

**APPENDIX J – SANTA MARGARITA RIVER WMA
2017-2018 WET WEATHER MS4 OUTFALL QC REPORT**

QUALITY ASSURANCE SUMMARY FOR WET WEATHER MS4 OUTFALL CHEMISTRY RESULTS 2017-2018

Quality Assurance / Quality Control Results for Wet Weather MS4 Outfall Chemistry Results

The process of quality assurance (QA) / quality control (QC) has the following two components:

Quality Assurance—The system used to verify that the entire process is operating within acceptable limits.

Quality Control—The mechanisms established to measure non-conforming method performance.

Generally, analytical results were within corresponding project and/or laboratory QA/QC acceptance ranges and limits. A summary of QA procedures and QC findings, qualifications, and exceptions for the water chemistry results for the contaminants of concern are presented categorically by analyte group in the following sections. The laboratory batch identifications (ID) that are associated with each laboratory report number is provided in Table 1. The summary of QC samples analyzed per batch ID and lab by QC type is presented in Table 2.

Holding Times

All samples were analyzed within method recommended holding times with the following exceptions:

- The following project samples for dissolved organic carbon were qualified with an N_TOCd which indicated that the sample was filtered and preserved at laboratory after 15 minute regulatory holding time.
 - 902MS44034 (January 9, 2018)
 - 902MS41033 (February 27, 2018)
 - 902MS43015 (February 27, 2018)
 - 902MS42240 (March 22, 2018)
 - 902MS45031 (March 22, 2018)
- Field Blank (January 9, 2018): color, fecal coliform, total coliform, and *Enterococcus*

Blanks

Laboratory contamination associated with sample processing was assessed through the analysis of procedural or method blanks on a minimum frequency of one per batch or matrix type. Procedural blanks were processed and handled identically to a sample including the addition of the same reagents, contact with the same type of vessels, and processed with the same procedure. All of the detected method blank results were below the reporting limits with the following exception:

- The following method blank samples for the specified analytes were qualified with a QBLKf which indicates that the filtered method blank did not meet laboratory acceptance criteria.
 - 8C07076-BLK1 (Batch ID: 7B27078): Total zinc
 - 8C07076-BLK2 (Batch ID: 7B27078): Total zinc
 - 8C07076-BLK3 (Batch ID: 7B27078): Total zinc

- 8C28110-BLK2 (Batch ID: 8C28110): Total zinc
- The following method blank samples for the specified analytes was qualified with an IP which indicates that the analyte was detected in the field or lab generated blank. Total lead was detected in the method blank above the reporting limit, which was possibly contaminated during the sample preparation. The batch was accepted since total lead was either non detected or more than 10 times of the blank value for all the samples in the batch.
 - W8C0225-BLK1 (Batch ID: 8C0225): Total lead

Field contamination associated with sample collection was evaluated using field blank samples. All parameters measured in field blanks were below the reporting limits with the following exceptions:

- Field Blank (January 9, 2018): total suspended solids (TSS), total organic carbon (TOC), and dissolved organic carbon (DOC)

Method Detection Limits (MDLs) / Reporting Limits (RLs)

Laboratory MDLs/RLs for the target analytes measured in the samples were acceptable for the assessment of project benchmarks.

Accuracy

A QC summary of the accuracy of the surrogate results is presented in Table 3 and the accuracy and precision results of matrix spikes (MS) are presented in Table 4.

All surrogate results for project samples met acceptability limits with the following exceptions:

- HST01 (January 9, 2018): Triphenyl phosphate
- HST01-DUP (January 9, 2018): Triphenyl phosphate

Triphenyl phosphate was outside of control limits due to a possible matrix effect. The sample result was accepted based on valid recovery of the remaining surrogate.

The MS for project samples met the accuracy and precision acceptability requirements for all constituents with the following exceptions:

- The following project sample for the specified analytes was qualified with a CT which indicates that the QC criteria was not met due to the high concentration of the analyte inherent in the sample.
 - MS4-SMR-SMG-063 (February 27, 2018): total iron, total zinc, and total Kjeldahl nitrogen
- The following project sample for the specified analyte was qualified with a DB which indicates that the QA results were outside the acceptance limits due to matrix effects.
 - MS4-SMR-SMG-063 (February 27, 2018): dissolved iron

Precision

A QC summary of the precision of the lab duplicate results is presented in Table 5 and summary of the field duplicate results is presented in Table 6.

All the laboratory duplicate results for project samples met acceptability limits with the following exceptions:

- FB-01092018 (January 9, 2018)
 - Total suspended solids had an RPD of 67%
- MS4-SMR-SMG-063 (February 27, 2018)
 - Total selenium had an RPD of 34%
- FB-022818 (February 28, 2018)
 - Dissolved copper had an RPD of 200%
 - Dissolved nickel had an RPD of 70%

These samples were qualified with an SLM indicating that the analyte results for R1 and/or R2 were lower than 10 times the method detection limit; therefore, the RPD acceptance limits do not apply.

All of the precision between the field duplicate pairs met the project criteria.

Table 1. Summary of Batch Identifications and Associated Laboratory Report Numbers

Batch ID	Laboratory Report No.	Laboratory	Group	Method
8A09124	B8A0718	Babcock Laboratories, Inc.	General Chemistry	SM 5210B
8A09150	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 5540C
8A10100	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8A10101	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B
8A10106	B8A0872	Babcock Laboratories, Inc.	Nutrients	EPA 351.2
8A10116	B8A0718	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B
8A10116	B8A0718	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E
8A10116	B8A0718	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F
8A10123	B8A0872	Babcock Laboratories, Inc.	Nutrients	Calculation
8A10131	B8A0872	Babcock Laboratories, Inc.	Nutrients	EPA 300.0
8A10156	B8A0872	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B
8A11077	B8A0872	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0
8A11077	B8A0872	Babcock Laboratories, Inc.	Nutrients	EPA 300.0
8A11129	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 2540C
8A11132	B8A0872	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B
8A12010	B8A0872	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H G
8A12020	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8A13008	B8A0718	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A
8A15119	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 2540D
8A15146	B8A0872	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8A15157	B8A0718	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B
8A16098	B8A0872	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8
8A16098	B8A0872	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8A16099	B8A0872	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8A16108	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 5220D
8A16119	B8A0872	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270
8A17082	B8A0872	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8 ATP
8A17082	B8A0872	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8A17108	B8A0872	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8A17114	B8A0872	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7
8A17114	B8A0872	Babcock Laboratories, Inc.	Total Metals	EPA 200.7

Table 1. Summary of Batch Identifications and Associated Laboratory Report Numbers

Batch ID	Laboratory Report No.	Laboratory	Group	Method
8A18081	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 2340B/EPA 200.7
8A18081	B8A0872	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8A18097	B8A0872	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8A22095	B8A0872	Babcock Laboratories, Inc.	General Chemistry	SM 8010F
8B27130	B8B2193	Babcock Laboratories, Inc.	General Chemistry	SM 5210B
8B27130	B8B2194	Babcock Laboratories, Inc.	General Chemistry	SM 5210B
8B27130	B8B2197	Babcock Laboratories, Inc.	General Chemistry	SM 5210B
8B28045	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 5540C
8B28045	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 5540C
8B28047	B8B2419	Babcock Laboratories, Inc.	Nutrients	EPA 351.2
8B28047	B8B2422	Babcock Laboratories, Inc.	Nutrients	EPA 351.2
8B28078	B8B2419	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B
8B28078	B8B2422	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B
8B28080	B8B2193	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B
8B28080	B8B2194	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B
8B28080	B8B2197	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B
8B28098	B8B2419	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0
8B28098	B8B2419	Babcock Laboratories, Inc.	Nutrients	EPA 300.0
8B28098	B8B2422	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0
8B28098	B8B2422	Babcock Laboratories, Inc.	Nutrients	EPA 300.0
8B28111	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B
8B28111	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B
8B28115	B8B2419	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B
8B28115	B8B2422	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B
8C01009	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 8010F
8C01009	B8B2419	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H
8C01009	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 8010F
8C01009	B8B2422	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H
8C01019	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 2540C
8C01033	B8B2193	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B
8C01033	B8B2193	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E

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Batch ID	Laboratory Report No.	Laboratory	Group	Method
8C01033	B8B2193	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F
8C01033	B8B2194	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B
8C01033	B8B2194	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E
8C01033	B8B2194	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F
8C02006	B8B2419	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270
8C02006	B8B2422	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270
8C02031	B8B2419	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C02031	B8B2422	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C02045	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 2540C
8C05093	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 2540D
8C05093	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 2540D
8C05096	B8B2419	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C05096	B8B2422	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C06078	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C06078	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C06081	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C06081	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C06082	B8B2419	Babcock Laboratories, Inc.	Nutrients	Calculation
8C06082	B8B2422	Babcock Laboratories, Inc.	Nutrients	Calculation
8C07076	B8B2419	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8
8C07076	B8B2419	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8C07076	B8B2422	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8
8C07076	B8B2422	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8C07077	B8B2419	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8C07077	B8B2422	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8C07079	B8B2419	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8 ATP
8C07079	B8B2419	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C07079	B8B2422	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8 ATP
8C07079	B8B2422	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C07089	B8B2419	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7
8C07089	B8B2419	Babcock Laboratories, Inc.	Total Metals	EPA 200.7

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Batch ID	Laboratory Report No.	Laboratory	Group	Method
8C07089	B8B2422	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7
8C07089	B8B2422	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C07110	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 5220D
8C07110	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 5220D
8C08065	B8B2419	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C08065	B8B2422	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C09015	B8B2193	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A
8C09015	B8B2194	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A
8C09015	B8B2197	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A
8C09021	B8B2419	Babcock Laboratories, Inc.	General Chemistry	SM 2340B/EPA 200.7
8C09021	B8B2419	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C09021	B8B2422	Babcock Laboratories, Inc.	General Chemistry	SM 2340B/EPA 200.7
8C09021	B8B2422	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C22065	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 5540C
8C22065	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 5540C
8C23023	B8C2225	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B
8C23023	B8C2225	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E
8C23023	B8C2225	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F
8C23023	B8C2226	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B
8C23023	B8C2226	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E
8C23023	B8C2226	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F
8C23038	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B
8C23038	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B
8C23039	B8C2225	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B
8C23039	B8C2226	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B
8C23054	B8C2225	Babcock Laboratories, Inc.	General Chemistry	SM 5210B
8C23054	B8C2226	Babcock Laboratories, Inc.	General Chemistry	SM 5210B
8C23058	B8C2232	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0
8C23058	B8C2232	Babcock Laboratories, Inc.	Nutrients	EPA 300.0
8C23058	B8C2233	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0
8C23058	B8C2233	Babcock Laboratories, Inc.	Nutrients	EPA 300.0

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Batch ID	Laboratory Report No.	Laboratory	Group	Method
8C23069	B8C2232	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B
8C23069	B8C2233	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B
8C26072	B8C2232	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H
8C26072	B8C2233	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H G
8C26077	B8C2232	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270
8C26077	B8C2233	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270
8C27063	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 2540C
8C27063	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 2540C
8C27094	B8C2232	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B
8C27094	B8C2233	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B
8C28060	B8C2232	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8 ATP
8C28060	B8C2232	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C28060	B8C2233	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8 ATP
8C28060	B8C2233	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C28066	B8C2232	Babcock Laboratories, Inc.	Nutrients	EPA 351.2
8C28066	B8C2233	Babcock Laboratories, Inc.	Nutrients	EPA 351.2
8C28107	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C28107	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C28110	B8C2232	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8
8C28110	B8C2232	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8C28110	B8C2233	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.8
8C28110	B8C2233	Babcock Laboratories, Inc.	Total Metals	EPA 200.8
8C29034	B8C2232	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7
8C29034	B8C2232	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C29034	B8C2233	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7
8C29034	B8C2233	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C29035	B8C2232	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C29035	B8C2233	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP
8C29044	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 2540D
8C29044	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 2540D
8C29056	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 2340B/EPA 200.7

Table 1. Summary of Batch Identifications and Associated Laboratory Report Numbers

Batch ID	Laboratory Report No.	Laboratory	Group	Method
8C29056	B8C2232	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C29056	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 2340B/EPA 200.7
8C29056	B8C2233	Babcock Laboratories, Inc.	Total Metals	EPA 200.7
8C30007	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C30007	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 5310B
8C30029	B8C2232	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C30029	B8C2233	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C30037	B8C2232	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C30037	B8C2233	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E
8C30039	B8C2232	Babcock Laboratories, Inc.	Nutrients	Calculation
8C30039	B8C2233	Babcock Laboratories, Inc.	Nutrients	Calculation
8C31052	B8C2225	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A
8C31052	B8C2226	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A
8D02083	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 5220D
8D02083	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 5220D
8D03108	B8C2232	Babcock Laboratories, Inc.	General Chemistry	SM 8010F
8D03108	B8C2233	Babcock Laboratories, Inc.	General Chemistry	SM 8010F
EMA_8022742	18B0844	EnviroMatrix, Inc.	Fecal Indicator Bacteria	SM 9221
EMA_8022743	18B0844	EnviroMatrix, Inc.	Fecal Indicator Bacteria	SM 9230 B
WKL_8A11016_Hardness_W	8A11016	Weck Laboratories, Inc.	General Chemistry	EPA 200.7
WKL_8A11022_Hardness_W	8A11022	Weck Laboratories, Inc.	General Chemistry	EPA 200.7
WKL_8B28092_Hardness_W	8B28092	Weck Laboratories, Inc.	General Chemistry	EPA 200.7
WKL_W8A0520_W	8A11022	Weck Laboratories, Inc.	General Chemistry	SM 2540 C
WKL_W8A0568_W	8A11016	Weck Laboratories, Inc.	Nutrients	EPA 353.2
WKL_W8A0568_W	8A11022	Weck Laboratories, Inc.	Nutrients	EPA 353.2
WKL_W8A0574_W	8A11016	Weck Laboratories, Inc.	General Chemistry	SM 5540 C
WKL_W8A0574_W	8A11022	Weck Laboratories, Inc.	General Chemistry	SM 5540 C
WKL_W8A0575_W	8A11016	Weck Laboratories, Inc.	Nutrients	EPA 365.1
WKL_W8A0575_W	8A11016	Weck Laboratories, Inc.	Nutrients	EPA 365.3
WKL_W8A0575_W	8A11022	Weck Laboratories, Inc.	Nutrients	EPA 365.3
WKL_W8A0665_W	8A11022	Weck Laboratories, Inc.	General Chemistry	SM 2120 B

Table 1. Summary of Batch Identifications and Associated Laboratory Report Numbers

Batch ID	Laboratory Report No.	Laboratory	Group	Method
WKL_W8A0711_W	8A11016	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M
WKL_W8A0711_W	8A11022	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M
WKL_W8A0751_W	8A11016	Weck Laboratories, Inc.	General Chemistry	SM 2540 D
WKL_W8A0808_W	8A11016	Weck Laboratories, Inc.	General Chemistry	SM 2540 C
WKL_W8A0829_W	8A11016	Weck Laboratories, Inc.	General Chemistry	EPA 300.0
WKL_W8A0829_W	8A11022	Weck Laboratories, Inc.	General Chemistry	EPA 300.0
WKL_W8A0830_W	8A11022	Weck Laboratories, Inc.	General Chemistry	SM 2540 D
WKL_W8A0913_W	8A11016	Weck Laboratories, Inc.	General Chemistry	SM 5310 B
WKL_W8A0913_W	8A11022	Weck Laboratories, Inc.	General Chemistry	SM 5310 B
WKL_W8A1027_W	8A11016	Weck Laboratories, Inc.	General Chemistry	SM 5310 B
WKL_W8A1027_W	8A11022	Weck Laboratories, Inc.	General Chemistry	SM 5310 B
WKL_W8A1082_W	8A11016	Weck Laboratories, Inc.	Nutrients	EPA 350.1
WKL_W8A1082_W	8A11022	Weck Laboratories, Inc.	Nutrients	EPA 350.1
WKL_W8A1132_W	8A11016	Weck Laboratories, Inc.	Nutrients	EPA 200.7
WKL_W8A1132_W	8A11016	Weck Laboratories, Inc.	Total Metals	EPA 200.7
WKL_W8A1132_W	8A11022	Weck Laboratories, Inc.	Nutrients	EPA 200.7
WKL_W8A1132_W	8A11022	Weck Laboratories, Inc.	Total Metals	EPA 200.7
WKL_W8A1135_W	8A11016	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7
WKL_W8A1136_W	8A11016	Weck Laboratories, Inc.	Total Metals	EPA 200.8
WKL_W8A1136_W	8A11022	Weck Laboratories, Inc.	Total Metals	EPA 200.8
WKL_W8A1137_W	8A11016	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8
WKL_W8A1137_W	8A11022	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8
WKL_W8A1504_W	8A11016	Weck Laboratories, Inc.	Nutrients	EPA 351.2
WKL_W8A1504_W	8A11022	Weck Laboratories, Inc.	Nutrients	EPA 351.2
WKL_W8A1616_W	8A09092	Weck Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221
WKL_W8A1616_W	8A09092	Weck Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230 B
WKL_W8A1633_W	8A09089	Weck Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221
WKL_W8A1633_W	8A09089	Weck Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230 B
WKL_W8B0991_W	8A11022	Weck Laboratories, Inc.	Nutrients	EPA 200.7
WKL_W8B1478_W	8B28092	Weck Laboratories, Inc.	Nutrients	EPA 353.2
WKL_W8B1484_W	8B28092	Weck Laboratories, Inc.	Nutrients	EPA 365.1

Table 1. Summary of Batch Identifications and Associated Laboratory Report Numbers

Batch ID	Laboratory Report No.	Laboratory	Group	Method
WKL_W8B1491_W	8B28092	Weck Laboratories, Inc.	General Chemistry	SM 5540 C
WKL_W8C0003_W	8B28092	Weck Laboratories, Inc.	General Chemistry	SM 2540 C
WKL_W8C0065_W	8B28092	Weck Laboratories, Inc.	General Chemistry	EPA 300.0
WKL_W8C0109_W	8B28092	Weck Laboratories, Inc.	General Chemistry	SM 2540 D
WKL_W8C0194_W	8B28092	Weck Laboratories, Inc.	Nutrients	EPA 350.1
WKL_W8C0223_W	8B28092	Weck Laboratories, Inc.	Nutrients	EPA 200.7
WKL_W8C0223_W	8B28092	Weck Laboratories, Inc.	Total Metals	EPA 200.7
WKL_W8C0224_W	8B28092	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7
WKL_W8C0224_W	8B28095	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7
WKL_W8C0225_W	8B28092	Weck Laboratories, Inc.	Total Metals	EPA 200.8
WKL_W8C0263_W	8B28092	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M
WKL_W8C0359_W	8B28092	Weck Laboratories, Inc.	Nutrients	EPA 351.2
WKL_W8C0370_W	8B28092	Weck Laboratories, Inc.	General Chemistry	SM 5310 B
WKL_W8C0527_W	8B28092	Weck Laboratories, Inc.	General Chemistry	SM 5310 B
WKL_W8C0895_W	8B28092	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8
WKL_W8C0895_W	8B28095	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8A09124	Babcock Laboratories, Inc.	General Chemistry	SM 5210B	None	1	1	1			
8A09150	Babcock Laboratories, Inc.	General Chemistry	SM 5540C	None	1		1		1	1
8A10100	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	None	1		1		1	1
8A10101	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	None	2	3	2			
8A10106	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	None	1	1	1		1	1
8A10116	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B	None		1				
8A10116	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E	None		1				
8A10116	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F	None		1				
8A10131	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	None	1		1		2	1
8A10156	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B	None			1		1	1

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8A11077	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0	None	1		1		2	1
8A11077	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	None	1		1		2	1
8A11129	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	None	1	2	1			
8A11132	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	None		2	1			
8A12010	Babcock Laboratories, Inc.	Nutrients	SM4500NH3 H G	None	1		1		1	1
8A12020	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	None	1	1	1		1	1
8A13008	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A	None	1		1	1	1	
8A15119	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	None	1	2	1			
8A15146	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	None			1		1	1
8A15157	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B	None		1				

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8A16098	Babcock Laboratories, Inc.	Total Metals	EPA 200.8	Total	2		1	1	1	
8A16099	Babcock Laboratories, Inc.	Total Metals	EPA 200.8	Total	1		1	1	2	
8A16108	Babcock Laboratories, Inc.	General Chemistry	SM 5220D	None	1		1		1	1
8A16119	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	None	2		1	1	1	
8A17082	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP	Total	2		1	1	2	
8A17108	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP	Total	1		1	1	2	
8A17114	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7	Dissolved					1	
8A17114	Babcock Laboratories, Inc.	Total Metals	EPA 200.7	Total	7		1	1	1	
8A18081	Babcock Laboratories, Inc.	Total Metals	EPA 200.7	Total	1		1	1	2	
8A18097	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	None			1		1	1

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8B27130	Babcock Laboratories, Inc.	General Chemistry	SM 5210B	None	1	1	1			
8B28045	Babcock Laboratories, Inc.	General Chemistry	SM 5540C	None	1		1		1	1
8B28047	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	None	1		1		2	1
8B28078	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	None		2	1			
8B28080	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B	None		1				
8B28098	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0	None	1		1		2	1
8B28098	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	None	1		1		2	1
8B28111	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	None	1	2	1			
8B28115	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B	None			1		1	1
8C01009	Babcock Laboratories, Inc.	Nutrients	SM4500NH3 H	None	1		1		1	1

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8C01019	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	None	1	2	1			
8C02006	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	None	1		1	1		
8C02031	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	None			1		1	1
8C02045	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	None	1	2	1			
8C05093	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	None	1	2	1			
8C05096	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	None			1		1	1
8C06078	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	None	1	1	1		1	1
8C06081	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	None	1		1		1	1
8C07076	Babcock Laboratories, Inc.	Total Metals	EPA 200.8	Total	3		1	1	2	
8C07077	Babcock Laboratories, Inc.	Total Metals	EPA 200.8	Total	1		1	1	2	

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8C07079	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP	Total	4		1	1	2	
8C07089	Babcock Laboratories, Inc.	Dissolved Metals	EPA 200.7	Dissolved					1	
8C07089	Babcock Laboratories, Inc.	Total Metals	EPA 200.7	Total	6		1	1	1	
8C07110	Babcock Laboratories, Inc.	General Chemistry	SM 5220D	None	1		1		1	1
8C08065	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP	Total	1		1	1	2	
8C09015	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A	None	1		1	1	1	
8C09021	Babcock Laboratories, Inc.	Total Metals	EPA 200.7	Total	1		1	1	2	
8C22065	Babcock Laboratories, Inc.	General Chemistry	SM 5540C	None	1		1		1	1
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B	None		2				
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E	None		2				

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F	None		2				
8C23038	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	None	1	2	1			
8C23039	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B	None		1				
8C23054	Babcock Laboratories, Inc.	General Chemistry	SM 5210B	None	1	1	1			
8C23058	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0	None	1		1		2	1
8C23058	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	None	1		1		2	1
8C23069	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B	None			1		1	1
8C26072	Babcock Laboratories, Inc.	Nutrients	SM4500NH3 H	None	1		1		1	1
8C26072	Babcock Laboratories, Inc.	Nutrients	SM4500NH3 H G	None	1		1		1	1
8C26077	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	None	2		1	1		

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8C27063	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	None	1	2	1			
8C27094	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	None		2	1			
8C28060	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP	Total	1		1	1	1	
8C28066	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	None	1		1		2	1
8C28107	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	None	1		1		1	1
8C28110	Babcock Laboratories, Inc.	Total Metals	EPA 200.8	Total	2		1	1	2	
8C29034	Babcock Laboratories, Inc.	Total Metals	EPA 200.7	Total	6		1	1	2	
8C29035	Babcock Laboratories, Inc.	Total Metals	EPA 200.8 ATP	Total	1		1	1	1	
8C29044	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	None	1	2	1			
8C29056	Babcock Laboratories, Inc.	Total Metals	EPA 200.7	Total	1		1	1	2	

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
8C30007	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	None	1		1		1	1
8C30029	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	None			1		1	1
8C30037	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	None			1		1	1
8C31052	Babcock Laboratories, Inc.	General Chemistry	EPA 1664A	None	1		1	1		
8D02083	Babcock Laboratories, Inc.	General Chemistry	SM 5220D	None	1		1		1	1
WKL_W8A0520_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	Total	1		1			
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	Total	1	1	1		2	2
WKL_W8A0574_W	Weck Laboratories, Inc.	General Chemistry	SM 5540 C	Total	1	1	1		1	1
WKL_W8A0575_W	Weck Laboratories, Inc.	Nutrients	EPA 365.3	Total	2		2		1	1
WKL_W8A0665_W	Weck Laboratories, Inc.	General Chemistry	SM 2120 B	None			1			

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Total	1		1		1	1
WKL_W8A0751_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	Total	1		2			
WKL_W8A0808_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	Total	1		1			
WKL_W8A0829_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	Total	1		1		2	2
WKL_W8A0830_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	Total	1	1	1			
WKL_W8A0913_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	Total	1	1	1		1	1
WKL_W8A1027_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	Dissolved	1	1	1		1	1
WKL_W8A1082_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	Total	2		2		2	2
WKL_W8A1132_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	Total	1	1	1		2	2
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	Total	1	1	1		2	2

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
WKL_W8A1135_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	Dissolved	1	1	1		1	1
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	Total	1		1		1	1
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Dissolved	1	1	1		1	1
WKL_W8A1504_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	Total	3		3		2	2
WKL_W8B0991_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	Dissolved	2		2		1	1
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	Total	1	1	1		2	2
WKL_W8B1484_W	Weck Laboratories, Inc.	Nutrients	EPA 365.1	Total	2		2		2	2
WKL_W8B1491_W	Weck Laboratories, Inc.	General Chemistry	SM 5540 C	Total	1		1		1	1
WKL_W8C0003_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	Total	1		1			
WKL_W8C0065_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	Total	1		1		2	2

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
WKL_W8C0109_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	Total	1	1	1			
WKL_W8C0194_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	Total	2		2		2	2
WKL_W8C0223_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	Total	1	1	1		2	2
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	Total	1	1	1		2	2
WKL_W8C0224_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	Dissolved	1	1	1		1	1
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	Total	1	1	1		1	1
WKL_W8C0263_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Total	1		1		1	1
WKL_W8C0359_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	Total	2		2		2	2
WKL_W8C0370_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	Total	1		1		1	1
WKL_W8C0527_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	Dissolved	1		1		1	1

Table 2. Summary of Quality Control Samples Analyzed for 2017-2018 Wet Weather MS4 Outfall Chemistry Results

Batch ID	Laboratory	Group	Method	Fraction	Blank	Lab Dup	Lab Control Spike	Lab Control Spike Dup	Matrix Spike	Matrix Spike Dup
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Dissolved	3	1	2		1	1

Table 3. Summary of Accuracy of Surrogates

Batch ID	Laboratory	Group	Method	Parameter	Fraction	Sample ID	Sample Date	Percent Recovery (%)	Surrogate Limits (%)	Accuracy Accept	Qualifier
8A16119	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	1,3-Dimethyl-2-Nitrobenzene	None	1718-W1-4034-01-C	9-Jan-18	63	16-126%	Pass	None
8C02006	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	1,3-Dimethyl-2-Nitrobenzene	None	1718-W1-1033-01-C	27-Feb-18	51.2	16-126%	Pass	None
8C02006	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	1,3-Dimethyl-2-Nitrobenzene	None	1718-W1-3015-01-C	27-Feb-18	54.8	16-126%	Pass	None
8C26077	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	1,3-Dimethyl-2-Nitrobenzene	None	1718-W1-2240-01-C	22-Mar-18	40.8	16-126%	Pass	None
8C26077	Babcock Laboratories, Inc.	Organophosphorus Pesticides	EPA 8270	1,3-Dimethyl-2-Nitrobenzene	None	1718-W1-5031-01-C	22-Mar-18	54.8	16-126%	Pass	None
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Dimethyl-2-nitrobenzene, 1,3-(Surrogate)	Total	FB-01092018	9-Jan-18	63	50-150	Pass	None
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Dimethyl-2-nitrobenzene, 1,3-(Surrogate)	Total	HST01	9-Jan-18	64	50-150	Pass	None
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Dimethyl-2-nitrobenzene, 1,3-(Surrogate)	Total	HST01-DUP	9-Jan-18	65	50-150	Pass	None
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Triphenyl Phosphate(Surrogate)	Total	FB-01092018	9-Jan-18	123	50-150	Pass	None
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Triphenyl Phosphate(Surrogate)	Total	HST01	9-Jan-18	220	50-150	Fail	GN
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Triphenyl Phosphate(Surrogate)	Total	HST01-DUP	9-Jan-18	306	50-150	Fail	GN
WKL_W8C0263_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Dimethyl-2-nitrobenzene, 1,3-(Surrogate)	Total	MS4-SMR-SMG-063	27-Feb-18	60	50-150	Pass	None
WKL_W8C0263_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Triphenyl Phosphate(Surrogate)	Total	MS4-SMR-SMG-063	27-Feb-18	112	50-150	Pass	None

Glossary of Quality Assurance/Quality Control Flags

GN - Surrogate recovery is outside of control limits

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
8A09150	Babcock Laboratories, Inc.	General Chemistry	SM 5540C	B8A0692-05*		MBAS	None	87.4	82.4	35-168%	Pass	5	20	Pass	None
8A10100	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8A0797-01*		Dissolved Organic Carbon	None	114	116	80-120%	Pass	1.06	10	Pass	None
8A10106	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	B8A0777-01*		Kjeldahl Nitrogen	None	102	89.7	57-152%	Pass	6.33	25	Pass	None
8A10131	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	B8A1024-01*		Nitrate as N	None	33.8	92.9	75-131%	Fail	36	20	Fail	QFpas, QMout
8A10156	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B	1718-W1-4034-01-C	9-Jan-18	Nitrite as N	None	91.7	91.7	80-120%	Pass	0	20	Pass	None
8A11077	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0	1718-W1-4034-01-C	9-Jan-18	Sulfate	None	103	104	80-120%	Pass	0.215	20	Pass	None
8A11077	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	1718-W1-4034-01-C	9-Jan-18	Nitrate as N	None	94.9	97.6	75-131%	Pass	2.11	20	Pass	None
8A12010	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H G	B8A0792-01*		Ammonia-Nitrogen	None	98.8	101	80-120%	Pass	1.85	20	Pass	None
8A12020	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8A1258-01*		Total Organic Carbon	None	111	120	80-120%	Pass	1.66	10	Pass	None
8A15146	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	B8A0811-02*		Total Dissolved Phosphorus	None	102	105	80-120%	Pass	1.96	20	Pass	None
8A16108	Babcock Laboratories, Inc.	General Chemistry	SM 5220D	B8A1350-01*		Chemical Oxygen Demand	None	94.4	94.4	80-120%	Pass	0	20	Pass	None
8A18097	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	B8A0825-01*		Total Phosphorus	None	113	106	80-120%	Pass	4.6	20	Pass	None
8B28045	Babcock Laboratories, Inc.	General Chemistry	SM 5540C	B8B2334-01*		MBAS	None	71.4	65.8	80-120%	Fail	8.14	20	Pass	None
8B28047	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	B8B2180-01*		Kjeldahl Nitrogen	None	89.8	97.1	57-152%	Pass	1.97	25	Pass	None
8B28098	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0	B8B2269-01*		Sulfate	None	107	106	80-120%	Pass	0.46	20	Pass	None

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
8B28098	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	B8B2269-01*		Nitrate as N	None	101	99.9	75-131%	Pass	0.475	20	Pass	None
8B28115	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B	B8B2241-01*		Nitrite as N	None	95.6	96.2	80-120%	Pass	0.459	20	Pass	None
8C01009	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H	B8B2241-01*		Ammonia-Nitrogen	None	91.2	104	80-120%	Pass	5.44	20	Pass	None
8C02031	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	B8B2135-01*		Total Phosphorus	None	110	109	80-120%	Pass	1.02	20	Pass	None
8C05096	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	B8B2237-02*		Total Dissolved Phosphorus	None	104	102	80-120%	Pass	1.04	20	Pass	None
8C06078	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8B2184-01*		Total Organic Carbon	None	98.3	99.5	80-120%	Pass	0.285	10	Pass	None
8C06081	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8B2262-01*		Dissolved Organic Carbon	None	96.8	95.9	80-120%	Pass	0.573	10	Pass	None
8C07110	Babcock Laboratories, Inc.	General Chemistry	SM 5220D	B8C0234-01*		Chemical Oxygen Demand	None	96.7	97.6	80-120%	Pass	0.89	20	Pass	None
8C22065	Babcock Laboratories, Inc.	General Chemistry	SM 5540C	B8C2074-01*		MBAS	None	77.3	93	35-168%	Pass	14.9	20	Pass	QRPDp
8C23058	Babcock Laboratories, Inc.	General Chemistry	EPA 300.0	B8C2300-03*		Sulfate	None	103	104	75-128%	Pass	0.223	20	Pass	None
8C23058	Babcock Laboratories, Inc.	Nutrients	EPA 300.0	B8C2300-03*		Nitrate as N	None	103	104	75-131%	Pass	0.274	20	Pass	None
8C23069	Babcock Laboratories, Inc.	Nutrients	SM 4500NO2 B	B8C2322-01*		Nitrite as N	None	98.4	96.7	80-120%	Pass	1.78	20	Pass	None
8C26072	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H	1718-W1-2240-01-C	22-Mar-18	Ammonia-Nitrogen	None	107	96.6	80-120%	Pass	7.68	20	Pass	None
8C26072	Babcock Laboratories, Inc.	Nutrients	SM4500NH3H G	1718-W1-2240-01-C	22-Mar-18	Ammonia-Nitrogen	None	107	96.6	80-120%	Pass	7.68	20	Pass	None
8C28066	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	1718-W1-5031-01-C	22-Mar-18	Kjeldahl Nitrogen	None	113	113	42-154%	Pass	0.0941	25	Pass	None

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
8C28107	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8C2592-02*		Dissolved Organic Carbon	None	116	92.5	80-120%	Pass	3.54	10	Pass	None
8C30007	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8C2771-01*		Total Organic Carbon	None	148	150	80-120%	Fail	0.358	10	Pass	QM-3x
8C30029	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	1718-W1-2240-01-C	22-Mar-18	Total Phosphorus	None	82.9	80.1	80-120%	Pass	2.17	20	Pass	None
8C30037	Babcock Laboratories, Inc.	Nutrients	SM 4500P B E	B8C2173-02*		Total Dissolved Phosphorus	None	115	116	80-120%	Pass	0.495	20	Pass	None
8D02083	Babcock Laboratories, Inc.	General Chemistry	SM 5220D	1718-W1-2240-01-C	22-Mar-18	Chemical Oxygen Demand	None	102	101	80-120%	Pass	0.817	20	Pass	None
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	8A10118-03*		Nitrate as N	Total	104	104	90-110	Pass	0.3	20	Pass	QAX
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	8A10118-03*		Nitrite as N	Total	112	112	90-110	Fail	0	20	Pass	D,DB,QAX
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	8A11019-01*		Nitrate as N	Total	101	99	90-110	Pass	0.9	20	Pass	QAX
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	8A11019-01*		Nitrite as N	Total	105	105	90-110	Pass	0	20	Pass	QAX
WKL_W8A0574_W	Weck Laboratories, Inc.	General Chemistry	SM 5540 C	FB-01092018	9-Jan-18	MBAS	Total	101	102	74-123	Pass	0.8	20	Pass	None
WKL_W8A0575_W	Weck Laboratories, Inc.	Nutrients	EPA 365.3	8A11019-01*		OrthoPhosphate as P	Total	99	99	85-112	Pass	0	20	Pass	QAX
WKL_W8A0711_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	FB-01092018	9-Jan-18	Chlorpyrifos	Total	101	93	50-150	Pass	9	25	Pass	None
WKL_W8A0829_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	8A11019-01*		Chloride	Total	100	99	80-120	Pass	0.4	25	Pass	D,QAX
WKL_W8A0829_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	8A11019-01*		Sulfate	Total	98	97	80-120	Pass	0.8	25	Pass	D,QAX
WKL_W8A0829_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	8A12060-02*		Chloride	Total	101	101	80-120	Pass	0.1	25	Pass	D,QAX

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
WKL_W8A0829_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	8A12060-02*		Sulfate	Total	98	98	80-120	Pass	0.3	25	Pass	D,QAX
WKL_W8A0913_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	8A11131-03*		Total Organic Carbon	Total	105	87	80-120	Pass	8	20	Pass	QAX
WKL_W8A1027_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	8A11082-02*		Dissolved Organic Carbon	Dissolved	91	85	80-120	Pass	4	20	Pass	QAX
WKL_W8A1082_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	8A11019-01*		Ammonia as N	Total	100	103	90-110	Pass	3	15	Pass	QAX
WKL_W8A1082_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	FB-01092018	9-Jan-18	Ammonia as N	Total	104	105	90-110	Pass	0.9	15	Pass	None
WKL_W8A1132_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	8A11019-01*		Phosphorus as P	Total	116	117	75-125	Pass	0.8	25	Pass	QAX
WKL_W8A1132_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	HST01-DUP	9-Jan-18	Phosphorus as P	Total	108	106	75-125	Pass	0.4	25	Pass	None
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	8A11019-01*		Calcium	Total	106	106	75-125	Pass	0.03	25	Pass	QAX
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	8A11019-01*		Iron	Total	117	116	75-125	Pass	0.4	25	Pass	QAX
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	8A11019-01*		Magnesium	Total	104	105	75-125	Pass	0.2	25	Pass	QAX
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	HST01-DUP	9-Jan-18	Calcium	Total	101	100	75-125	Pass	0.7	25	Pass	None
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	HST01-DUP	9-Jan-18	Magnesium	Total	102	101	75-125	Pass	0.6	25	Pass	None
WKL_W8A1135_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	8A11022-01*		Iron	Dissolved	102	102	75-125	Pass	0	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Arsenic	Total	97	97	75-125	Pass	0.5	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Cadmium	Total	96	96	75-125	Pass	0.4	25	Pass	QAX

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Chromium	Total	93	95	75-125	Pass	1	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Copper	Total	96	98	75-125	Pass	2	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Lead	Total	96	98	75-125	Pass	2	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Manganese	Total	93	96	75-125	Pass	3	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Nickel	Total	94	96	75-125	Pass	1	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Selenium	Total	97	98	75-125	Pass	1	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Thallium	Total	98	101	75-125	Pass	3	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11019-01*		Zinc	Total	96	100	75-125	Pass	2	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Arsenic	Dissolved	98	97	75-125	Pass	0.9	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Cadmium	Dissolved	96	97	75-125	Pass	1	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Chromium	Dissolved	96	95	75-125	Pass	1	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Copper	Dissolved	98	97	75-125	Pass	0.5	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Lead	Dissolved	96	97	75-125	Pass	0.7	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Manganese	Dissolved	95	95	75-125	Pass	0.2	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Nickel	Dissolved	97	96	75-125	Pass	0.5	25	Pass	QAX

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Selenium	Dissolved	97	98	75-125	Pass	0.6	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Thallium	Dissolved	100	99	75-125	Pass	0.1	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8A11019-01*		Zinc	Dissolved	97	98	75-125	Pass	0.2	25	Pass	QAX
WKL_W8A1504_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	8A11019-01*		Nitrogen, Total Kjeldahl	Total	108	102	90-110	Pass	5	10	Pass	D,QAX
WKL_W8A1504_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	FB-01092018	9-Jan-18	Nitrogen, Total Kjeldahl	Total	94	95	90-110	Pass	1	10	Pass	None
WKL_W8B0991_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	8A11024-03*		Phosphorus as P	Dissolved	113	103	75-125	Pass	5	25	Pass	QAX
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	8B28026-01*		Nitrate as N	Total	93	95	90-110	Pass	0.5	20	Pass	QAX
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	8B28026-01*		Nitrite as N	Total	89	89	90-110	Fail	0	20	Pass	D,DB,QAX
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	MS4-SMR-SMG-063	27-Feb-18	Nitrate as N	Total	94	94	90-110	Pass	0.2	20	Pass	D
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	MS4-SMR-SMG-063	27-Feb-18	Nitrite as N	Total	97	98	90-110	Pass	0.6	20	Pass	None
WKL_W8B1484_W	Weck Laboratories, Inc.	Nutrients	EPA 365.1	8B28094-03*		OrthoPhosphate as P	Total	102	104	90-110	Pass	0.5	20	Pass	D,QAX
WKL_W8B1484_W	Weck Laboratories, Inc.	Nutrients	EPA 365.1	MS4-SMR-SMG-063	27-Feb-18	OrthoPhosphate as P	Total	102	100	90-110	Pass	0.6	20	Pass	D
WKL_W8B1491_W	Weck Laboratories, Inc.	General Chemistry	SM 5540 C	MS4-SMR-SMG-063	27-Feb-18	MBAS	Total	102	102	74-123	Pass	0.07	20	Pass	None
WKL_W8C0065_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	8C01050-03*		Sulfate	Total	111	111	80-120	Pass	0.2	25	Pass	D,QAX
WKL_W8C0065_W	Weck Laboratories, Inc.	General Chemistry	EPA 300.0	MS4-SMR-SMG-063	27-Feb-18	Sulfate	Total	109	108	80-120	Pass	0.6	25	Pass	D

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
WKL_W8C0194_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	8B28094-02*		Ammonia as N	Total	99	102	90-110	Pass	2	15	Pass	QAX
WKL_W8C0194_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	MS4-SMR-SMG-063	27-Feb-18	Ammonia as N	Total	95	100	90-110	Pass	1	15	Pass	None
WKL_W8C0223_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	8B28088-02*		Phosphorus as P	Total	110	111	75-125	Pass	0.2	25	Pass	QAX
WKL_W8C0223_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Phosphorus as P	Total	109	113	75-125	Pass	3	25	Pass	None
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	8B28088-02*		Calcium	Total	103	102	75-125	Pass	0.1	25	Pass	QAX
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	8B28088-02*		Iron	Total	238	220	75-125	Fail	0.9	25	Pass	CT,QAX
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	8B28088-02*		Magnesium	Total	100	100	75-125	Pass	0.3	25	Pass	QAX
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Calcium	Total	99	105	75-125	Pass	4	25	Pass	None
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Iron	Total	105	140	75-125	Fail	2	25	Pass	CT
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Magnesium	Total	97	102	75-125	Pass	4	25	Pass	None
WKL_W8C0224_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Iron	Dissolved	98	73	75-125	Fail	19	25	Pass	DB
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Arsenic	Total	103	104	75-125	Pass	0.5	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Cadmium	Total	96	96	75-125	Pass	0.07	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Chromium	Total	109	111	75-125	Pass	2	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Copper	Total	104	107	75-125	Pass	2	25	Pass	None

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Lead	Total	91	95	75-125	Pass	3	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Manganese	Total	85	102	75-125	Pass	7	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Nickel	Total	106	106	75-125	Pass	0.1	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Selenium	Total	96	97	75-125	Pass	0.7	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Thallium	Total	97	94	75-125	Pass	2	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Zinc	Total	112	131	75-125	Fail	4	25	Pass	CT
WKL_W8C0263_W	Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	MS4-SMR-SMG-063	27-Feb-18	Chlorpyrifos	Total	83	67	50-150	Pass	21	25	Pass	None
WKL_W8C0359_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	8B28094-02*		Nitrogen, Total Kjeldahl	Total	105	106	90-110	Pass	1	10	Pass	QAX
WKL_W8C0359_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	MS4-SMR-SMG-063	27-Feb-18	Nitrogen, Total Kjeldahl	Total	124	104	90-110	Fail	5	10	Pass	CT
WKL_W8C0370_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	MS4-SMR-SMG-063	27-Feb-18	Total Organic Carbon	Total	82	97	80-120	Pass	3	20	Pass	None
WKL_W8C0527_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	MS4-SMR-SMG-063	27-Feb-18	Dissolved Organic Carbon	Dissolved	87	92	80-120	Pass	1	20	Pass	None
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Arsenic	Dissolved	98	96	75-125	Pass	2	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Cadmium	Dissolved	100	97	75-125	Pass	4	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Chromium	Dissolved	99	96	75-125	Pass	3	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Copper	Dissolved	101	98	75-125	Pass	3	25	Pass	D

Table 4. Summary of Accuracy and Precision of Matrix Spike and/or Matrix Spike Duplicate

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	MS (% Recovery)	MSD (% Recovery)	Accuracy Limit (%)	Accuracy Accept	RPD**	Precision Limit (%)	Precision Accept	Qualifier
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Lead	Dissolved	99	98	75-125	Pass	2	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Manganese	Dissolved	98	96	75-125	Pass	2	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Nickel	Dissolved	99	95	75-125	Pass	4	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Selenium	Dissolved	98	92	75-125	Pass	6	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Thallium	Dissolved	103	101	75-125	Pass	2	25	Pass	D
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Zinc	Dissolved	102	99	75-125	Pass	2	25	Pass	D

* Indicates the QC was assessed using a non project related sample.

** RPD - relative percent difference. Laboratory calculated value.

Glossary of Quality Assurance/Quality Control Flags

CT - QC criteria not met due to high level of analyte concentration

D - Analytes analyzed at a secondary dilution

DB - QA results outside of acceptance limits due to matrix effects

QAX - The native sample for the MS/MSD or duplicate is not included in the batch reported

Qfpas - Follow-up result within laboratory acceptance criteria.

QM-3x - Due to analyte concentration greater than or equal to 3 times the spike concentration, recoveries for the MS and/or MSD did not meet laboratory acceptance criteria.

Qmout - MS and/or MSD recovery did not meet laboratory acceptance criteria.

QRPDp - The data was accepted based on valid RPD of the remaining analyte(s). This analyte's RPD value for the sample duplicate or MS/MSD did not meet laboratory acceptance criteria.

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
8A09124	Babcock Laboratories, Inc.	General Chemistry	SM 5210B	B8A0732-01*		Biochemical Oxygen Demand	None	268	mg/L	314	mg/L	15.8	20	Pass	None
8A10101	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8A0820-03*		Turbidity	None	0.058	NTU	0.058	NTU	0	20	Pass	J
8A10101	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8A0820-04*		Turbidity	None	0.06	NTU	0.061	NTU	1.65	20	Pass	J
8A10101	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8A0992-01*		Turbidity	None	19.1	NTU	20	NTU	4.6	20	Pass	None
8A10106	Babcock Laboratories, Inc.	Nutrients	EPA 351.2	B8A0777-01*		Kjeldahl Nitrogen	None	1.04	mg/L	1.04	mg/L	0.653	25	Pass	None
8A10116	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B	B8A0982-01*		Total Coliform	None	130	MPN/100 mL	170	MPN/100 mL	26.7	259	Pass	None
8A10116	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E	B8A0982-01*		Fecal Coliform	None	23	MPN/100 mL	23	MPN/100 mL	0	152	Pass	None
8A10116	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F	B8A0982-01*		E. Coli	None	23	MPN/100 mL	23	MPN/100 mL	0	152	Pass	None
8A11129	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8A0811-01*		Total Dissolved Solids	None	143	mg/L	135	mg/L	5.76	20	Pass	None
8A11129	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8A0813-01*		Total Dissolved Solids	None	104	mg/L	95	mg/L	9.05	20	Pass	None
8A11132	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	B8A0883-01*		Specific Conductance	None	41.9	umhos/cm	41.7	umhos/cm	0.478	20	Pass	None
8A11132	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	B8A0883-02*		Specific Conductance	None	41.1	umhos/cm	40.8	umhos/cm	0.733	20	Pass	None
8A12020	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8A1136-01*		Total Organic Carbon	None	6.84	mg/L	6.74	mg/L	1.53	20	Pass	None
8A15119	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	B8A0839-01*		Total Suspended Solids	None	186	mg/L	226	mg/L	19.4	25	Pass	None
8A15119	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	B8A0858-01*		Total Suspended Solids	None	192	mg/L	204	mg/L	6.06	25	Pass	None

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
8A15157	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B	B8A0713-01*		Enterococcus	None	13000	MPN/100 mL	17000	MPN/100 mL	26.7	258	Pass	None
8B27130	Babcock Laboratories, Inc.	General Chemistry	SM 5210B	B8B2279-01*		Biochemical Oxygen Demand	None	480	mg/L	484	mg/L	0.934	20	Pass	None
8B28078	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	B8B2266-01*		Specific Conductance	None	560	umhos/cm	562	umhos/cm	0.357	20	Pass	None
8B28078	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	B8B2266-02*		Specific Conductance	None	559	umhos/cm	557	umhos/cm	0.358	20	Pass	None
8B28080	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B	B8B2183-01*		Enterococcus	None	11000	MPN/100 mL	11000	MPN/100 mL	0	258	Pass	None
8B28111	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8B2330-09*		Turbidity	None	0.185	NTU	0.207	NTU	11.2	20	Pass	None
8B28111	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8B2341-01*		Turbidity	None	6.11	NTU	6.13	NTU	0.327	20	Pass	None
8C01019	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8B2430-01*		Total Dissolved Solids	None	623	mg/L	632	mg/L	1.43	20	Pass	None
8C01019	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8B2435-01*		Total Dissolved Solids	None	628	mg/L	641	mg/L	2.05	20	Pass	None
8C02045	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8B2267-01*		Total Dissolved Solids	None	443	mg/L	449	mg/L	1.35	20	Pass	None
8C02045	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8B2466-01*		Total Dissolved Solids	None	656	mg/L	615	mg/L	6.45	20	Pass	None
8C05093	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	B8B2346-01*		Total Suspended Solids	None	378	mg/L	366	mg/L	3.23	25	Pass	None
8C05093	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	B8C0012-01*		Total Suspended Solids	None	198	mg/L	196	mg/L	1.02	25	Pass	None
8C06078	Babcock Laboratories, Inc.	General Chemistry	SM 5310B	B8C0158-01*		Total Organic Carbon	None	18	mg/L	17.6	mg/L	2.52	20	Pass	None
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B	1718-W1-2240-01	22-Mar-18	Total Coliform	None	>=160000	MPN/100 mL	>=160000	MPN/100 mL	NR	259	Pass	None

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B	1718-W1-2240-01	22-Mar-18	Total Coliform	None	ND	MPN/100 mL	>=160000	MPN/100 mL	NR	259	Pass	None
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221B	B8C2151-01*		Total Coliform	None	130000	MPN/100 mL	500000	MPN/100 mL	117	259	Pass	None
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E	1718-W1-2240-01	22-Mar-18	Fecal Coliform	None	160000	MPN/100 mL	90000	MPN/100 mL	56	152	Pass	None
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221E	B8C2151-01*		Fecal Coliform	None	23000	MPN/100 mL	30000	MPN/100 mL	26.4	152	Pass	None
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F	1718-W1-2240-01	22-Mar-18	E. Coli	None	160000	MPN/100 mL	90000	MPN/100 mL	56	152	Pass	None
8C23023	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9221F	B8C2151-01*		E. Coli	None	23000	MPN/100 mL	30000	MPN/100 mL	26.4	152	Pass	None
8C23038	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8C2074-01*		Turbidity	None	1.04	NTU	1.09	NTU	4.69	20	Pass	None
8C23038	Babcock Laboratories, Inc.	General Chemistry	SM 2130 B	B8C2231-02*		Turbidity	None	0.684	NTU	0.694	NTU	1.45	20	Pass	None
8C23039	Babcock Laboratories, Inc.	Fecal Indicator Bacteria	SM 9230B	1718-W1-2240-01	22-Mar-18	Enterococcus	None	5000	MPN/100 mL	13000	MPN/100 mL	88.9	258	Pass	None
8C23054	Babcock Laboratories, Inc.	General Chemistry	SM 5210B	B8C2259-01*		Biochemical Oxygen Demand	None	310	mg/L	317	mg/L	2.24	20	Pass	None
8C27063	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8C2115-01*		Total Dissolved Solids	None	724	mg/L	724	mg/L	0	20	Pass	None
8C27063	Babcock Laboratories, Inc.	General Chemistry	SM 2540C	B8C2267-01*		Total Dissolved Solids	None	467	mg/L	475	mg/L	1.7	20	Pass	None
8C27094	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	B8C2180-01*		Specific Conductance	None	111	umhos/cm	111	umhos/cm	0.181	20	Pass	None
8C27094	Babcock Laboratories, Inc.	Physical Chemistry	SM 2510 B	B8C2180-02*		Specific Conductance	None	101	umhos/cm	100	umhos/cm	0.497	20	Pass	None
8C29044	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	B8C2214-02*		Total Suspended Solids	None	81	mg/L	79	mg/L	2.5	25	Pass	None

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
8C29044	Babcock Laboratories, Inc.	General Chemistry	SM 2540D	B8C2234-01*		Total Suspended Solids	None	17.5	mg/L	17.5	mg/L	0	25	Pass	None
WKL_W8A0520_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	8A09031-01*		Total Dissolved Solids	Total	1250	mg/L	1240	mg/L	1	10	Pass	QAX
WKL_W8A0520_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	8A10010-01*		Total Dissolved Solids	Total	2470	mg/L	2510	mg/L	2	10	Pass	QAX
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	FB-01092018	9-Jan-18	Nitrate as N	Total	ND	mg/L	ND	mg/L	NR	20	Pass	None
WKL_W8A0568_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	FB-01092018	9-Jan-18	Nitrite as N	Total	ND	mg/L	ND	mg/L	NR	20	Pass	None
WKL_W8A0574_W	Weck Laboratories, Inc.	General Chemistry	SM 5540 C	FB-01092018	9-Jan-18	MBAS	Total	ND	mg/L	ND	mg/L	NR	20	Pass	None
WKL_W8A0575_W	Weck Laboratories, Inc.	Nutrients	EPA 365.3	8A11024-01*		OrthoPhosphate as P	Total	0.607	mg/L	0.578	mg/L	5	20	Pass	QAX
WKL_W8A0665_W	Weck Laboratories, Inc.	General Chemistry	SM 2120 B	8A11019-01*		Color	None	70	CU	70	CU	0	10	Pass	D,QAX
WKL_W8A0751_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	7L22012-01*		Total Suspended Solids	Total	2	mg/L	2	mg/L	0	20	Pass	QAX
WKL_W8A0751_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	8A10077-02*		Total Suspended Solids	Total	14	mg/L	13	mg/L	7	20	Pass	QAX
WKL_W8A0808_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	7L26003-01*		Total Dissolved Solids	Total	1660	mg/L	1760	mg/L	6	10	Pass	QAX
WKL_W8A0808_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	8A11019-01*		Total Dissolved Solids	Total	198	mg/L	198	mg/L	0	10	Pass	QAX
WKL_W8A0830_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	8A10132-02*		Total Suspended Solids	Total	2	mg/L	3	mg/L	40	20	Fail	QAX,SLM
WKL_W8A0830_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	FB-01092018	9-Jan-18	Total Suspended Solids	Total	1	mg/L	2	mg/L	67	20	Fail	SLM
WKL_W8A0913_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	HST01	9-Jan-18	Total Organic Carbon	Total	25.5	mg/L	29.4	mg/L	14	20	Pass	D

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
WKL_W8A1027_W	Weck Laboratories, Inc.	General Chemistry	SM 5310 B	HST01	9-Jan-18	Dissolved Organic Carbon	Dissolved	22.4	mg/L	24.8	mg/L	10	20	Pass	D
WKL_W8A1082_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	8A11019-02*		Ammonia as N	Total	0.134	mg/L	0.133	mg/L	0.7	15	Pass	QAX
WKL_W8A1132_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	HST01	9-Jan-18	Phosphorus as P	Total	3.09	mg/L	2.89	mg/L	7	25	Pass	None
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	HST01	9-Jan-18	Calcium	Total	60.1	mg/L	57	mg/L	5	25	Pass	None
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	HST01	9-Jan-18	Iron	Total	27600	ug/L	24100	ug/L	14	25	Pass	None
WKL_W8A1132_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	HST01	9-Jan-18	Magnesium	Total	25.1	mg/L	23.8	mg/L	5	25	Pass	None
WKL_W8A1135_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	HST01-DUP	9-Jan-18	Iron	Dissolved	113	ug/L	115	ug/L	2	25	Pass	None
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Arsenic	Total	5.25	ug/L	5.32	ug/L	1	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Cadmium	Total	0.395	ug/L	0.399	ug/L	1	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Chromium	Total	7.31	ug/L	7.59	ug/L	4	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Copper	Total	40.6	ug/L	42.1	ug/L	4	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Lead	Total	186	ug/L	189	ug/L	2	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Manganese	Total	166	ug/L	168	ug/L	1	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Nickel	Total	4.55	ug/L	4.52	ug/L	0.7	25	Pass	QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Selenium	Total	0.285	ug/L	0.269	ug/L	6	25	Pass	J,QAX

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Thallium	Total	0.0721	ug/L	0.0757	ug/L	5	25	Pass	J,QAX
WKL_W8A1136_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	8A11024-03*		Zinc	Total	172	ug/L	176	ug/L	2	25	Pass	QAX
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Arsenic	Dissolved	1.75	ug/L	1.75	ug/L	0.3	25	Pass	None
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Cadmium	Dissolved	0.0878	ug/L	0.0876	ug/L	0.2	25	Pass	J
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Chromium	Dissolved	0.38	ug/L	0.486	ug/L	25	25	Pass	None
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Copper	Dissolved	8.96	ug/L	9.07	ug/L	1	25	Pass	None
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Lead	Dissolved	0.138	ug/L	0.134	ug/L	3	25	Pass	J
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Manganese	Dissolved	133	ug/L	134	ug/L	0.8	25	Pass	None
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Nickel	Dissolved	1.68	ug/L	1.73	ug/L	3	25	Pass	None
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Selenium	Dissolved	0.331	ug/L	0.305	ug/L	8	25	Pass	J
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Thallium	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	None
WKL_W8A1137_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	HST01	9-Jan-18	Zinc	Dissolved	20.6	ug/L	20.3	ug/L	1	25	Pass	None
WKL_W8A1504_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	8A11024-03*		Nitrogen, Total Kjeldahl	Total	1.87	mg/L	1.88	mg/L	0.3	10	Pass	QAX
WKL_W8B0991_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	8A11024-03*		Phosphorus as P	Dissolved	1.02	mg/L	0.976	mg/L	5	25	Pass	QAX
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	MS4-SMR-SMG-063	27-Feb-18	Nitrate as N	Total	1.56	mg/L	1.54	mg/L	1	20	Pass	None

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
WKL_W8B1478_W	Weck Laboratories, Inc.	Nutrients	EPA 353.2	MS4-SMR-SMG-063	27-Feb-18	Nitrite as N	Total	0.013	mg/L	0.013	mg/L	0	20	Pass	J
WKL_W8B1484_W	Weck Laboratories, Inc.	Nutrients	EPA 365.1	8B28094-02*		OrthoPhosphate as P	Total	ND	mg/L	ND	mg/L	NR	20	Pass	QAX
WKL_W8C0003_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	8B28042-01*		Total Dissolved Solids	Total	1260	mg/L	1290	mg/L	3	10	Pass	QAX
WKL_W8C0003_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 C	8B28075-03*		Total Dissolved Solids	Total	3970	mg/L	3930	mg/L	1	10	Pass	QAX
WKL_W8C0109_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	8B27090-01*		Total Suspended Solids	Total	654	mg/L	674	mg/L	3	20	Pass	QAX
WKL_W8C0109_W	Weck Laboratories, Inc.	General Chemistry	SM 2540 D	MS4-SMR-SMG-063	27-Feb-18	Total Suspended Solids	Total	63	mg/L	68	mg/L	8	20	Pass	None
WKL_W8C0194_W	Weck Laboratories, Inc.	Nutrients	EPA 350.1	8B28088-01*		Ammonia as N	Total	0.241	mg/L	0.243	mg/L	1	15	Pass	QAX
WKL_W8C0223_W	Weck Laboratories, Inc.	Nutrients	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Phosphorus as P	Total	0.322	mg/L	0.32	mg/L	0.6	25	Pass	None
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Calcium	Total	12.2	mg/L	12.6	mg/L	3	25	Pass	None
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Iron	Total	2560	ug/L	2610	ug/L	2	25	Pass	None
WKL_W8C0223_W	Weck Laboratories, Inc.	Total Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Magnesium	Total	2.11	mg/L	2.1	mg/L	0.6	25	Pass	None
WKL_W8C0224_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	MS4-SMR-SMG-063	27-Feb-18	Iron	Dissolved	87	ug/L	85	ug/L	2	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Arsenic	Total	1.32	ug/L	1.55	ug/L	17	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Cadmium	Total	0.192	ug/L	0.167	ug/L	14	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Chromium	Total	2.95	ug/L	3.63	ug/L	21	25	Pass	None

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Copper	Total	21.9	ug/L	24.6	ug/L	11	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Lead	Total	5.41	ug/L	6.14	ug/L	13	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Manganese	Total	71.6	ug/L	72.8	ug/L	2	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Nickel	Total	3.62	ug/L	4.51	ug/L	22	25	Pass	None
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Selenium	Total	0.142	ug/L	0.201	ug/L	34	25	Fail	J,SLM
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Thallium	Total	0.0337	ug/L	0.0412	ug/L	20	25	Pass	J
WKL_W8C0225_W	Weck Laboratories, Inc.	Total Metals	EPA 200.8	MS4-SMR-SMG-063	27-Feb-18	Zinc	Total	171	ug/L	182	ug/L	6	25	Pass	None
WKL_W8C0359_W	Weck Laboratories, Inc.	Nutrients	EPA 351.2	8B28088-01*		Nitrogen, Total Kjeldahl	Total	1.14	mg/L	1.16	mg/L	2	10	Pass	QAX
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8B28095-01*		Manganese	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	QAX
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	8B28095-01*		Selenium	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	QAX
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Arsenic	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	None
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Cadmium	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	None
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Chromium	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	None
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Copper	Dissolved	0.372	ug/L	ND	ug/L	200	25	Fail	SLM
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Lead	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	None

Table 5. Summary of Laboratory Duplicates

Batch ID	Laboratory	Group	Method	Sample ID	Sample Date	Parameter	Fraction	Original Result	Original Units	Lab Dup Result	Lab Dup Units	RPD**	Precision Limit (%)	Precision Accept	Lab Dup Qualifier
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Nickel	Dissolved	0.294	ug/L	0.141	ug/L	70	25	Fail	J,SLM
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Thallium	Dissolved	ND	ug/L	ND	ug/L	NR	25	Pass	None
WKL_W8C0895_W	Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	FB-022818	28-Feb-18	Zinc	Dissolved	1.01	ug/L	0.999	ug/L	1	25	Pass	J

* Indicates the QC was assessed using a non project related sample.

** RPD - relative percent difference. Laboratory calculated value.

ND - Not detected

NR - Not reported

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D - Analytes analyzed at a secondary dilution

J - Estimated value

QAX - The native sample for the MS/MSD or duplicate is not included in the batch reported

SLM - Analyte results for R1 and/or R2 were lower than 10 times the MDL; therefore, RPD acceptance limits do not apply

Table 6. Summary of Field Duplicates

Laboratory	Group	Method	Parameter	Fraction	Sample ID	Sample Date	Original Result	Original Units	Field Dup Sample ID	Field Dup Results	Field Dup Units	RPD *	Precision Limit (%)	Precision Accept
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Arsenic	Dissolved	HST01	9-Jan-18	1.8	ug/L	HST01-DUP	1.7	ug/L	5.71	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Cadmium	Dissolved	HST01	9-Jan-18	0.088J	ug/L	HST01-DUP	0.086J	ug/L	NC	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Chromium	Dissolved	HST01	9-Jan-18	0.38	ug/L	HST01-DUP	0.41	ug/L	7.59	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Copper	Dissolved	HST01	9-Jan-18	9	ug/L	HST01-DUP	8.9	ug/L	1.12	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.7	Iron	Dissolved	HST01	9-Jan-18	110	ug/L	HST01-DUP	110	ug/L	0	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Lead	Dissolved	HST01	9-Jan-18	0.14J	ug/L	HST01-DUP	0.14J	ug/L	NC	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Manganese	Dissolved	HST01	9-Jan-18	130	ug/L	HST01-DUP	120	ug/L	8	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Nickel	Dissolved	HST01	9-Jan-18	1.7	ug/L	HST01-DUP	1.7	ug/L	0	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Selenium	Dissolved	HST01	9-Jan-18	0.33J	ug/L	HST01-DUP	0.33J	ug/L	NC	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Thallium	Dissolved	HST01	9-Jan-18	ND	ug/L	HST01-DUP	ND	ug/L	NC	25	Pass
Weck Laboratories, Inc.	Dissolved Metals	EPA 200.8	Zinc	Dissolved	HST01	9-Jan-18	21	ug/L	HST01-DUP	21	ug/L	0	25	Pass
Weck Laboratories, Inc.	General Chemistry	SM 5310 B	Dissolved Organic Carbon	Dissolved	HST01	9-Jan-18	22	mg/L	HST01-DUP	26	mg/L	16.67	25	Pass
Weck Laboratories, Inc.	General Chemistry	EPA 200.7	Hardness as CaCO3	Total	HST01	9-Jan-18	254	mg/L	HST01-DUP	263	mg/L	3.48	25	Pass
Weck Laboratories, Inc.	General Chemistry	SM 5540 C	MBAS	Total	HST01	9-Jan-18	0.025J	mg/L	HST01-DUP	0.026J	mg/L	NC	25	Pass
Weck Laboratories, Inc.	General Chemistry	EPA 300.0	Sulfate	Total	HST01	9-Jan-18	140	mg/L	HST01-DUP	150	mg/L	6.9	25	Pass

Table 6. Summary of Field Duplicates

Laboratory	Group	Method	Parameter	Fraction	Sample ID	Sample Date	Original Result	Original Units	Field Dup Sample ID	Field Dup Results	Field Dup Units	RPD *	Precision Limit (%)	Precision Accept
Weck Laboratories, Inc.	General Chemistry	SM 2540 C	Total Dissolved Solids	Total	HST01	9-Jan-18	540	mg/L	HST01-DUP	500	mg/L	7.69	25	Pass
Weck Laboratories, Inc.	General Chemistry	SM 5310 B	Total Organic Carbon	Total	HST01	9-Jan-18	25	mg/L	HST01-DUP	25	mg/L	0	25	Pass
Weck Laboratories, Inc.	General Chemistry	SM 2540 D	Total Suspended Solids	Total	HST01	9-Jan-18	840	mg/L	HST01-DUP	830	mg/L	1.2	25	Pass
Weck Laboratories, Inc.	Nutrients	EPA 350.1	Ammonia as N	Total	HST01	9-Jan-18	0.15	mg/L	HST01-DUP	0.17	mg/L	12.5	25	Pass
Weck Laboratories, Inc.	Nutrients	EPA 353.2	Nitrate as N	Total	HST01	9-Jan-18	12	mg/L	HST01-DUP	12	mg/L	0	25	Pass
Weck Laboratories, Inc.	Nutrients	EPA 353.2	Nitrite as N	Total	HST01	9-Jan-18	0.074J	mg/L	HST01-DUP	0.070J	mg/L	NC	25	Pass
Weck Laboratories, Inc.	Nutrients	EPA 351.2	Nitrogen, Total Kjeldahl	Total	HST01	9-Jan-18	4.7	mg/L	HST01-DUP	4.7	mg/L	0	25	Pass
Weck Laboratories, Inc.	Nutrients	EPA 365.1	OrthoPhosphate as P	Total	HST01	9-Jan-18	2	mg/L	HST01-DUP	2	mg/L	0	25	Pass
Weck Laboratories, Inc.	Nutrients	EPA 200.7	Phosphorus as P	Total	HST01	9-Jan-18	3.1	mg/L	HST01-DUP	3.2	mg/L	3.17	25	Pass
Weck Laboratories, Inc.	Organophosphorus Pesticides	EPA 625M	Chlorpyrifos	Total	HST01	9-Jan-18	ND	ug/L	HST01-DUP	ND	ug/L	NC	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Arsenic	Total	HST01	9-Jan-18	4.5	ug/L	HST01-DUP	4.7	ug/L	4.35	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Cadmium	Total	HST01	9-Jan-18	0.45	ug/L	HST01-DUP	0.49	ug/L	8.51	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.7	Calcium	Total	HST01	9-Jan-18	60.1	mg/L	HST01-DUP	61.3	mg/L	1.98	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Chromium	Total	HST01	9-Jan-18	16	ug/L	HST01-DUP	19	ug/L	17.14	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Copper	Total	HST01	9-Jan-18	40	ug/L	HST01-DUP	45	ug/L	11.76	25	Pass

Table 6. Summary of Field Duplicates

Laboratory	Group	Method	Parameter	Fraction	Sample ID	Sample Date	Original Result	Original Units	Field Dup Sample ID	Field Dup Results	Field Dup Units	RPD *	Precision Limit (%)	Precision Accept
Weck Laboratories, Inc.	Total Metals	EPA 200.7	Iron	Total	HST01	9-Jan-18	28000	ug/L	HST01-DUP	33000	ug/L	16.39	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Lead	Total	HST01	9-Jan-18	18	ug/L	HST01-DUP	23	ug/L	24.39	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.7	Magnesium	Total	HST01	9-Jan-18	25.1	mg/L	HST01-DUP	26.7	mg/L	6.18	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Manganese	Total	HST01	9-Jan-18	810	ug/L	HST01-DUP	920	ug/L	12.72	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Nickel	Total	HST01	9-Jan-18	10	ug/L	HST01-DUP	12	ug/L	18.18	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Selenium	Total	HST01	9-Jan-18	0.79	ug/L	HST01-DUP	0.88	ug/L	10.78	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Thallium	Total	HST01	9-Jan-18	0.48	ug/L	HST01-DUP	0.59	ug/L	20.56	25	Pass
Weck Laboratories, Inc.	Total Metals	EPA 200.8	Zinc	Total	HST01	9-Jan-18	220	ug/L	HST01-DUP	270	ug/L	20.41	25	Pass
Weston Solutions, Inc.	Nutrients	Calculated	Nitrate + Nitrite as N	Total	HST01	9-Jan-18	12.074	mg/L	HST01-DUP	12.07	mg/L	0.03	25	Pass
Weston Solutions, Inc.	Nutrients	Calculated	Nitrogen, Total	Total	HST01	9-Jan-18	16.774	mg/L	HST01-DUP	16.77	mg/L	0.02	25	Pass

* RPD calculated using the original result and field result reported from the laboratory

NC - Not calculated.

ND - Not detected.

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J - Estimated value