPE	I-5TAPE
Comments	Treated Stormwater Composite - HP3 Mix T3	Treated Stormwater Composite - HP3 Mix T4
Start Date/Time		
End Date/Time		
Time Span		
Sample Depth		
CLIENT LOC		
COND, FIELD		
DO, FIELD		
PH, FIELD		
REDOX, FIELD		
SAMP INFO		
SAMP TEMP		
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)

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King County

Department of Natural Resources and Parks
Water and Land Resources Division
Environmental Laboratory, LAB-NR-0100
322 West Ewing Street
Seattle, WA 98119-1507
206-477-7200 Fax: 206-684-2395

May 1st, 2024

Jenee Colton
Water Quality Planner IV
Supervisor of Toxicology and Contaminant Assessment Unit
KSC-NR-5600

Dear Jenee:

The following report summarizes the results of the 24-hour toxicity test with Coho initiated on 3/12/24 on stormwater samples and 3 samples of stormwater passed through different bioretention media (LIMS #L83410-2, L83411-2, L83413-2). Detailed findings are in the Results section of the attached report. The tables below show a summary of the test results.

Coho Salmon Test

TEST #10806	**Lab Code**	**6PPD-Q ug/L**	**Percent Survival %**
L83408-6	Well Water Control	<MDL	100
L83408-5	Untreated Stormwater	0.6402	5
L83410-2	60% sand/ 40% Compost	0.0268	100
L83411-2	Type 1	0.0078	100
L83413-2	Type 3	0.0047	100

MDL=0.002 ug/L

Survival was 100% at 24 hours in samples L83410-2, L83411-2, L83413-2. Survival was 5% in the untreated stormwater sample, L83408-5.

If you would like additional information, please call myself or Fran Sweeney at 206-477-7117.

Sincerely,

DocuSigned by:
John Zalusky
7163C30874B34AA...

5/2/2024

John Zalusky
King County Environmental Laboratory

DocuSign Envelope ID: 364ED07B-BA7B-4AF5-AFAB-50A39BE0313B

COHO TESTING HIGH PERFORMANCE BIORETENTION MEDIA BLENDS
PROJECT # 422040-100
March 2024

KING COUNTY DEPARTMENT OF NATURAL RESOURCES AND PARKS
WATER AND LAND RESOURCES DIVISION
ENVIRONMENTAL LABORATORY SECTION
322 WEST EWING STREET
SEATTLE, WASHINGTON 98119-1507

Test Dates:	**March 12th, 2024**
KCEL Test Numbers:	**#10806**
	(*Oncorhynchus kisutch*: 24-Hour Acute Test)
Report Date:	**March 26th, 2024, Revised May 1, 2023**

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SAMPLE

A sample of stormwater (L83408-5) and three samples of stormwater filtered through Bioretention Soil Media, BSM, (L83410-2, L83411-2, L83413-2) were received by the King Country Environmental Laboratory on 3/11/34. The samples were received in 20-L FLPE carboys and stored in the dark at 12 ±2.0°C until test initiation.

CONTROL WATER

The control water for the test with Coho Salmon was freshwater obtained from a 95-ft. deep well located at the KCEL. Test organisms (Coho Salmon) were acclimated in a flow-through system of chilled well water (WW).

For the test, WW was diluted 30% with Milli-Q water to maintain the hardness at approximately 80-100 mg/L as $CaCO_3$. The WW is analyzed for metals annually (last analyzed 2-2023) and organics are measured annually (last analyzed on 2-2023). Hardness, alkalinity, conductivity and pH are measured at the beginning of each test.

METHODS

The acute toxicity test #10806 was conducted as outlined in US EPA (2002). The specific method code is EPA 2019.0. Coho embryos are only available from the Issaquah Hatchery in December of each year. Therefore, compromises in fish age and loading rates may be necessary to complete the planned 3 events.

Test Organisms

Swim-up (swim-up on 2/06/24; hatch date 01/12/24 for test 10806) Coho salmon (*Oncorhynchus kisutch*) eggs were received from Issaquah Hatchery located in Issaquah, Washington on 12/07/23. The eggs were raised in a chilled well water flow-through system until they reached the juvenile life stage. During the juvenile life stage, the fish were held at 11.5 °C. Food was withheld from the fish for 48-hours prior to test initiation.

Physical data on salmon used in the tests is shown in the table below.

Test #	Age (days-post swim-up at start of test)	Mean Standard Length (cm)	Mean Weight (grams)	Loading Wt./Vol. (g/L)
10806	35	3.26	0.31	0.31

The mean weight of the salmon used in the tests was 0.3109 g with a mean standard length of 3.3 cm for tests 10806. The mean loading rate in each jar was 0.31 g/L.

Coho Salmon – 24-Hour Static Acute Toxicity Tests

Test chambers were 9-L glass jars, and the jars were partially covered during the test.

Samples of stormwater and each BSM sample was transported to KCEL in FLPE carboys packed in ice. Diluted well water was stored in an FLPE carboy with light aeration. The solutions were maintained at 12 ± 2.0°C in an environmental chamber (Hotpack Model 06082, S/N 79718) for approximately 12 hours (overnight) prior to test initiation. The DO of each solution at the start of the test was > 80% saturation (> 8.3 mg/L at 12°C).

At test initiation, 5.0 L aliquots were measured into 9-L glass jars. The glass jars were randomly placed in the same environmental chamber used to store solutions overnight. Five Coho salmon were placed randomly into each test jar.

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Survival was monitored during the test and recorded hourly for the first 4 hours of the test and again for the final 5 hours. Dissolved Oxygen, temperature and pH were recorded in each test and control jar at 0 and 24 hours. Test solutions were not renewed during testing. Total alkalinity and hardness were sampled in all concentrations at 0h. Conductivity was measured at 0h and 24h. The photoperiod was 16h L:8h D. The test (#10806) was initiated at 1128h on 03/12/2024 and ended at 1129h on 03/13/2024.

QUALITY ASSURANCE

Reference Toxicant Test – 24-Hour Static Acute Toxicity Tests

The 24-hour reference toxicant test with Coho (Tests #10807) was conducted using the same lot of fish in the stormwater test. Test jars were 9-L glass jars. Five fish were placed randomly in each test jar of 6L test solution. The test was initiated at 1034h on 03/20/2024 and ended at 1029h on 03/21/2024. 6PPD-Q was used as a reference toxicant for Coho salmon. The control chart located at the end of this report is maintained to monitor the sensitivity of these organisms to the reference toxicant. Quality assurance test parameters are summarized in the table below:

Parameter	Measured	Criterion	Acceptable?
Control Survival%:	100	90	Yes
Survival LC50 ng/L:	50.6	within lab C.L.'s	Yes
Lab Control Limits:	35.68 – 130.65		

The LC50's for the reference toxicant test was 50.6 ng/L and was within current laboratory control limits.

Temperature, pH and dissolved oxygen measurements remained within acceptable limits (US EPA, 2002) throughout this reference toxicant test, and the test met acceptability criteria regarding control survival (US EPA 2002).

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RESULTS

Coho Salmon (Test #10806)

The following table contains survival percentages during the 24-hour tests in which Coho salmon were exposed to dilution water (WW controls) or to stormwater and stormwater treated with different BSM blends.

TEST #10806	Sample Name	Measured 6PPD-Q Concentration (µg/L)	Percent Survival (%) 24 h	Number Dead	Number of Fish Tested
L83408-6	Negative Control	<MDL	100	0	20
L83408-5	Untreated Stormwater	0.6402	5	19	20
L83410-2	60/40 Mixture	0.0268	100	0	20
L83411-2	Treatment 1	0.0078	100	0	20
L83413-2	Treatment 3	0.0047	100	0	20

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Water Quality

The following tables contain measurements of temperature, pH and dissolved oxygen taken throughout the 24-hour tests. Measurement of Total Hardness, Total Alkalinity and Conductivity are taken from samples collected at the beginning (0-h) of the tests.

Test #10806

Sample:		L83408-6	L83408-5	L83410-2	L83411-2	L83413-2
Parameter		**Well Water**	**Stormwater**	**60/40 Mix**	**Treatment 1**	**Treatment 3**
Temperature (°C)	**Mean**	**12.71**	**12.04**	**11.71**	**11.37**	**12.07**
	Min.	12.65	11.61	11.59	10.53	11.08
	Max.	12.77	12.47	11.82	12.21	13.05
pH	**Mean**	**7.430**	**7.254**	**7.101**	**7.050**	**7.134**
	Min.	7.406	7.288	7.091	7.011	7.127
	Max.	7.454	7.220	7.111	7.089	7.141
DO (mg/L)	**Mean**	**10.14**	**9.31**	**10.00**	**10.41**	**9.75**
	Min.	9.81	8.72	9.86	10.21	10.01
	Max.	10.47	9.90	10.14	10.61	9.48
Tot. Hard (mg/L as CaCO3)	0h	42.8	94.4	188	215	168
Tot. Alk (mg/L as CaCO3)	0h	43.2	56.2	51.8	43.4	45.1
DOC (mg/L)	0h	-	11.3	15.4	8.46	4.79
NH3 (mg/L)	0h	0.0058	0.314	0.0035	< MDL	0.0174
TSS (mg/L)	0h	-	76.4	4.8	3.1	2.2
6PPD-Q (µg/L)	0h	< MDL	0.6402	0.0268	0.0078	0.0047
Conductivity* (µmhos/cm)	0h	45.4	1474	1410	1300	1273
ORP (mV)	**Mean**	**-21.9**	**-12.95**	**-4.75**	**-8.05**	**11.15**
	0h	-8.5	-11.4	-4.7	-1.6	-5.4
	24h	-35.3	-14.5	-4.8	-14.5	-16.9

* Laboratory conductivity measurements above upper set point. Sample data from Field Probe.

Additional water quality and QC data are listed on the attached photocopied pages from the laboratory notebook.

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Quality Control

Temperature remained within the acceptable limits of 12 ± 2 °C during the test. pH and dissolved oxygen measurements remained within acceptable limits (US EPA 2002) throughout the test, and the test met acceptability criteria regarding control survival (US EPA 2002).

TESTED BY:
King County Environmental Laboratory
322 West Ewing Street
Seattle WA 98119-1507

REFERENCES

APHA. 2017. Standard Methods for the Examination of Water and Wastewater, 23rd Edition. June 2017. Eds: E.W. Rice, R.B. Baird, A.D. Eaton. American Public Health Association, American Waterworks Association, Water Pollution Control Association. Washington D.C.

U.S. E.P.A. 2020. Code of Federal Regulations, 40CFR, Appendix A, Part 136, July 2020. U.S. Environmental Protection Agency, Office of Federal Registry, Washington, D.C.

WA DOE. 2021. Biological Testing Methods for the designation of Dangerous Waste. DOE 80-12, revised February 2021. Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Program, Olympia, WA.

US EPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. 5th edition. EPA-821-02-012, October 2002. US Environmental Protection Agency, Office of Water (4303T), Washington, DC.

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Coho Toxicity Test

Bench Sheets and Behavioral Notes

Unionized ammonia calculations

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10806
Coho Salmon **Test Date:** 12-MAR-2024

ORGANISMS

From Supplier:

~500 fish received from ISSAQUAH HATCHERY Lot # (Swim-up date): 02/06/2024 Shipped via — Arrived at KCEL at 1050 h on 12-07-23 in EGGS IN PLASTIC CONTAINERS
0 dead removed.
At Arrival: pH 7.455, D.O. ~~8.2~~ 11.57 mg/L, Temp 2.5 °C. Into Tank # LS Hold in tank with new well water and aeration for 95 days. Feed 2X/day with ZEIGLER TROUT CHOW. Refer to culture log for feeding & holding information.

From Lab Culture

Swim Up Date	Holding Tank pH	Holding Tank Temp	Holding Tank DO
02-06-2024	7.657	11.56	10.58

Fast the organisms for 48 hours before testing.

Control Media Preparation

1. New Well Water (NWW) 09-MAR-24, filtered through nylon netting and 0.335 mm poly screen. Dilute 30% w/ MilliQ.
2. Adjust pH using HCL or Acetic Acid (white vinegar) to within ± 0.250 pH of the holding tank pH.
3. Want D.O. @ 90-100% saturation (9.8-10.7 mg/L) before introducing fish. Aerate with O_2.

Stormwater Media Preparation

1) Received Media at (Date/Time): 03-11-24. Media was transported in FDPE - CARBOYS
2) Record pH and DO of each media type at time of receipt

Media Type	pH	Temp	DO	ORP	Cond.
WELL WATER	7.838	12.64	10.53	-8.2	46.5
UNTREATED	7.420	9.91	10.21	-14.6	547.6
60/40	7.295	11.22	10.38	-12.7	530.0
TREATMENT 3	~~7.420~~ 7.306	10.19	~~10.21~~ 8.90	~~-4.1~~ -4.3	~~547.6~~ 473.4
TREATMENT 1	7.425	10.53	10.64	-4.1	484.1

PROCEDURE

1. Place each media in EC # LARGE, 2 & 2 shelf. Set the EC to 13 °C, each media should reach 13 °C before testing.
2. Measure D.O. — mg/L at 12°C. Aerate if not 90-100% saturated (9.7 – 10.8 mg/L @ 13°C).
   Aeration: O_2 @ — L/min for — sec.
3. Fill each jar with 5L of media type.
4. Take 0h sample for pH, DO, Temp, ORP, TSS, Tot. Alk, Tot. Hard, DOC, Cond., and 6PPD-Q by ICMS
   60-40 Mix: 0930 (L83410-7) Analyst: JZ
   Treated SW 1: 0925 (L83411-7) Analyst: JZ
   Treated SW 3: 0920 (L83413-7) Analyst: JZ
   Untreated SW: 0915 (L83408-4) Analyst: JZ
5. Take 0hr for pH, DO, Temp, ORP, TSS, DOC, and 6PPD-Q by LCMS
   Treated SW 2: ✓ Analyst: JZ78

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10306
Coho Salmon **Test Date:** 12-MAR-24

6. Add 5 fish per jar using dip net, one at a time to randomize. Counts verified by JZ & FS.
7. **Start** test at 11:28 h on 03-12-24. Measure and record pH, DO, Temp and survival (# alive) daily in all reps/trtmt.
8. **End** test at 11:29 h on 03-13-24 by JZ.
9. Take 24h samples for pH, DO, Temp, Tot Alk, Tot Hard, Cond., and 6PPD-Q by ICMS ✓ Analyst: EF

MORTALITY MEASUREMENTS

Code (Trtmt)	Rep	# Dead - 24 hours	Total #	Average Mortality Rate	6PPd-Q (ug/L)	Analyst	Notes
Well Water (Negative Control) BLUE	A	0		0		JZ	
	B	0					
	C	0					
	D	0					
Untreated Storm Water GREY	A	5		95%	0.6402		
	B	5					
	C	4					Survivor in isolation
	D	5					
Treated SW Type 1 YELLOW	A	0		0	0.0078		
	B	0					
	C	0					
	D	0					
GREEN Treated SW Type 3 ~~ORANGE~~	A	0		0	0.0047		
	B	0					
	C	0					
	D	0					
ORANGE Treated SW 60/40 Mix ~~GREEN~~	A	0		0	0.0268		
	B	0					
	C	0					
	D	0					

s = stressed *Pass if mean control survival ≥ 90%

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q)
Coho Salmon

Test #: 10306
Test Date: 12-MAR-24

Chemistry

Treatment	pH		D. O. (mg/L)		Cond. (µs/cm) *		ORP (mV)	
	0 h	24 h	0 h	24 h	0 h	24 h	0 h	24 h
Control (WW)	7.406	7.454	10.47	9.81	45.4	51.6	-35.3	-8.5
Type-1	7.011	7.089	10.61	10.21	484.3	485.4	-14.5	-1.6
Type 3	7.141	7.127	9.48	10.01	473.7	477.7	-16.9	-5.4
60-40	7.091	7.111	10.14	9.86	534.8	531.4	-4.8	-4.7
SW Untreated	7.288	7.220	9.90	8.72	549.3	549.3	-14.5	-11.4

* Refer To Field sheets. FS

Position	Temperature (°C)		Treatment
	0h	24h	
A (left front)	11.27	13.05	TREAT 3 D
B (right front)	11.59	11.82	60/40 D
C (center)	12.77	12.65	WELL D
D (center)	11.61	11.41	UNTREATED B
E (left back)	11.79	12.47	UNTREATED D
F (right back)	11.08	11.63	TREAT 3 B
Analyst:	JZ	JZ	

Test Organism Data at 0h:

Sampled From: COMPOSITE OF ALL REPS **Rep** _____

Fish	Length (cm)	Weight (g)	
1	3.2	0.254	
2	3.5	0.242	
3	3.3	0.340	
4	3.4	0.344	
5	3.9	0.419	
6	3.2	0.266	
7	3.2	0.368	
8	3.1	0.291	
9	3.2	0.335	
10	3.1	0.256	
Mean:	3.26	0.3109	**Load Rate:**

Load Rate = [(Wt)(# Fish)]/ Vol
Where:
Wt = Mean Wt in g
Vol = Total Test Vol in L
Fish = # Fish/Rep

(Want < 3 g/fish; ≤ 0.8 g/L Load Rate)

(0.3109 g)(5)/ 5 L
= 0.3109 g/L

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10806
12-Mar-2024

Coho Toxicity Test

Random # Position

Code	Rep	Random #	Code	Rep	Random #
Well Water	A	6	60/40	A	3
	B	7		B	8
	C	16		C	13
	D	10		D	14
Treatment 1	A	13	Treatment 3	A	1
	B	12		B	5
	C	20		C	4
	D	9		D	19
Untreated Stormwater	A	14			
	B	11			
	C	15			
	D	2			

NOTES

Glassware rinsed with hot tap and DW before use.

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TEST 10806 03-12-24

Well Water - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour (730 830)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2					NO OBSERVATIONS TAKEN DURING THIS TIME																			
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Well Water - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Table 1
Behavioral sequence for the urban runoff-elicited mortality syndrome in juvenile coho salmon.

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Stage 6[b]	Moribund (near death), exhibiting changes in ventilation rates (i.e., gilling), along with spasms and gaping. Moribund coho were also unresponsive to touch.

[a] visible at the water surface.
[b] visible from the tank bottom.

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03-12-24

SW Untreated - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	2	2	1																				
Stage 2		2																						
Stage 3					—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Stage 4					NO OBSERVATIONS TAKEN DURING THIS TIME																			
Stage 5																								
Stage 6			2	2																5	→	→	→	

SW Untreated - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	3	2	2																				
Stage 2																								
Stage 3					—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Stage 4																								
Stage 5																								
Stage 6																				5	→	→	→	

SW Untreated - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	3	2	1																				
Stage 2																								
Stage 3					—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Stage 4			1	1																				
Stage 5																								
Stage 6			1																	5	→	→	→	

SW Untreated - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	2	2																					
Stage 2		1		1																				
Stage 3				1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Stage 4																								
Stage 5																								
Stage 6			1	1																5	→	→	→	

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[a] visible at the water surface.
[b] visible from the tank bottom.

WATER VERY MURKY
Visible Fish83 Recorded. FS

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03-12-24

60/40 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2					NO OBSERVATIONS TAKEN DURING THIS TIME																			
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

60/40 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

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[a] visible at the water surface.
[b] visible from the tank bottom.

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03-12-24

SW Treatment 1 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2					NO	OBSERVATIONS		TAKEN		DURING		THIS		TIME										
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 1 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

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03-12-24

SW Treatment 3 - A

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2						NO OBSERVATIONS TAKEN DURING THIS TIME																		
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - B

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - C

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

SW Treatment 3 - D

Stage of Symptoms	# of Fish Experiencing Symptoms per Hour																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Stage 1	5	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5	5	5	5
Stage 2																								
Stage 3																								
Stage 4																								
Stage 5																								
Stage 6																								

Table 1
Behavioral sequence for the urban runoff-elicited mortality syndrome in juvenile coho salmon.

	Behavior Characteristics
Stage 1[a]	Asymptomatic. Discrete surfacing events shorter than 0.25 s. Fish swimming within 1 cm of the surface of the exposure tank were scored. Events that only included the tail were not counted.
Stage 2[a]	Short episodes of surface swimming ranging from 0.25-2 s.
Stage 3[a]	Sustained continuous surface swimming. All durations were greater than 2 s, included linear and circular swimming.
Stage 4[a]	Loss of equilibrium including side swimming, inability to stay parallel to the surface, and spiraling.
Stage 5[b]	Loss of buoyancy, as indicated by settlement to the bottom of the tank.
Stage 6[b]	Moribund (near death), exhibiting changes in ventilation rates (i.e., gilling), along with spasms and gaping. Moribund coho were also unresponsive to touch.

[a] visible at the water surface.
[b] visible from the tank bottom.

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Unionized Ammonia in Bioretention Media Samples - Test # 10806

Chronic Test		Time (d)	pH_{max}	°C	T (°K)	Sal (ppt)	I	$pKa^{(S,298)}$	$pKa^{(S,T)}$	Total Ammonia (mg/L)	NH_3-N, (mg/L)
L83408-6	WW	1	7.454	12.8	286.0	0	0.000	9.241	9.631	0.006	0.000
L83408-5	Untreated SW	1	7.220	12.5	285.7	0	0.000	9.24060	9.64121	0.314	0.001
L83410-2	60/40 Mix	1	7.111	11.8	285.0	0	0.000	9.24060	9.66305	0.004	0.000
L83411-2	Treatment 1	1	7.089	12.2	285.4	0	0.000	9.24060	9.64994	0.000	0.000
L83413-2	Treatment 3	1	7.141	13.1	286.3	0	0.000	9.241	9.622	0.017	0.000

$I = [(19.9273)(Sal)] / [1000 - (1.005109)(Sal)]$	MAX	0.001
$pKa^{(S,298)} = 9.2406 + (0.12375 \times I)$	MEAN	0.000
$pKa^{(S,T)} = (2729.69/T) + (pKa^{(S,298)} - 9.1345) - (7.1 \times 10^{-5} T)$	MIN	0.000

$NH_3\text{-}N = Tot\ Amm / [1 + 10^{(pKa - pH)}]$

Temperature data from 4 corners and center

King County Environmental Lab Analytical Report

	Project: 422040-100 Locator: LG_TANK Descrip: Stormwater tank Hi Sample: L83408-5 Matrix: LG STORM WTR ColDate: 3/12/24 9:15 **WET Weight Basis**					Project: 422040-100 Locator: LAB Descrip: LAB CONTROL Sample: L83408-6 Matrix: LA OTHR WTR ColDate: 3/12/24 0:00 **WET Weight Basis**					Project: 422040-100 Locator: 60_40 COMP Descrip: 60_40 BSM composit Sample: L83410-2 Matrix: LA OTHR WTR ColDate: 3/12/24 9:30 **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ KCEL SOP 4077: 6PPDQ by LCMS															
6ppd-quinone	0.64		0.002	0.01	ug/L		<MDL	0.002	0.01	ug/L	0.0268		0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997															
Ammonia Nitrogen	0.314		0.008	0.04	mg/L	0.0058	<RDL	0.002	0.01	mg/L	0.0035	<RDL	0.002	0.01	mg/L
CV SM2320-B															
Total Alkalinity	56.2		1	5	mg CaCO3/L	43.2		1	5	mg CaCO3/L	44		1	5	mg CaCO3/L
CV SM2540-D															
Total Suspended Solids	76.4		2.6	10.5	mg/L						4.8		1	4	mg/L
CV SM5310-B															
Dissolved Organic Carbon	11.3		0.5	2	mg/L						15.4		1	4	mg/L
MT EPA 200.8 (MOD)															
Calcium, Total, ICP-MS	28200		50	50	ug/L	11100		50	50	ug/L	51800		50	50	ug/L
Magnesium, Total, ICP-MS	5830		50	50	ug/L	3630		50	50	ug/L	14300		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B															
Hardness, Calc	94.4		0.331	0.331	mg CaCO3/L	42.8		0.331	0.331	mg CaCO3/L	188		0.331	0.331	mg CaCO3/L

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King County Environmental Lab Analytical Report

	Project: 422040-100 Locator: HP1 COMP Descrip: HPBSM1 composite Sample: L83411-2 Matrix: LA OTHR WTR ColDate: 3/12/24 9:25 **WET Weight Basis**					Project: 422040-100 Locator: HP3 COMP Descrip: HPBSM3 composite Sample: L83413-2 Matrix: LA OTHR WTR ColDate: 3/12/24 9:20 **WET Weight Basis**				
Parameters	**Value**	**Qual**	**MDL**	**RDL**	**Units**	**Value**	**Qual**	**MDL**	**RDL**	**Units**
AQ KCEL SOP 4077: 6PPDQ by LCMS										
6ppd-quinone	0.0076	<RDL	0.002	0.01	ug/L	0.0047	<RDL	0.002	0.01	ug/L
CV KEROUEL & AMINOT 1997										
Ammonia Nitrogen		<MDL	0.002	0.01	mg/L	0.0174		0.002	0.01	mg/L
CV SM2320-B										
Total Alkalinity	43.4		1	5	mg CaCO3/L	45.1		1	5	mg CaCO3/L
CV SM2540-D										
Total Suspended Solids	3.1		0.5	2	mg/L	2.2		0.5	2	mg/L
CV SM5310-B										
Dissolved Organic Carbon	8.46		0.5	2	mg/L	4.79		0.5	2	mg/L
MT EPA 200.8 (MOD)										
Calcium, Total, ICP-MS	52200		50	50	ug/L	42300		50	50	ug/L
Magnesium, Total, ICP-MS	20500		50	50	ug/L	15300		50	50	ug/L
MT EPA 200.8 (MOD)*SM2340B										
Hardness, Calc	215		0.331	0.331	mg CaCO3/L	168		0.331	0.331	mg CaCO3/L

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Reference Toxicant Test:

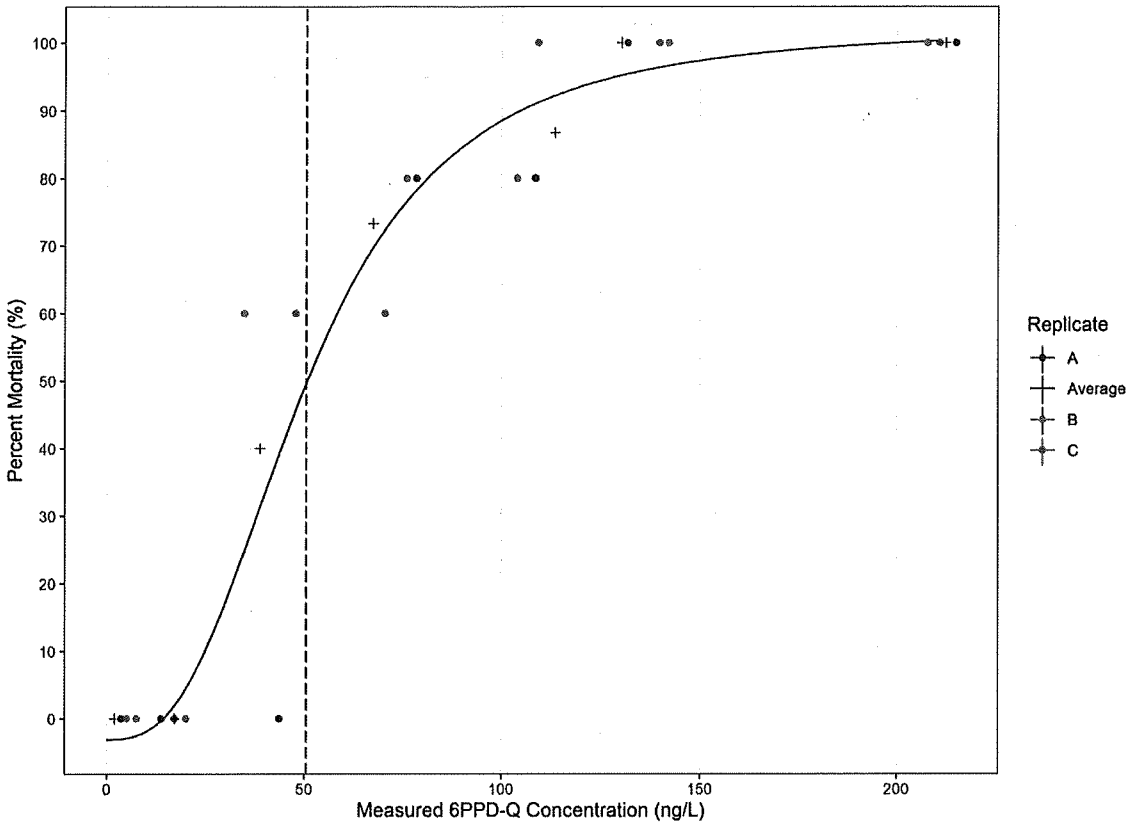
Statistics

Bench Sheets

Control Chart

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Reference Toxicant Statistics

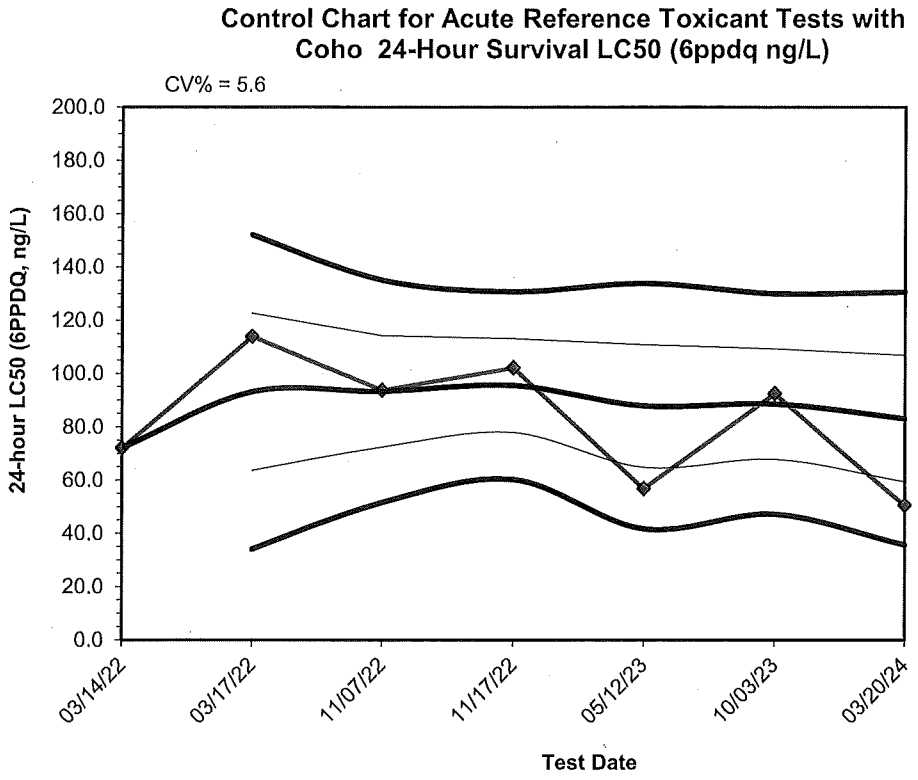


Dose response curve of reference toxicant test conducted on 20 March 2024. Dotted line shows the LC-50 of 50.62 ng/L.

Effect Level	ug/L	95% LCL	95% UCL
EC 50	50.623	-0.136	5.111

All statistics calculated using R statistical software version 1.4.1717. Dose response curves were calculated using the R package 'drc' version 3.0-1.

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Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
03/14/22	72.20	72.2000				
03/17/22	114.00	93.1000	63.5429	33.9859	122.6571	152.2141
11/07/22	93.7	93.3000	72.3971	51.4943	114.2029	135.1057
11/17/22	102.2	95.5250	77.8873	60.2496	113.1627	130.8004
05/12/23	56.90	87.8000	64.7415	41.6830	110.8585	133.9170
10/03/23	92.54	88.5900	67.8753	47.1605	109.3047	130.0195
03/20/24	50.60	83.1629	59.4192	35.6756	106.9065	130.6502

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10807
Coho Salmon **Test Date:** 03-20-24

ORGANISMS

From Supplier:

~500 fish received from ISAQUAH HATCHERY Lot # (Swim-up date): 02/06/2024 Shipped via — Arrived at KCEL at 1000 h on 12-07-23 in EGGS IN PLASTIC CONTAINERS 0 dead removed.

At Arrival: pH 7.455, D.O. 11.57 mg/L, Temp 2.5 °C. Into Tank # LIVING STREAM Hold in tank with new well water and aeration for 95 days. Feed 2X/day with ZIEGLER TROUT CHOW. Refer to culture log for feeding & holding information.

From Lab Culture:

Swim Up Date	Holding Tank pH	Holding Tank Temp	Holding Tank DO
02/06/2024	7.440	11.91	10.37
Fish Length (cm)	**Fish Mass (g)**		
3.3	0.329		

Fast the organisms for 48 hours before testing.

WATER/Media Preparation

1. New Well Water (NWW) —, filtered through nylon netting and 0.335 mm poly screen. Dilute 30% w/ MilliQ.
   Adjust pH using HCL or Acetic Acid (white vinegar) to within ± 0.250 pH of culture media.
   Want D.O. @ 90-100% saturation (9.8-10.7 mg/L) before add sample. Aerate with O_2.

Dilution Preperation

1) Add the amount of 6PPD-Q in accordance with the dilution table. Start at 0911 h on 03-20-24 Analyst: JZ.
2) Add 6 L of NWW into each of 3 (three) 7-L glass jars and cap with glass lids.

DILUTIONS

Code	Final ng/L 6PPD-Q	µL Standard (100µL/mL)	Dilution water (L)
White	200	40 µL	20
Red	150	30	20
Orange	100	20	20
Yellow	75	15	20
Green	50	10	20
Gray	25	5	20
Blue	0	0	20

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10807
Coho Salmon **Test Date:** 03-20-24

PROCEDURE

1. Prep dilutions as above in 20-L FDPE carboys and place in EC # LARGE — & — shelf. Fill each jar with 6-L of respective solution
2. Measure D.O. 10.16 mg/L at 12°C. Aerate if not 90-100% saturated (9.7 – 10.8 mg/L @ 12°C). Aeration: O_2 @ — L/min for — sec.
3. Take 0h sample for pH, DO, Temp, Tot. Alk, Tot. Hard, Cond., and 6PPD-Q by ICMS — Analyst: JZ
4. Add 6 fish per jar using dip net, one at a time to randomize. Counts verified by JZ & EF.
5. **Start** test at 1034 h on 03-20-24. ~~Place video cameras above treatments with all containers in field of view~~. Measure and record pH, DO, Temp and survival (# alive) daily in all reps/trtmt.
6. **End** test at 1029 h on 03-21-24 by JZ
7. Take 24h samples for pH, DO, Temp, ~~Tot Alk, Tot Hard, Cond.~~, and 6PPD-Q by ICMS ✓ Analyst: JZ

MEASUREMENTS

Code (Trtmt)	Rep	# Dead - 24 hours	Total #	Average Mortality Rate	Analyst	Notes
Blue (0 ng/L)	A	0		0	JZ	
	B	0				
	C	0				
Grey (25 ng/L)	A	0		0		
	B	0				
	C	0				
Green (50 ng/L)	A	0		40%		
	B	3				
	C	3				
Yellow (75 ng/L)	A	4		73.3%		
	B	4				
	C	3				
Orange (100 ng/L)	A	4		86.7%		
	B	4				
	C	5				
Red (150 ng/L)	A	5		100		
	B	5				
	C	5				
White (200 ng/L)	A	5		100		
	B	5				
	C	5				

s = stressed *Pass if mean control survival ≥ 90%

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q) **Test #:** 10807
Coho Salmon **Test Date:** 03-20-24

Chemistry

Treatment	Conc 6PPD-Q (mg/L)	Rep	Measured Concentrations	
			0 h	24h
Control	0 (WW/MQ)	A	AVERAGE	N/A
		B	0.0	
		C	⊥	
Grey	25 ng/L	A	AVERAGE	
		B	21	
		C	⊥	
Green	50ng/L	A	AVERAGE	
		B	41.9	
		C	⊥	
Yellow	75 ng/L	A	AVERAGE	
		B	73.9	
		C	⊥	
Orange	100 ng/L	A	AVERAGE	
		B	106	
		C	⊥	
Red	150 ng/L	A	AVERAGE	
		B	135.3	
		C	⊥	
White	200 ng/L	A	AVERAGE	
		B	209.4	
		C	⊥	⊥
Analyst:			JZ	

Position	Temperature (°C)		Treatment
	0h	24h	
A (left front)	12.83	12.11	~~Blue B~~ JZ Grey B
B (right front)	12.67	11.52	White A
C (center)	12.94	11.92	Blue B
D (center)	12.38	11.84	Yellow C
E (left back)	12.75	12.17	Green B
F (right back)	12.28	11.54	Red B
Analyst:	JZ	JZ	

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Urban Runoff Mortality Test, 24-Hour Static Acute Test (6PPD-Q)
Coho Salmon

Test #: 10807
Test Date: 03-20-24

Treatment	pH		D. O. (mg/L)	
	0 h	24 h	0 h	24 h
Control (WW)	7.819	7.663	10.36	9.14
Grey (25 ng/L)	7.846	7.732	10.11	9.41
Green (50 ng/L)	7.889	7.673	10.06	9.59
Yellow (75 ng/L)	7.907	7.677	10.14	9.58
Orange (100 ng/L)	7.903	7.695	10.08	9.68
Red (150 ng/L)	7.892	7.679	10.07	9.85
White (200 ng/L)	7.869	7.682	10.10	9.95

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Chain of Custody

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Login: P83408 **6PPDQ Bioretention LG COMP-Untreated Storm 3** **FSU TC:** _____
Project: 422040-100 **LPM: Susannah Rowles**

CHAIN OF CUSTODY

Relinquished by	*Date* 3/12/24 03/11/2024	*Time* 1232
Received by	*Date* 3-12-24	*Time* 1232
Sample Numbers	1-4	*[All]*

Sample Number	P83408-1	P83408-2	P83408-3
QC Link			
Locator	LG_TANK	LG_TANK	LG_TANK
Short Loc Desc			
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab
Site	I-5TAPE	I-5TAPE	I-5TAPE
Comments	Stormwater Composite - T1 A	Stormwater Composite - T1 B	Stormwater Composite - T1 C
Start Date/Time	3/11/24 1041	→ 1148	→ 1254
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	1472	1470	1472
DO, FIELD	10.50	9.99	10.20
PH, FIELD	7.53	7.57	7.61
REDOX, FIELD	-11.3	-11.9	-19.9
SAMP INFO	START	MID	END
SAMP TEMP	10.720	11.390	11.814
Dept, Matrix, Prod (Cont ID)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)	3 LG DOC (36) 3 LG TSS (6) 4 LG 6PPDQ (43)

Pumps started @ 10:15

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Login: P83408 **6PPDQ Bioretention LG COMP-Untreated Storm 3** **FSU TC: _____**

Project: 422040-100 **LPM: Susannah Rowles**

Sample Number	**P83408-4**	**P83408-5**	**P83408-6**
QC Link			
Locator	**LG_TANK**	**LG_TANK**	**LAB**
Short Loc Desc			IN HOUSE
Locator Desc	Stormwater tank Hinman WWU Lab	Stormwater tank Hinman WWU Lab	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Stormwater Composite - T3	Stormwater Composite - T4	Lab dilution water
Start Date/Time	3/11/24 1508	3/12/24 0915	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			**********
COND, FIELD	1474	547.6	**********
DO, FIELD	10.93	10.21	**********
PH, FIELD	7.69	7.420	**********
REDOX, FIELD	-34.7	-14.6	**********
SAMP INFO			**********
SAMP TEMP	6.397	9.91	**********
Dept, Matrix, Prod (Cont ID)		3 LG ALK (52) 3 LG DOC (36) 3 LG NH3 (31) 3 LG TSS (6) 4 LG 6PPDQ (43) 4 LG TROUT-ACUTE (2) 6 LG ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

X Aliquot →

FREP @ 1510

1470
10.96
7.68
-34.9
6,559

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Login: P83410 **6PPDQ Bioretention 60:40 comp Storm 3** **FSU TC:** _____
Project: 422040-100 **LPM: Susannah Rowles**

CHAIN OF CUSTODY

Relinquished by	***Date*** 3/12/24	***Time*** 1232
Received by	***Date*** 3-12-24	***Time*** 1232
Sample Numbers		***[All]***

Sample Number	**P83410-1**	**P83410-2**	
QC Link			
Locator	**60_40 COMP**	**60_40 COMP**	
Short Loc Desc			
Locator Desc	60_40 BSM composite	60_40 BSM composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - 60:40 Mix T3	Treated Stormwater Composite - 60:40 Mix T4	
Start Date/Time	3/11/24 1338	3/12/24 0930	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC	-		
COND, FIELD	1410		
DO, FIELD	10.74	11.22	
PH, FIELD	7.07	7.295	
REDOX, FIELD	4.0	-12.7	
SAMP INFO			
SAMP TEMP	9.402	11.22	
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	

FREP @1339
14.10
10.75
7.08
9.416

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Login: P83411 **6PPDQ Bioretention HP1 comp Storm 3** **FSU TC:** _____
Project: 422040-100 **LPM: Susannah Rowles**

CHAIN OF CUSTODY

Relinquished by	***Date*** 3/12/24	***Time*** 1232
Received by	***Date*** 3-12-24	***Time*** 1232
Sample Numbers		***[All]***

Sample Number	**P83411-1**	**P83411-2**	**P83411-3**
QC Link			
Locator	**HP1 COMP**	**HP1 COMP**	**LAB**
Short Loc Desc			IN HOUSE
Locator Desc	HPBSM1 composite	HPBSM1 composite	LAB LOCATOR
Site	I-5TAPE	I-5TAPE	ELD
Comments	Treated Stormwater Composite - HP1 Mix T3	Treated Stormwater Composite - HP1 Mix T4	Lab dilution water
Start Date/Time	3/11/24 1410	3/12/24 0925	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			**********
COND, FIELD	1300	484.1	**********
DO, FIELD	10.76	10.68	**********
PH, FIELD	7.24	7.425	**********
REDOX, FIELD	-9.4	-4.1	**********
SAMP INFO			**********
SAMP TEMP	9.234	10.53	**********
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	3 LA ALK (52) 3 LA NH3 (31) 6 LA ICPMS (63)

SR
2/22/24

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Login: P83413 **6PPDQ Bioretention HP3 comp Storm 3** **FSU TC:** _____

Project: 422040-100 **LPM: Susannah Rowles**

CHAIN OF CUSTODY

Relinquished by	***Date*** 3/12/24	***Time*** 1232
Received by	***Date*** 3-12-24	***Time*** 1232
Sample Numbers		***[All]***

Sample Number	**P83413-1**	**P83413-2**	
QC Link			
Locator	**HP3 COMP**	**HP3 COMP**	
Short Loc Desc			
Locator Desc	HPBSM3 composite	HPBSM3 composite	
Site	I-5TAPE	I-5TAPE	
Comments	Treated Stormwater Composite - HP3 Mix T3	Treated Stormwater Composite - HP3 Mix T4	
Start Date/Time	3/11/24 1459	3/12/24 0920	
End Date/Time			
Time Span			
Sample Depth			
CLIENT LOC			
COND, FIELD	1273	1473.4	
DO, FIELD	8.88	8.90	
PH, FIELD	7.60	7.306	
REDOX, FIELD	-25.6	-4.3	
SAMP INFO			
SAMP TEMP	8.912	10.19	
Dept, Matrix, Prod (Cont ID)		3 LA ALK (52) 3 LA DOC (36) 3 LA NH3 (31) 3 LA TSS (6) 4 LA 6PPDQ (43) 4 LA TROUT-ACUTE (2) 6 LA ICPMS (63)	