Appendix G

Wet Weather Event #1 (WW63)

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Monday, December 31, 2018

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: T111164 Collected By: KMA / JP / UT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, November 29, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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SAMPLE SUMMARY

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T111164001	**WW63-UR3**	Water	11/29/2018 02:30	11/29/2018 15:45
T111164002	**WW63-UR2S**	Water	11/29/2018 07:05	11/29/2018 15:45
T111164003	**WW63-UR6**	Water	11/29/2018 07:05	11/29/2018 15:45
T111164004	**WW63-UR5**	Water	11/29/2018 03:45	11/29/2018 15:45
T111164005	**WW63-UR7**	Water	11/29/2018 03:45	11/29/2018 15:45
T111164006	**WW63-UR3**	Water	11/29/2018 09:36	11/29/2018 15:45

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NARRATIVE

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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ANALYTICAL RESULTS

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **T111164001** Date Collected 11/29/2018 02:30 Matrix Water
Sample ID **WW63-UR3** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.011	ug/L	0.00050	0.00020	1	12/03/18 18:20	MPR 16314	12/04/18 11:18	MHG 6040	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.09	ng/L	0.05	0.020	1	12/04/18 17:29	MPR 16315	12/06/18 00:00	MHG 6041	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	206	35	1.031	12/06/18 20:15	REFD 2890	12/07/18 11:28	REFD 2891	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	516	68	1.031	12/06/18 20:15	REFD 2890	12/07/18 11:28	REFD 2891	
Tetracosane (SS)	61	%	37-134		1.031	12/06/18 20:15	REFD 2890	12/07/18 11:28	REFD 2891	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			12/11/18 19:26	VMS 4167	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			12/11/18 19:26	VMS 4167	
4-Bromofluorobenzene (SS)	90	%	70-130		1			12/11/18 19:26	VMS 4167	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	5.3	mg/L	0.5	0.30	1			12/20/18 20:20	WET 9816	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	6.0	mg/L	0.5	0.30	1			12/20/18 15:46	WET 9815	

Lab ID **T111164002** Date Collected 11/29/2018 07:05 Matrix Water
Sample ID **WW63-UR2S** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.014	ug/L	0.00050	0.00020	1	12/03/18 18:20	MPR 16314	12/04/18 11:18	MHG 6040	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.20	ng/L	0.05	0.020	1	12/04/18 17:29	MPR 16315	12/06/18 00:00	MHG 6041	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	217	37	1.087	12/06/18 20:15	REFD 2890	12/07/18 12:59	REFD 2891	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	544	72	1.087	12/06/18 20:15	REFD 2890	12/07/18 12:59	REFD 2891	
Tetracosane (SS)	75	%	37-134		1.087	12/06/18 20:15	REFD 2890	12/07/18 12:59	REFD 2891	

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ANALYTICAL RESULTS

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **T111164002** Date Collected 11/29/2018 07:05 Matrix Water
Sample ID **WW63-UR2S** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			12/11/18 19:47	VMS 4167	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			12/11/18 19:47	VMS 4167	
4-Bromofluorobenzene (SS)	91	%	70-130		1			12/11/18 19:47	VMS 4167	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	9.8	mg/L	0.5	0.30	1			12/20/18 21:02	WET 9816	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	10	mg/L	0.5	0.30	1			12/20/18 15:57	WET 9815	

Lab ID **T111164003** Date Collected 11/29/2018 07:05 Matrix Water
Sample ID **WW63-UR6** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level		**Prep Method:**	EPA 1631E					**Prep by:**	UKS	
		Analytical Method:	EPA 1631E					**Analyzed by:**	UKS	
Mercury	ND	ug/L	0.00050	0.00020	1	12/03/18 18:20	MPR 16314	12/04/18 11:18	MHG 6040	
Methyl Mercury Analysis		**Prep Method:**	EPA 1630					**Prep by:**	UKS	
		Analytical Method:	EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	ND	ng/L	0.05	0.020	1	12/04/18 17:29	MPR 16315	12/06/18 00:00	MHG 6041	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	ND	mg/L	0.5	0.30	1			12/21/18 17:33	WET 9822	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	ND	mg/L	0.5	0.30	1			12/20/18 16:07	WET 9815	

Lab ID **T111164004** Date Collected 11/29/2018 03:45 Matrix Water
Sample ID **WW63-UR5** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level		**Prep Method:**	EPA 1631E					**Prep by:**	UKS	
		Analytical Method:	EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0036	ug/L	0.00050	0.00020	1	12/03/18 18:20	MPR 16314	12/04/18 11:18	MHG 6040	
Methyl Mercury Analysis		**Prep Method:**	EPA 1630					**Prep by:**	UKS	
		Analytical Method:	EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.11	ng/L	0.05	0.020	1	12/04/18 17:29	MPR 16315	12/06/18 00:00	MHG 6041	
Total Extractable Petroleum Hydrocarbon		**Prep Method:**	SW846 3510C					**Prep by:**	PJB	
		Analytical Method:	SW846 8015(MOD)					**Analyzed by:**	CW	

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ANALYTICAL RESULTS

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **T111164004** Date Collected 11/29/2018 03:45 Matrix Water
Sample ID **WW63-UR5** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
TPH - Diesel (C10 - C22)	ND	ug/L	208	35	1.042	12/06/18 20:15	REFD 2890	12/07/18 13:22	REFD 2891	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	521	69	1.042	12/06/18 20:15	REFD 2890	12/07/18 13:22	REFD 2891	
Tetracosane (SS)	84	%	37-134		1.042	12/06/18 20:15	REFD 2890	12/07/18 13:22	REFD 2891	
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			12/11/18 20:08	VMS 4167	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			12/11/18 20:08	VMS 4167	
4-Bromofluorobenzene (SS)	91	%	70-130		1			12/11/18 20:08	VMS 4167	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	11	mg/L	0.5	0.30	1			12/20/18 21:44	WET 9816	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	15	mg/L	0.5	0.30	1			12/20/18 16:22	WET 9815	

Lab ID **T111164005** Date Collected 11/29/2018 03:45 Matrix Water
Sample ID **WW63-UR7** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level		**Prep Method:**	EPA 1631E					**Prep by:**	UKS	
		Analytical Method:	EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0036	ug/L	0.00050	0.00020	1	12/03/18 18:20	MPR 16314	12/04/18 11:18	MHG 6040	
Methyl Mercury Analysis		**Prep Method:**	EPA 1630					**Prep by:**	UKS	
		Analytical Method:	EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.12	ng/L	0.05	0.020	1	12/04/18 17:29	MPR 16315	12/06/18 00:00	MHG 6041	
Total Extractable Petroleum Hydrocarbon		**Prep Method:**	SW846 3510C					**Prep by:**	PJB	
		Analytical Method:	SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	208	35	1.042	12/06/18 20:15	REFD 2890	12/07/18 13:44	REFD 2891	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	521	69	1.042	12/06/18 20:15	REFD 2890	12/07/18 13:44	REFD 2891	
Tetracosane (SS)	81	%	37-134		1.042	12/06/18 20:15	REFD 2890	12/07/18 13:44	REFD 2891	
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			12/11/18 20:29	VMS 4167	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			12/11/18 20:29	VMS 4167	
4-Bromofluorobenzene (SS)	92	%	70-130		1			12/11/18 20:29	VMS 4167	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	12	mg/L	0.5	0.30	1			12/20/18 21:56	WET 9816	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	14	mg/L	0.5	0.30	1			12/20/18 16:36	WET 9815	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **T111164006** Date Collected 11/29/2018 09:36 Matrix Water
Sample ID **WW63-UR3** Date Received 11/29/2018 15:45

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	6.5	ug/L	0.50	0.15	1	12/10/18 17:50	MPR 16323	12/27/18 18:31	MMS 9299	
Iron	0.06	mg/L	0.05	0.0050	1	12/10/18 17:50	MPR 16323	12/27/18 18:31	MMS 9299	
Lead	0.69	ug/L	0.25	0.060	1	12/10/18 17:50	MPR 16323	12/27/18 18:31	MMS 9299	
Zinc	46	ug/L	1.0	0.70	1	12/10/18 17:50	MPR 16323	12/27/18 18:31	MMS 9299	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16314
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 856751

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 856752

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.021	105	79-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 856754 856755

Parameter	Units	T111146004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.034	0.02	0.0542	0.0553	101	107	71-125	2	24	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 856756 856757

Parameter	Units	T111164001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.011	0.02	0.0336	0.0329	113	110	71-125	2.1	24	

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16315
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

METHOD BLANK: 857023

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 857024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	0.966	87	67-133	

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QUALITY CONTROL DATA

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16315
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857026 857027

Parameter	Units	T111146004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.25	1.1	1.07	1.03	74	70	65-135	3.8	35	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857028 857029

Parameter	Units	T111164001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.09	1.1	1.08	1.04	89	86	65-135	3.8	35	

Analysis Description:	Metals by ICPMS Collision Mode,Dissolved	**QC Batch:**	MPR/16323
Analysis Method:	EPA 200.8 (filtrate)	**QC Batch Method:**	EPA 200.8 (filtrate)

METHOD BLANK: 858273

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 858274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	18.8	94	85-115	
Iron	mg/L	10	9.5	95	85-115	
Lead	ug/L	20	18.9	95	85-115	
Zinc	ug/L	20	18.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858277 858278

Parameter	Units	T111146003 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	13	20	30.7	31.1	89	91	70-130	1.3	20	
Iron	mg/L	0.2	10	9.78	9.84	96	96	70-130	0.6	20	
Lead	ug/L	0.72	20	20.2	20.2	97	97	70-130	0	20	
Zinc	ug/L	72	20	85.5	86.8	RNC	74	70-130	1.5	20	3

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QUALITY CONTROL DATA

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode,Dissolved	**QC Batch:**	MPR/16323
Analysis Method:	EPA 200.8 (filtrate)	**QC Batch Method:**	EPA 200.8 (filtrate)

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858280 858281

Parameter	Units	T111158001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	2.1	20	19.6	19.1	88	85	70-130	2.6	20	
Iron	mg/L	0.34	10	9.96	9.8	96	95	70-130	1.6	20	
Lead	ug/L	0.07	20	19	18.6	95	93	70-130	2.1	20	
Zinc	ug/L	1.9	20	19.7	19.2	89	87	70-130	2.6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858282 858283

Parameter	Units	T111158006 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	1.8	20	18.9	19.4	86	88	70-130	2.6	20	
Iron	mg/L	2.2	10	11.7	11.7	95	95	70-130	0	20	
Lead	ug/L	0.07	20	19.1	19	95	95	70-130	0.5	20	
Zinc	ug/L	1.9	20	19.5	19.4	88	88	70-130	0.5	20	

Analysis Description:	Total Extractable Petroleum Hydrocarbon	**QC Batch:**	REFD/2890
Analysis Method:	SW846 8015(MOD)	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 860046

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ND	200	34	ug/L	1
TPH - Motor Oil (C23 - C36)	ND	500	66	ug/L	
Tetracosane (SS)	94	37-134		%	

LABORATORY CONTROL SAMPLE: 860047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	2500	2149.3	86	57-106	1
Tetracosane (SS)	%			89	37-134	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860048 860049

Parameter	Units	1837925 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	0	2500	1926.8	2184.9	77	87	46-131	13	30	1
Tetracosane (SS)	%					85	93	37-134	8.3		

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1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

QUALITY CONTROL DATA

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Extractable Petroleum Hydrocarbon	**QC Batch:**	REFD/2890
Analysis Method:	SW846 8015(MOD)	**QC Batch Method:**	SW846 3510C

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4167
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

METHOD BLANK: 858157

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPPH - Gasoline Fuel	ND	50	20	ug/L	
TPPH quantitated as Gasoline	ND	50	20	ug/L	
4-Bromofluorobenzene (SS)	95	70-130		%	

LABORATORY CONTROL SAMPLE & LCSD: 858158 858159

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
TPPH - Gasoline Fuel	ug/L	550	672	650	122	118	65-130	3.3	30	
4-Bromofluorobenzene (SS)	%				98	99	70-130	0.5	30	

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9815
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 860546

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 860547 860548

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	9.87	9.96	99	100	80-120	0.9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860549 860550

Parameter	Units	T111163001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	7.4	10	17	17.4	96	100	80-120	2.3	20	

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QUALITY CONTROL DATA

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/9816
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 860553

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Dissolved Organic Carbon	J0.38	0.5	0.3	mg/L	4

LABORATORY CONTROL SAMPLE & LCSD: 860554 860555

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Dissolved Organic Carbon	mg/L	10	10.6	10.3	106	103	80-120	2.9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860558 860559

Parameter	Units	T111164001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	5.3	10	15.4	15.7	101	104	80-120	1.9	20	

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/9822
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

FILTER BLANK: 860557

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

METHOD BLANK: 860893

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 860894 860895

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	9.96	9.97	100	100	80-120	0.1	20	
Dissolved Organic Carbon	mg/L	10	9.96	9.97	100	100	80-120	0.1	20	

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QUALITY CONTROL DATA

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/9822
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860896 860897

Parameter	Units	T111221001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	2.2	10	12.2	11.7	100	95	80-120	4.2	20	
Dissolved Organic Carbon	mg/L	2.2	10	12.2	11.7	100	95	80-120	4.2	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1	Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186
3	RNC = Recovery Not Calculated. Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries were not calculated due to the high native concentration in the sample selected for MS/MSD versus the laboratory spike concentration.
4	Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: T111164
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
T111164001	**WW63-UR3**	EPA 1631E	MPR/16314	EPA 1631E	MHG/6040
T111164002	**WW63-UR2S**	EPA 1631E	MPR/16314	EPA 1631E	MHG/6040
T111164003	**WW63-UR6**	EPA 1631E	MPR/16314	EPA 1631E	MHG/6040
T111164004	**WW63-UR5**	EPA 1631E	MPR/16314	EPA 1631E	MHG/6040
T111164005	**WW63-UR7**	EPA 1631E	MPR/16314	EPA 1631E	MHG/6040
T111164001	**WW63-UR3**	EPA 1630	MPR/16315	EPA 1630	MHG/6041
T111164002	**WW63-UR2S**	EPA 1630	MPR/16315	EPA 1630	MHG/6041
T111164003	**WW63-UR6**	EPA 1630	MPR/16315	EPA 1630	MHG/6041
T111164004	**WW63-UR5**	EPA 1630	MPR/16315	EPA 1630	MHG/6041
T111164005	**WW63-UR7**	EPA 1630	MPR/16315	EPA 1630	MHG/6041
T111164006	**WW63-UR3**	EPA 200.8 (filtrate)	MPR/16323	EPA 200.8 (filtrate)	MMS/9299
T111164001	**WW63-UR3**	SW846 3510C	REFD/2890	SW846 8015(MOD)	REFD/2891
T111164002	**WW63-UR2S**	SW846 3510C	REFD/2890	SW846 8015(MOD)	REFD/2891
T111164004	**WW63-UR5**	SW846 3510C	REFD/2890	SW846 8015(MOD)	REFD/2891
T111164005	**WW63-UR7**	SW846 3510C	REFD/2890	SW846 8015(MOD)	REFD/2891
T111164001	**WW63-UR3**	SW846 5030B/8260B	VMS/4167		
T111164002	**WW63-UR2S**	SW846 5030B/8260B	VMS/4167		
T111164004	**WW63-UR5**	SW846 5030B/8260B	VMS/4167		
T111164005	**WW63-UR7**	SW846 5030B/8260B	VMS/4167		
T111164001	**WW63-UR3**	SM 5310 B-00/-11	WET/9815		
T111164002	**WW63-UR2S**	SM 5310 B-00/-11	WET/9815		
T111164003	**WW63-UR6**	SM 5310 B-00/-11	WET/9815		
T111164004	**WW63-UR5**	SM 5310 B-00/-11	WET/9815		
T111164005	**WW63-UR7**	SM 5310 B-00/-11	WET/9815		
T111164001	**WW63-UR3**	SM 5310 B-00/-11	WET/9816		
T111164002	**WW63-UR2S**	SM 5310 B-00/-11	WET/9816		
T111164004	**WW63-UR5**	SM 5310 B-00/-11	WET/9816		
T111164005	**WW63-UR7**	SM 5310 B-00/-11	WET/9816		
T111164003	**WW63-UR6**	SM 5310 B-00/-11	WET/9822		

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

Date of Report: 12/10/2018

Carol Battaglia

Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Client Project:	T111164
BCL Project:	Water Analysis
BCL Work Order:	1837925
Invoice ID:	B324699

Enclosed are the results of analyses for samples received by the laboratory on 12/5/2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

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Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form 3
Laboratory / Client Sample Cross Reference 5

Sample Results

1837925-01 - T111164001 WW63-UR3

Total Petroleum Hydrocarbons 6

1837925-02 - T111164002 WW63-UR2S

Total Petroleum Hydrocarbons 7

1837925-03 - T111164004 WW63-UR5

Total Petroleum Hydrocarbons 8

1837925-04 - T111164005 WW63-UR7

Total Petroleum Hydrocarbons 9

Quality Control Reports

Total Petroleum Hydrocarbons

Method Blank Analysis 10
Laboratory Control Sample 11
Precision and Accuracy 12

Notes

Notes and Definitions 13

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SUBCONTRACT CHAIN OF CUSTODY

PROJECT ID / PO NUMBER - T111164

PM Review: GM

Sending Laboratory
Caltest Analytical Laboratory
1885 N. Kelly Rd.
Napa, CA 94558
Phone: (707) 258-4000
Fax: (707) 226-1001
Report To: Client Services
Email: pmgr@caltestlabs.com

Receiving Laboratory
BC Laboratories, Inc.
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 800-878-4911
Fax: 661-327-1918

RUSH!

Due Date: **7 DAY TAT** (contact if due date cannot be met)

18-37925

Sampled By: **KMA / JP / UT**

Caltest Lab ID (ref. only)	Client Sample ID		Matrix	Sample Date	Container Type	Presevative	Requested Analyses	Comments
T111164001	**WW63-UR3**	-1	AQ	11/29/2018 14:30	AL	NONE	DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
T111164002	**WW63-UR2S**	-2	AQ	11/29/2018 13:45			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
T111164004	**WW63-UR5**	-3	AQ	11/29/2018 07:05			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
T111164005	**WW63-UR7**	-4	AQ	11/29/2018 13:45			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT

PLEASE WATCH HOLD TIMES

CHK BY

DISTRIBUTION

SUB-OUT

Relinquished By	Date / Time	Received By	Date / Time
CGarcia	12/03/18 1530	ontrac	
		12.5.18	08:50

Monday, December 03 2018 9:23AM

Matrix: AQ - Aqueous DW - Drinking Water SL - Solid

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Chain of Custody and Cooler Receipt Form for 1837925 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 18-37925

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☐ NO ☐
BC Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: .95 Container: Amber Thermometer ID: 214 Date/Time 12.5.18

Temperature: (A) 0.0 °C / (C) 0.2 °C Analyst Init 1858

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M 060	A	A	A	A						
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: EMP Date/Time: 12-5-18 1815

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDocs\WordPerfect\LAS_DOCS\FORMS\SAMREC rev 21)

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1837925-01	**COC Number:**	---	**Receive Date:**	12/05/2018 08:50
	Project Number:	---	**Sampling Date:**	11/29/2018 14:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	T111164001 WW63-UR3	**Lab Matrix:**	Water
	Sampled By:	KMA/JP/UT	**Sample Type:**	Aqueous
1837925-02	**COC Number:**	---	**Receive Date:**	12/05/2018 08:50
	Project Number:	---	**Sampling Date:**	11/29/2018 13:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	T111164002 WW63-UR2S	**Lab Matrix:**	Water
	Sampled By:	KMA/JP/UT	**Sample Type:**	Aqueous
1837925-03	**COC Number:**	---	**Receive Date:**	12/05/2018 08:50
	Project Number:	---	**Sampling Date:**	11/29/2018 07:05
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	T111164004 WW63-UR5	**Lab Matrix:**	Water
	Sampled By:	KMA/JP/UT	**Sample Type:**	Aqueous
1837925-04	**COC Number:**	---	**Receive Date:**	12/05/2018 08:50
	Project Number:	---	**Sampling Date:**	11/29/2018 13:45
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	T111164005 WW63-UR7	**Lab Matrix:**	Water
	Sampled By:	KMA/JP/UT	**Sample Type:**	Aqueous

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1837925-01 | **Client Sample Name:** T111164001 WW63-UR3, 11/29/2018 2:30:00PM, KMA/JP/UT

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	60.7	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	12/06/18 20:15	12/07/18 11:28	RCC	GC-13	1.031	B032259

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1837925-02 | **Client Sample Name:** T111164002 WW63-UR2S, 11/29/2018 1:45:00PM, KMA/JP/UT

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	74.3	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	12/06/18 20:15	12/07/18 12:59	RCC	GC-2	1.087	B032259

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1837925-03 | **Client Sample Name:** T111164004 WW63-UR5, 11/29/2018 7:05:00AM, KMA/JP/UT

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	84.0	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	12/06/18 20:15	12/07/18 13:22	RCC	GC-2	1.042	B032259

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1837925-04 | **Client Sample Name:** T111164005 WW63-UR7, 11/29/2018 1:45:00PM, KMA/JP/UT

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	80.5	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	12/06/18 20:15	12/07/18 13:44	RCC	GC-2	1.042	B032259

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B032259						
TPH - Diesel (C10 - C22)	B032259-BLK1	ND	ug/L	200	34	
TPH - Motor Oil (C23 - C36)	B032259-BLK1	ND	ug/L	500	66	
Tetracosane (Surrogate)	**B032259-BLK1**	**94.4**	%	**37 - 134 (LCL - UCL)**		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B032259										
TPH - Diesel (C10 - C22)	B032259-BS1	LCS	2149.3	2500.0	ug/L	86.0		57 - 106		
Tetracosane (Surrogate)	B032259-BS1	LCS	89.115	100.00	ug/L	89.1		37 - 134		

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.
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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B032259	Used client sample: N										
TPH - Diesel (C10 - C22)	MS	1833163-47	ND	1926.8	2500.0	ug/L		77.1		46 - 131	
	MSD	1833163-47	ND	2184.9	2500.0	ug/L	12.6	87.4	30	46 - 131	
Tetracosane (Surrogate)	MS	1833163-47	ND	85.440	100.00	ug/L		85.4		37 - 134	
	MSD	1833163-47	ND	92.825	100.00	ug/L	8.3	92.8		37 - 134	

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 12/10/2018 12:09
Project: Water Analysis
Project Number: T111164
Project Manager: Carol Battaglia

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 11/29/18 Lab ID: 711164

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: KWA + JP + VT

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	filtered in field KWA	Notes
WW63-UR3 -1	DOC	11/29/18	2:30	Water	1	125 mL AG	none			X					
WW63-UR3	Hg_Meth		2:25	Water	1	500mL AG	HCl	X							MSD
WW63-UR3	Hg_T		↓	Water	1	500mL CG	HCl		X						MSD
WW63-UR3	TOC		2:30	Water	1	3x40ml, VOA A	HCl				X				
WW63-UR3	TPH_DM		2:30	Water	2	1L AG	none					X			
WW63-UR3	TPH_GAS		2:30	Water	1	3x40ml, VOA	HCl						X		
WW63-UR2S -2	DOC		3:45	Water	1	125 mL AG	none			X					
WW63-UR2S	Hg_Meth		3:38	Water	1	500mL AG	HCl	X							
WW63-UR2S	Hg_T		3:33	Water	1	500mL CG	HCl		X						
WW63-UR2S	TOC		3:45	Water	1	3x40ml, VOA A	HCl				X				
WW63-UR2S	TPH_DM	↓	3:45	Water	2	1L AG	none					X			
~~UR3~~ KWA			9:36												

TEMP (°C): 12
SEALED: Y
INTACT: Y

Sender Comments:
Request shortest Standard turn-around-time (~15 business days) KWA
~~2~~ 2005 ~~5~~ 12

Relinquished By (1):
Signature:
Print: ~~LWA~~ Katrina Arredondo
Organization: LWA
Date: 11/29/18 Time: 14:10

Received By (2):
K. Grubbs
Caltest
Date: 11-29-18 Time: 1410

Laboratory Comments:

Relinquished By (1):
Signature: K. Grubbs
Print: K. Grubbs
Organization: Caltest
Date: 11-29-18 Time: 1545

Received By (2):
Date: Time:

Crew: LWA

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 11/29/18 Lab ID: 711164

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: KMA + JP + VT

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW63-UR2S -2	TPH_GAS	11/29/18	3:45	Water	1	3x40ml, VOA	HCl						X	
WW63-UR6 -3	DOC		7:05	Water	1	125 mL AG	none			X				
WW63-UR6	Hg_Meth		7:05	Water	1	500mL AG	HCl	X						
WW63-UR6	Hg_T		7:05	Water	1	500mL CG	HCl		X					
WW63-UR6	TOC		7:05	Water	1	3x40ml, VOA A	HCl				X			
WW63-UR5 -4	DOC		7:05	Water	1	125 mL AG	none			X				
WW63-UR5	Hg_Meth		7:05	Water	1	500mL AG	HCl	X						
WW63-UR5	Hg_T		7:05	Water	1	500mL CG	HCl		X					
WW63-UR5	TOC		7:05	Water	1	3x40ml, VOA A	HCl				X			
WW63-UR5	TPH_DM		7:05	Water	2	1L AG	none					X		
WW63-UR5	TPH_GAS		7:05	Water	1	3x40ml, VOA	HCl						X	

TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Katrina Arredondo
Organization: LWA
Date: 11/29/18 Time: 14:10

~~Received By (2)~~:
K. Grubbs
K. Grubbs
Caltest
Date: 11-29-18 Time: 1410

Laboratory Comments:

~~Relinquished By (1)~~:
Signature: K. Grubbs
Print: K. Grubbs
Organization: CAltest
Date: 11-29-18 Time: 1545

~~Received By (2)~~:
Date: Time:

Crew: LWA

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 11/29/18 Lab ID: T111164

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: KMA + JP + VT

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW63-UR7	DOC	11/29/18	3:45	Water	1	125 mL AG	none			X				
WW63-UR7	Hg_Meth		3:38	Water	1	500mL AG	HCl	X						
WW63-UR7	Hg_T		3:38	Water	1	500mL CG	HCl		X					
WW63-UR7	TOC		3:45	Water	1	3x40ml, VOA A	HCl				X			
WW63-UR7	TPH_DM		3:45	Water	2	1L AG	none					X		
WW63-UR7	TPH_GAS		3:45	Water	1	3x40ml, VOA	HCl						X	

TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Katrina Arredondo
Organization: LWA
Date: 11/29/18 Time: 14:18

Received By (2):
Signature: K. Grubbs
Print: K. Grubbs
Organization: Caltest
Date: 11-29-18 Time: 1410

Laboratory Comments:

Relinquished By (1):
Signature: K. Grubbs
Print: K. Grubbs
Organization: CALTEST
Date: 11-29-18 Time: 1545

Received By (2):
Date: Time:

Crew: LWA

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 11/29/18 Lab ID: T111164

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: KMA + JP + VT

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	LL Metals, Coll.Mode,filtered, (Cu, Pb, Zn, Fe)	Notes
WW63-UR3 -b	MTL_D	11/29/18	9:36	Water	1	500 mL PE	none	X	

TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Katrina Arredondo
Organization: LWA
Date: 11/29/18 Time: 14:16

~~Relinquished By (2)~~: Received by
K. Grubbs
Caltest
Date: 11-29-18 Time: 1410

Laboratory Comments:

~~Received By (4)~~: Relinquished by
Signature:
Print: K. Grubbs
Organization: Caltest
Date: 11-29-18 Time: 1545

~~Received By (2)~~:
Date: Time:

Crew: PER

Monday, December 31, 2018

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: T111212 Collected By: CLIENT
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, November 30, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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SAMPLE SUMMARY

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T111212001	**WW63-UR2S**	Water	11/29/2018 23:50	11/30/2018 15:16
T111212002	**WW63-UR5**	Water	11/30/2018 01:06	11/30/2018 15:16
T111212003	**WW63-UR6**	Water	11/30/2018 08:00	11/30/2018 15:16
T111212004	**WW63-UR7**	Water	11/30/2018 01:06	11/30/2018 15:16

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NARRATIVE

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1	Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in higher reporting limit(s).
2	This sample was not extracted within the Caltest recommended 3 day hold time for this compound.
3	Sample(s) may not have received sufficient seed population and may be biased low.
4	This analysis is not covered under Caltest's NELAP/CAL-ELAP Accreditations.

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ANALYTICAL RESULTS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID **T111212001** Date Collected 11/29/2018 23:50 Matrix Water
Sample ID **WW63-UR2S** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	106	mg/L	3	2	1			12/05/18 10:01	BIO 20087	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	ACS	
Chemical Oxygen Demand	107	mg/L	50	20	1			12/01/18 10:31	BIO 20084	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	ACS	
Sediment Concentration	110	mg/L	3	2	1			12/05/18 09:41	BIO 20086	4
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	DJC	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	DJC	
Biochemical Oxygen Demand	9	mg/L	5	5	1	12/01/18 11:40	BOD 11463	12/06/18 10:36	BOD 11468	3
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	UKS	
	Analytical Method:	EPA 200.8						**Analyzed by:**	LM	
Copper	18	ug/L	0.50	0.15	1	12/14/18 12:10	MPR 16333	12/18/18 02:36	MMS 9307	
Iron	2.1	mg/L	0.05	0.0050	1	12/14/18 12:10	MPR 16333	12/18/18 02:36	MMS 9307	
Lead	11	ug/L	0.25	0.060	1	12/14/18 12:10	MPR 16333	12/18/18 02:36	MMS 9307	
Zinc	110	ug/L	1.0	0.70	1	12/14/18 12:10	MPR 16333	12/18/18 02:36	MMS 9307	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	MDW	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	MDW	
Allethrin	ND	ng/L	2.5	0.5	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	1
Bifenthrin	19	ng/L	2.5	0.5	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Chlorpyrifos	ND	ng/L	5.0	2	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Cyfluthrin	2.8	ng/L	2.5	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Lambda-Cyhalothrin	ND	ng/L	2.5	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	2
Cypermethrin	J1.7	ng/L	2.5	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Diazinon	ND	ng/L	2.5	0.5	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Deltamethrin:Tralomethrin	8.3	ng/L	5.0	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Esfenvalerate:Fenvalerate	ND	ng/L	5.0	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Fenpropathrin	ND	ng/L	2.5	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Fipronil	15	ng/L	5.0	2	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Fipronil Desulfinyl	J3.2	ng/L	5.0	2	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Fipronil Sulfide	ND	ng/L	5.0	2	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Fipronil Sulfone	11	ng/L	5.0	2	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Tau-Fluvalinate	ND	ng/L	2.5	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Permethrin	ND	ng/L	25	10	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	2
Tetramethrin	ND	ng/L	2.5	1	5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Esfenvalerate-d6 (SS)	65	%	26-130		5	12/03/18 13:28	SPR 8296	12/08/18 04:35	SMS 4705	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**	SM 4500-NH3 C-11						**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	2.0	mg/L	0.1	0.070	1			12/15/18 00:00	WAT 4824	
Phosphorus Analysis, Low Level	**Analytical Method:**	SM 4500-P B/F-11 (LL)						**Analyzed by:**	DR	
Total Phosphorus as P	0.43	mg/L	0.01	0.0070	1			12/24/18 16:56	WCO 14234	

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ANALYTICAL RESULTS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID **T111212001** Date Collected 11/29/2018 23:50 Matrix Water
Sample ID **WW63-UR2S** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.49	mg/L	0.1	0.070	1			12/13/18 16:06	WCO 14199	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	45	NTU	0.14	0.14	2			12/01/18 17:24	WET 9803	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	97	umhos/cm	10	10	1			12/11/18 14:08	WET 9811	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	61	mg/L	10	4.0	1			12/04/18 15:44	WGR 6993	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	38	mg/L	5	1.7	1			12/18/18 00:00	WTI 3115	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	26	mg/L	10	1.2	1			12/11/18 16:27	WTI 3111	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			12/11/18 16:27	WTI 3111	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			12/11/18 16:27	WTI 3111	
Alkalinity, Total (as CACO3)	26	mg/L	10	1.2	1			12/11/18 16:27	WTI 3111	

Lab ID **T111212002** Date Collected 11/30/2018 01:06 Matrix Water
Sample ID **WW63-UR5** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	10	mg/L	3	2	1			12/05/18 10:01	BIO 20087	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	ACS	
Chemical Oxygen Demand	J25	mg/L	50	20	1			12/01/18 10:31	BIO 20084	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	ACS	
Sediment Concentration	12	mg/L	3	2	1			12/05/18 09:41	BIO 20086	4
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	12/01/18 11:41	BOD 11463	12/06/18 10:39	BOD 11468	3
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	4.3	ug/L	0.50	0.15	1	12/14/18 12:10	MPR 16333	12/18/18 03:19	MMS 9307	
Iron	0.37	mg/L	0.05	0.0050	1	12/14/18 12:10	MPR 16333	12/18/18 03:19	MMS 9307	
Lead	0.45	ug/L	0.25	0.060	1	12/14/18 12:10	MPR 16333	12/18/18 03:19	MMS 9307	
Zinc	27	ug/L	1.0	0.70	1	12/14/18 12:10	MPR 16333	12/18/18 03:19	MMS 9307	

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ANALYTICAL RESULTS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID **T111212002** Date Collected 11/30/2018 01:06 Matrix Water
Sample ID **WW63-UR5** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Bifenthrin	14	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Chlorpyrifos	2.1	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Cyfluthrin	2.5	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Lambda-Cyhalothrin	J0.4	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Cypermethrin	0.7	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Diazinon	2.7	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Deltamethrin:Tralomethrin	4.3	ng/L	1.0	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Esfenvalerate:Fenvalerate	J0.4	ng/L	1.0	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Fenpropathrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Fipronil	24	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/21/18 05:10	SMS 4705	
Fipronil Desulfinyl	10	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/21/18 05:10	SMS 4705	
Fipronil Sulfide	1.9	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/21/18 05:10	SMS 4705	
Fipronil Sulfone	20	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/21/18 05:10	SMS 4705	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Permethrin	ND	ng/L	10	2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Tetramethrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Esfenvalerate-d6 (SS)	89	%	26-130		1	12/03/18 13:28	SPR 8296	12/07/18 10:39	SMS 4705	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**		SM 4500-NH3 C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.3	mg/L	0.1	0.070	1			12/15/18 00:00	WAT 4824	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.31	mg/L	0.01	0.0070	1			12/24/18 17:01	WCO 14234	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.44	mg/L	0.1	0.070	1			12/13/18 16:09	WCO 14199	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	9.3	NTU	0.070	0.070	1			12/01/18 17:26	WET 9803	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	120	umhos/cm	10	10	1			12/11/18 14:10	WET 9811	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	89	mg/L	10	4.0	1			12/04/18 15:44	WGR 6993	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	36	mg/L	5	1.7	1			12/18/18 00:00	WTI 3115	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	37	mg/L	10	1.2	1			12/11/18 16:35	WTI 3111	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			12/11/18 16:35	WTI 3111	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			12/11/18 16:35	WTI 3111	
Alkalinity, Total (as CACO3)	37	mg/L	10	1.2	1			12/11/18 16:35	WTI 3111	

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ANALYTICAL RESULTS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID **T111212003** Date Collected 11/30/2018 08:00 Matrix Water
Sample ID **WW63-UR6** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	ND	ug/L	0.50	0.15	1	12/14/18 12:10	MPR 16333	12/18/18 03:28	MMS 9307	
Iron	ND	mg/L	0.05	0.0050	1	12/14/18 12:10	MPR 16333	12/18/18 03:28	MMS 9307	
Lead	ND	ug/L	0.25	0.060	1	12/14/18 12:10	MPR 16333	12/18/18 03:28	MMS 9307	
Zinc	ND	ug/L	1.0	0.70	1	12/14/18 12:10	MPR 16333	12/18/18 03:28	MMS 9307	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Bifenthrin	ND	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Cyfluthrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Lambda-Cyhalothrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Cypermethrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Diazinon	ND	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Fenpropathrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Fipronil	ND	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Fipronil Desulfinyl	ND	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Fipronil Sulfone	J0.6	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Permethrin	ND	ng/L	10	2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Tetramethrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Esfenvalerate-d6 (SS)	90	%	26-130		1	12/03/18 13:28	SPR 8296	12/07/18 13:00	SMS 4705	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	J2.0	mg/L	5	1.7	1			12/18/18 00:00	WTI 3115	

Lab ID **T111212004** Date Collected 11/30/2018 01:06 Matrix Water
Sample ID **WW63-UR7** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	12	mg/L	3	2	1			12/05/18 10:01	BIO 20087	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	ACS	
Chemical Oxygen Demand	J34	mg/L	50	20	1			12/01/18 10:31	BIO 20084	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	ACS	
Sediment Concentration	11	mg/L	3	2	1			12/05/18 09:41	BIO 20086	4

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ANALYTICAL RESULTS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID **T111212004** Date Collected 11/30/2018 01:06 Matrix Water
Sample ID **WW63-UR7** Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	7	mg/L	5	5	1	12/01/18 11:42	BOD 11463	12/06/18 10:40	BOD 11468	3
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	4.3	ug/L	0.50	0.15	1	12/14/18 12:10	MPR 16333	12/18/18 03:37	MMS 9307	
Iron	0.36	mg/L	0.05	0.0050	1	12/14/18 12:10	MPR 16333	12/18/18 03:37	MMS 9307	
Lead	0.44	ug/L	0.25	0.060	1	12/14/18 12:10	MPR 16333	12/18/18 03:37	MMS 9307	
Zinc	26	ug/L	1.0	0.70	1	12/14/18 12:10	MPR 16333	12/18/18 03:37	MMS 9307	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Bifenthrin	13	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Chlorpyrifos	1.7	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Cyfluthrin	1.7	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Lambda-Cyhalothrin	J0.3	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Cypermethrin	0.6	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Diazinon	ND	ng/L	0.5	0.1	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Deltamethrin:Tralomethrin	3.9	ng/L	1.0	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Esfenvalerate:Fenvalerate	J0.3	ng/L	1.0	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Fenpropathrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Fipronil	25	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Fipronil Desulfinyl	9.2	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Fipronil Sulfide	1.8	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Fipronil Sulfone	19	ng/L	1.0	0.5	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Permethrin	ND	ng/L	10	2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Tetramethrin	ND	ng/L	0.5	0.2	1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Esfenvalerate-d6 (SS)	76	%	26-130		1	12/03/18 13:28	SPR 8296	12/07/18 14:47	SMS 4705	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**		SM 4500-NH3 C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.4	mg/L	0.1	0.070	1			12/15/18 00:00	WAT 4824	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.31	mg/L	0.01	0.0070	1			12/24/18 16:52	WCO 14234	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.45	mg/L	0.1	0.070	1			12/13/18 16:18	WCO 14199	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	8.9	NTU	0.070	0.070	1			12/01/18 17:28	WET 9803	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	120	umhos/cm	10	10	1			12/11/18 14:11	WET 9811	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID	**T111212004**	Date Collected	11/30/2018 01:06	Matrix	Water
Sample ID	**WW63-UR7**	Date Received	11/30/2018 15:16		

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	86	mg/L	10	4.0	1			12/04/18 15:44	WGR 6993	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	38	mg/L	5	1.7	1			12/18/18 00:00	WTI 3115	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	37	mg/L	10	1.2	1			12/11/18 16:43	WTI 3111	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			12/11/18 16:43	WTI 3111	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			12/11/18 16:43	WTI 3111	
Alkalinity, Total (as CACO3)	37	mg/L	10	1.2	1			12/11/18 16:43	WTI 3111	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Chemical Oxygen Demand Analysis	**QC Batch:**	BIO/20084
Analysis Method:	EPA 410.4-93 / SM 5220 D-11	**QC Batch Method:**	EPA 410.4-93 / SM 5220 D-11

METHOD BLANK: 856989

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chemical Oxygen Demand	ND	50	20	mg/L	

LABORATORY CONTROL SAMPLE: 856990

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Chemical Oxygen Demand	mg/L	300	287	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 856991 856992

Parameter	Units	T110001030 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1700	600	2580	2790	RNC	RNC	90-110	7.8	20	7

Analysis Description:	Suspended Sediment Concentration	**QC Batch:**	BIO/20086
Analysis Method:	ASTM D 3977-97 B-Filtration	**QC Batch Method:**	ASTM D 3977-97 B-Filtration

METHOD BLANK: 857134

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Sediment Concentration	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 857135 857136

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Sediment Concentration	mg/L	500	441	447	88	89	80-120	1.4	20	

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20087
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

METHOD BLANK: 857157

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Suspended Solids	ND	3	2	mg/L	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20087
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

LABORATORY CONTROL SAMPLE: 857158

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Suspended Solids	mg/L	500	454	91	80-120	

SAMPLE DUPLICATE: 857160

Parameter	Units	T111180001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	133	145	8.6	20	8	5	

SAMPLE DUPLICATE: 857159

Parameter	Units	T111206002 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	280	292	4.2	20	6	4	

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11463
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

METHOD BLANK: 856526

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Biochemical Oxygen Demand	ND	5	5	mg/L	3

LABORATORY CONTROL SAMPLE: 856527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Biochemical Oxygen Demand	mg/L	198	172	87	85-115	3

SAMPLE DUPLICATE: 856804

Parameter	Units	T110001030 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Biochemical Oxygen Demand	mg/L	334	319	4.6	30	50	50	3

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16333
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 859398

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 859399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	18.8	94	85-115	
Iron	mg/L	10	9.15	92	85-115	
Lead	ug/L	20	19.8	99	85-115	
Zinc	ug/L	20	19.6	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 859401 859402

Parameter	Units	T111221006 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	2.3	20	19.9	20.3	88	90	70-130	2	20	
Iron	mg/L	0.22	10	9.32	9.44	91	92	70-130	1.3	20	
Lead	ug/L	0.16	20	19.1	19.6	95	97	70-130	2.6	20	
Zinc	ug/L	2.8	20	20.9	20.8	91	90	70-130	0.5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 859403 859404

Parameter	Units	T120652001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	7.2	20	25.9	25.1	94	90	70-130	3.1	20	
Iron	mg/L	0.03	10	9.26	9.03	92	90	70-130	2.5	20	
Lead	ug/L	0.13	20	20.2	19.4	100	96	70-130	4	20	
Zinc	ug/L	47	20	66.5	64.1	98	86	70-130	3.7	20	

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8296
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 856630

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Allethrin	ND	0.5	0.1	ng/L	
Bifenthrin	ND	0.5	0.1	ng/L	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8296
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chlorpyrifos	ND	1.0	0.5	ng/L	
Cyfluthrin	ND	0.5	0.2	ng/L	
Lambda-Cyhalothrin	ND	0.5	0.2	ng/L	
Cypermethrin	ND	0.5	0.2	ng/L	
Diazinon	ND	0.5	0.1	ng/L	
Deltamethrin:Tralomethrin	ND	1.0	0.2	ng/L	
Esfenvalerate:Fenvalerate	ND	1.0	0.2	ng/L	
Fenpropathrin	ND	0.5	0.2	ng/L	
Fipronil	ND	1.0	0.5	ng/L	
Fipronil Desulfinyl	ND	1.0	0.5	ng/L	
Fipronil Sulfide	ND	1.0	0.5	ng/L	
Tau-Fluvalinate	ND	0.5	0.2	ng/L	
Permethrin	ND	10	2	ng/L	
Tetramethrin	ND	0.5	0.2	ng/L	
Esfenvalerate-d6 (SS)	85	34-130		%	

METHOD BLANK: 856630

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Fipronil Sulfone	J0.6	1.0	0.5	ng/L	5

LABORATORY CONTROL SAMPLE & LCSD: 856631 856632

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Allethrin	ng/L	20	14.2	15	71	75	30-130	5.5	35	
Bifenthrin	ng/L	20	17.7	18.3	89	92	44-130	3.3	35	
Chlorpyrifos	ng/L	20	16.4	19	82	95	25-130	15	35	
Cyfluthrin	ng/L	20	17	17.1	85	86	43-141	0.6	30	
Lambda-Cyhalothrin	ng/L	20	16.3	16	82	80	24-130	1.9	38	
Cypermethrin	ng/L	20	17.4	17.2	87	86	42-130	1.2	30	
Diazinon	ng/L	20	17.4	16.4	87	82	24-130	5.9	35	
Deltamethrin:Tralomethrin	ng/L	40	32.5	34.5	81	86	3-150	6	30	
Esfenvalerate:Fenvalerate	ng/L	40	34.4	33.5	86	84	32-130	2.7	30	
Fenpropathrin	ng/L	20	19.4	17.9	97	90	27-185	8	57	
Fipronil	ng/L	20	16.9	15.4	85	77	27-130	9.3	32	
Fipronil Desulfinyl	ng/L	20	17.2	17.8	86	89	25-130	3.4	35	
Fipronil Sulfide	ng/L	20	17.9	17.5	90	88	22-130	2.3	41	
Fipronil Sulfone	ng/L	20	20	13.5	100	68	14-130	39	32	6
Tau-Fluvalinate	ng/L	20	16.5	16.8	83	84	18-130	1.8	30	
Permethrin	ng/L	100	87.4	81.3	87	81	40-135	7.2	30	
Tetramethrin	ng/L	20	16.1	14.2	81	71	29-130	13	30	
Esfenvalerate-d6 (SS)	%				91	88	34-130	3.4	30	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8296
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 856633 856634

Parameter	Units	T111221001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	17.9	18.7	90	94	21-130	4.4	30	1
Bifenthrin	ng/L	0	20	20.5	21.1	103	106	29-139	2.9	30	
Chlorpyrifos	ng/L	2.9	20	24.9	27.8	110	125	10-130	11	30	
Cyfluthrin	ng/L	0	20	20.8	20.8	104	104	44-130	0	30	
Lambda-Cyhalothrin	ng/L	0	20	19.1	20.1	96	101	12-141	5.1	30	
Cypermethrin	ng/L	0	20	21.1	21	106	105	39-130	0.5	30	
Diazinon	ng/L	0	20	15.9	17.9	80	90	3-151	12	46	
Deltamethrin:Tralomethrin	ng/L	0	40	39.6	39.3	99	98	11-130	0.8	30	
Esfenvalerate:Fenvalerate	ng/L	0	40	39.2	40.8	98	102	32-130	4	30	
Fenpropathrin	ng/L	0	20	21.8	21.8	109	109	20-168	0	31	
Fipronil	ng/L			20.9	21.9				4.7	30	
Fipronil Desulfinyl	ng/L			20.2	23.4				15	35	
Fipronil Sulfide	ng/L			20.1	22.7				12	32	
Fipronil Sulfone	ng/L			18.8	23.3				21	31	
Tau-Fluvalinate	ng/L	0	20	18.6	19.5	93	98	13-130	4.7	32	
Permethrin	ng/L	0	100	96.4	93.9	96	94	40-130	2.6	30	
Tetramethrin	ng/L	0	20	18	18.1	90	91	28-130	0.6	30	
Esfenvalerate-d6 (SS)	%					102	108	30-130	5.3	30	

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4824
Analysis Method:	SM 4500-NH3 C-11	**QC Batch Method:**	SM 4500-NH3 C-11

METHOD BLANK: 859303

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Kjeldahl Nitrogen	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 859304 859320

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Kjeldahl Nitrogen	mg/L	5	5.06	5.28	101	106	90-110	4.3	20	

MATRIX SPIKE SAMPLE: 859528

Parameter	Units	T120156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qualifiers
Total Kjeldahl Nitrogen	mg/L	9.4	5	14.3	98	54-154	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14199
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

METHOD BLANK: 858958

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Nitrogen, Nitrate-Nitrite	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE: 858959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Nitrogen, Nitrate-Nitrite	mg/L	1	0.952	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858960 858961

Parameter	Units	T111209001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.54	1	1.54	1.56	100	102	90-110	1.3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858962 858963

Parameter	Units	T111221001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.25	1	1.27	1.24	102	99	90-110	2.4	20	

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14234
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

METHOD BLANK: 861190

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Phosphorus as P	ND	0.01	0.007	mg/L	

LABORATORY CONTROL SAMPLE: 861191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Phosphorus as P	mg/L	1	1.06	106	90-110	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14234
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 861192 861193

Parameter	Units	T111212004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Phosphorus as P	mg/L	0.31	1	1.36	1.28	105	97	90-110	6.1	20	

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9803
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

METHOD BLANK: 857546

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Turbidity	ND	0.070	0.07	NTU	

LABORATORY CONTROL SAMPLE: 857547

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Turbidity	NTU	4	4.28	107	90-110	

SAMPLE DUPLICATE: 857548

Parameter	Units	T111221001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	1.3	1.24	3.2	20	0.070	.07	

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9811
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

METHOD BLANK: 858441

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Conductivity	ND	10	10	umhos/c	

LABORATORY CONTROL SAMPLE: 858442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Conductivity	umhos/c	1400	1420	100	80-120	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9811
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

SAMPLE DUPLICATE: 858443

Parameter	Units	T111192001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Conductivity	umhos/c	460	463	0.7	20	10	10	

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/6993
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

METHOD BLANK: 856835

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Dissolved Solids	ND	10	4	mg/L	

LABORATORY CONTROL SAMPLE: 856836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Dissolved Solids	mg/L	500	474	95	80-120	

SAMPLE DUPLICATE: 857007

Parameter	Units	T111032001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	680	678	0.3	20	10	4	

SAMPLE DUPLICATE: 857008

Parameter	Units	T111180005 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	1800	1770	1.7	20	10	4	

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3111
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

METHOD BLANK: 858445

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3111
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Bicarbonate (as CACO3)	ND	10	1.2	mg/L	
Carbonate (as CACO3)	ND	10	1.2	mg/L	
Hydroxide (as CACO3)	ND	10	1.2	mg/L	
Alkalinity, Total (as CACO3)	ND	10	1.2	mg/L	

LABORATORY CONTROL SAMPLE: 858446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Bicarbonate (as CACO3)	mg/L	100	95.9	96	80-120	
Alkalinity, Total (as CACO3)	mg/L	100	95.9	96	80-120	

SAMPLE DUPLICATE: 858447

Parameter	Units	T111192001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	179	178	0.6	20	10	1.2	
Carbonate (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	179	178	0.6	20	10	1.2	

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3115
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

METHOD BLANK: 860114

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Hardness (as CACO3)	ND	5	1.7	mg/L	

LABORATORY CONTROL SAMPLE: 860115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Hardness (as CACO3)	mg/L	100	102	102	80-120	

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QUALITY CONTROL DATA

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3115
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860116 860117

Parameter	Units	T111178001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	16	90	102	102	96	96	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860118 860119

Parameter	Units	T111221001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	18	90	109	107	101	99	80-120	1.9	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1	Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in higher reporting limit(s).
3	Sample(s) may not have received sufficient seed population and may be biased low.
5	Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.
6	LCS/LCSD RPD is outside the control limit for this compound. LCS/LCSD recoveries are in control.
7	RNC = Recovery Not Calculated. Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries were not calculated due to the high native concentration in the sample selected for MS/MSD versus the laboratory spike concentration.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
T111212001	**WW63-UR2S**	EPA 410.4-93 / SM 5220	BIO/20084		
T111212002	**WW63-UR5**	EPA 410.4-93 / SM 5220	BIO/20084		
T111212004	**WW63-UR7**	EPA 410.4-93 / SM 5220	BIO/20084		
T111212001	**WW63-UR2S**	ASTM D 3977-97	BIO/20086		
T111212002	**WW63-UR5**	ASTM D 3977-97	BIO/20086		
T111212004	**WW63-UR7**	ASTM D 3977-97	BIO/20086		
T111212001	**WW63-UR2S**	SM 2540 D-11	BIO/20087		
T111212002	**WW63-UR5**	SM 2540 D-11	BIO/20087		
T111212004	**WW63-UR7**	SM 2540 D-11	BIO/20087		
T111212001	**WW63-UR2S**	SM 5210 B-11	BOD/11463	SM 5210 B-11	BOD/11468
T111212002	**WW63-UR5**	SM 5210 B-11	BOD/11463	SM 5210 B-11	BOD/11468
T111212004	**WW63-UR7**	SM 5210 B-11	BOD/11463	SM 5210 B-11	BOD/11468
T111212001	**WW63-UR2S**	EPA 200.8	MPR/16333	EPA 200.8	MMS/9307
T111212002	**WW63-UR5**	EPA 200.8	MPR/16333	EPA 200.8	MMS/9307
T111212003	**WW63-UR6**	EPA 200.8	MPR/16333	EPA 200.8	MMS/9307
T111212004	**WW63-UR7**	EPA 200.8	MPR/16333	EPA 200.8	MMS/9307
T111212001	**WW63-UR2S**	SW846 3510C	SPR/8296	EPA 8270M_NCI	SMS/4705
T111212002	**WW63-UR5**	SW846 3510C	SPR/8296	EPA 8270M_NCI	SMS/4705
T111212003	**WW63-UR6**	SW846 3510C	SPR/8296	EPA 8270M_NCI	SMS/4705
T111212004	**WW63-UR7**	SW846 3510C	SPR/8296	EPA 8270M_NCI	SMS/4705
T111212001	**WW63-UR2S**	SM 4500-NH3 C-11	WAT/4824		
T111212002	**WW63-UR5**	SM 4500-NH3 C-11	WAT/4824		
T111212004	**WW63-UR7**	SM 4500-NH3 C-11	WAT/4824		
T111212001	**WW63-UR2S**	EPA353.2-93/SM4500-N	WCO/14199		
T111212002	**WW63-UR5**	EPA353.2-93/SM4500-N	WCO/14199		
T111212004	**WW63-UR7**	EPA353.2-93/SM4500-N	WCO/14199		
T111212001	**WW63-UR2S**	SM 4500-P B/F-11 (LL)	WCO/14234		
T111212002	**WW63-UR5**	SM 4500-P B/F-11 (LL)	WCO/14234		
T111212004	**WW63-UR7**	SM 4500-P B/F-11 (LL)	WCO/14234		
T111212001	**WW63-UR2S**	EPA 180.1-93	WET/9803		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: T111212
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
T111212002	**WW63-UR5**	EPA 180.1-93	WET/9803		
T111212004	**WW63-UR7**	EPA 180.1-93	WET/9803		
T111212001	**WW63-UR2S**	SM 2510 B-97/-11	WET/9811		
T111212002	**WW63-UR5**	SM 2510 B-97/-11	WET/9811		
T111212004	**WW63-UR7**	SM 2510 B-97/-11	WET/9811		
T111212001	**WW63-UR2S**	SM 2540 C-97/-11	WGR/6993		
T111212002	**WW63-UR5**	SM 2540 C-97/-11	WGR/6993		
T111212004	**WW63-UR7**	SM 2540 C-97/-11	WGR/6993		
T111212001	**WW63-UR2S**	SM 2320 B-97/-11	WTI/3111		
T111212002	**WW63-UR5**	SM 2320 B-97/-11	WTI/3111		
T111212004	**WW63-UR7**	SM 2320 B-97/-11	WTI/3111		
T111212001	**WW63-UR2S**	SM 2340 C-97/-11	WTI/3115		
T111212002	**WW63-UR5**	SM 2340 C-97/-11	WTI/3115		
T111212003	**WW63-UR6**	SM 2340 C-97/-11	WTI/3115		
T111212004	**WW63-UR7**	SM 2340 C-97/-11	WTI/3115		

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TEMP. (°C): 5.4
SEALED: Y
INTACT: Y

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

Date: Lab ID: T111212

CHAIN-OF-CUSTODY RECORD

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
WW63-UR2S	CONV	11-29-18	23:50	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW63-UR2S	MTL_T	11-29-18	23:50	Water	1	500 mL PE	HNO3												X	X				
WW63-UR2S	NUTR_01	11-29-18	23:50	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW63-UR2S	PYRETH	11-29-18	23:50	Water	2	1L AG	none														X			
WW63-UR2S	SSC	11-29-18	23:50	Water	1	250 mL PE	none											X						
WW63-UR6	MTL_T	11-30-18	08:00	Water	1	500 mL PE	HNO3												X	X				
WW63-UR6	PYRETH	11-30-18	08:00	Water	2	1L AG	none														X			
WW63-UR5	CONV	11-30-18	01:06	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW63-UR5	MTL_T	11-30-18	01:06	Water	1	500 mL PE	HNO3												X	X				
WW63-UR5	NUTR_01	11-30-18	01:06	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW63-UR5	PYRETH	11-30-18	01:06	Water	2	1L AG	none														X			

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature: Jessica Okutsu
Print: JESSICA OKUTSU
Organization: PER
Date: 11/30/18 Time: 1438

Received By (2):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 11/30/18 Time: 1438

Laboratory Comments:

Relinquished By (1):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 11-30-18 Time: 1516

Received By (2):
Signature: Colby
Print: COLBY CAMPBELL
Organization: CALTEST
Date: 11/30/18 Time: 15:16

Crew: PER

T111212

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date:

Lab ID: ~~T111217~~

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
WW63-UR5	SSC	11-30-18	01:06	Water	1	250 mL PE	none											X						
WW63-UR7	CONV	11-30-18	01:06	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW63-UR7	MTL_T	11-30-18	01:06	Water	1	500 mL PE	HNO3												X	X				
WW63-UR7	NUTR_01	11-30-18	01:06	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW63-UR7	PYRETH	11-30-18	01:06	Water	2	1L AG	none														X			
WW63-UR7	SSC	11-30-18	01:06	Water	1	250 mL PE	none											X						

-2
-4
-7

12:18

TEMP. (°C): 5.4
SEALED: Y
INTACT: Y

	Relinquished By (1):	Received By (2):
Sender Comments: Request shortest Standard turn-around-time (~15 business days)	Signature: Jessica Okutsu	Matthew Kerr
	Print: JESSICA OKUTSU	Caltest
	Organization: PER	
	Date: 11/30/18 Time: 1438	Date: 11/30/18 Time: 1428
Laboratory Comments:	Relinquished By (1):	Received By (2):
	Signature: Matthew Kerr	COLBY CAMPBELL
	Print: Matthew Kerr	CALTEST
	Organization: Caltest	
	Date: 11-30-18 Time: 1516	Date: 11/30/18 Time: 15:16

Crew: PER

Monday, December 31, 2018

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: T111178 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, November 30, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY

ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T111178001	**WW63-UR3**	Water	11/29/2018 02:05	11/30/2018 10:14

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NARRATIVE

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1	Sample(s) may not have received sufficient seed population and may be biased low.
2	This analysis is not covered under Caltest's NELAP/CAL-ELAP Accreditations.

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ANALYTICAL RESULTS

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **T111178001** Date Collected 11/29/2018 02:05 Matrix Water
Sample ID **WW63-UR3** Date Received 11/30/2018 10:14

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	44	mg/L	3	2	1			12/04/18 09:53	BIO 20082	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	DJC	
Chemical Oxygen Demand	68	mg/L	50	20	1			11/30/18 10:48	BIO 20075	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	ACS	
Sediment Concentration	45	mg/L	3	2	1			12/05/18 09:41	BIO 20086	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	DJC	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	DJC	
Biochemical Oxygen Demand	10	mg/L	5	5	1	11/30/18 12:37	BOD 11461	12/05/18 11:03	BOD 11462	1
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	UKS	
	Analytical Method:	EPA 200.8						**Analyzed by:**	LM	
Copper	13	ug/L	0.50	0.15	1	12/05/18 18:58	MPR 16317	12/15/18 02:42	MMS 9296	
Iron	0.92	mg/L	0.05	0.0050	1	12/05/18 18:58	MPR 16317	12/15/18 02:42	MMS 9296	
Lead	6.7	ug/L	0.25	0.060	1	12/05/18 18:58	MPR 16317	12/15/18 02:42	MMS 9296	
Zinc	97	ug/L	1.0	0.70	1	12/05/18 18:58	MPR 16317	12/15/18 02:42	MMS 9296	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	JSF	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Bifenthrin	14	ng/L	0.5	0.1	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Chlorpyrifos	7.8	ng/L	1.0	0.5	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Cyfluthrin	0.8	ng/L	0.5	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Lambda-Cyhalothrin	0.8	ng/L	0.5	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Cypermethrin	2.5	ng/L	0.5	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Diazinon	ND	ng/L	0.5	0.1	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Deltamethrin:Tralomethrin	2.5	ng/L	1.0	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Esfenvalerate:Fenvalerate	J0.6	ng/L	1.0	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Fenpropathrin	J0.4	ng/L	0.5	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Fipronil	4.6	ng/L	1.0	0.5	1	11/30/18 16:21	SPR 8293	12/21/18 06:57	SMS 4704	
Fipronil Desulfinyl	1.8	ng/L	1.0	0.5	1	11/30/18 16:21	SPR 8293	12/21/18 06:57	SMS 4704	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	11/30/18 16:21	SPR 8293	12/21/18 06:57	SMS 4704	
Fipronil Sulfone	B3.5	ng/L	1.0	0.5	1	11/30/18 16:21	SPR 8293	12/21/18 06:57	SMS 4704	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Permethrin	J5.8	ng/L	10	2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Tetramethrin	ND	ng/L	0.5	0.2	1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Esfenvalerate-d6 (SS)	105	%	26-130		1	11/30/18 16:21	SPR 8293	12/08/18 13:13	SMS 4704	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**	SM 4500-NH3 C-11						**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.2	mg/L	0.1	0.070	1			12/15/18 00:00	WAT 4824	
Phosphorus Analysis, Low Level	**Analytical Method:**	SM 4500-P B/F-11 (LL)						**Analyzed by:**	VCB	
Total Phosphorus as P	0.29	mg/L	0.01	0.0070	1			12/17/18 10:02	WCO 14204	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **T111178001** Date Collected 11/29/2018 02:05 Matrix Water
Sample ID **WW63-UR3** Date Received 11/30/2018 10:14

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.32	mg/L	0.1	0.070	1			12/13/18 16:02	WCO 14199	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	24	NTU	0.070	0.070	1			11/30/18 15:41	WET 9801	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	36	umhos/cm	10	10	1			12/03/18 17:36	WET 9797	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	13	mg/L	10	4.0	1			12/04/18 15:44	WGR 6993	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	16	mg/L	5	1.7	1			12/18/18 00:00	WTI 3115	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	J9	mg/L	10	1.2	1			12/03/18 20:04	WTI 3110	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			12/03/18 20:04	WTI 3110	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			12/03/18 20:04	WTI 3110	
Alkalinity, Total (as CACO3)	J9	mg/L	10	1.2	1			12/03/18 20:04	WTI 3110	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Chemical Oxygen Demand Analysis	**QC Batch:**	BIO/20075
Analysis Method:	EPA 410.4-93 / SM 5220 D-11	**QC Batch Method:**	EPA 410.4-93 / SM 5220 D-11

METHOD BLANK: 856481

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chemical Oxygen Demand	ND	50	20	mg/L	

LABORATORY CONTROL SAMPLE: 856482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Chemical Oxygen Demand	mg/L	300	326	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 856483 856484

Parameter	Units	T111170001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	53	300	364	364	104	104	90-110	0	20	

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20082
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

METHOD BLANK: 856816

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Suspended Solids	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE: 856817

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Suspended Solids	mg/L	500	530	106	80-120	

SAMPLE DUPLICATE: 856818

Parameter	Units	T111158001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	355	394	10	20	10	6.46	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20082
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

SAMPLE DUPLICATE: 856940

Parameter	Units	T120001003 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	610	640	4.8	20	30	20	

Analysis Description:	Suspended Sediment Concentration	**QC Batch:**	BIO/20086
Analysis Method:	ASTM D 3977-97 B-Filtration	**QC Batch Method:**	ASTM D 3977-97 B-Filtration

METHOD BLANK: 857134

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Sediment Concentration	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 857135 857136

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Sediment Concentration	mg/L	500	441	447	88	89	80-120	1.4	20	

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11461
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

METHOD BLANK: 856377

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Biochemical Oxygen Demand	ND	5	5	mg/L	1

LABORATORY CONTROL SAMPLE: 856378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Biochemical Oxygen Demand	mg/L	198	171	86	85-115	1

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11461
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

SAMPLE DUPLICATE: 856379

Parameter	Units	T110001029 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Biochemical Oxygen Demand	mg/L	410	401	2.2	30	50	50	1

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16317
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 857288

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 857289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	19.3	97	85-115	
Iron	mg/L	10	9.52	95	85-115	
Lead	ug/L	20	19.2	96	85-115	
Zinc	ug/L	20	19.4	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857291 857292

Parameter	Units	T111178001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	13	20	33.2	32.3	101	97	70-130	2.7	20	
Iron	mg/L	0.92	10	11.1	11	102	101	70-130	0.9	20	
Lead	ug/L	6.7	20	26.4	25.7	99	95	70-130	2.7	20	
Zinc	ug/L	97	20	117	115	100	90	70-130	1.7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 857293 857294

Parameter	Units	T120203001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	3.1	20	22.6	22.5	98	97	70-130	0.4	20	
Iron	mg/L	0.56	10	10.5	10.3	99	97	70-130	1.9	20	
Lead	ug/L	0.13	20	19.5	18.9	97	94	70-130	3.1	20	
Zinc	ug/L	9.6	20	28.8	28.1	96	93	70-130	2.5	20	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8293
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 856249

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Allethrin	ND	0.5	0.1	ng/L	
Bifenthrin	ND	0.5	0.1	ng/L	
Chlorpyrifos	ND	1.0	0.5	ng/L	
Cyfluthrin	ND	0.5	0.2	ng/L	
Lambda-Cyhalothrin	ND	0.5	0.2	ng/L	
Cypermethrin	ND	0.5	0.2	ng/L	
Diazinon	ND	0.5	0.1	ng/L	
Deltamethrin:Tralomethrin	ND	1.0	0.2	ng/L	
Esfenvalerate:Fenvalerate	ND	1.0	0.2	ng/L	
Fenpropathrin	ND	0.5	0.2	ng/L	
Fipronil	ND	1.0	0.5	ng/L	
Fipronil Desulfinyl	ND	1.0	0.5	ng/L	
Fipronil Sulfide	ND	1.0	0.5	ng/L	
Tau-Fluvalinate	ND	0.5	0.2	ng/L	
Permethrin	ND	10	2	ng/L	
Tetramethrin	ND	0.5	0.2	ng/L	
Esfenvalerate-d6 (SS)	92	34-130		%	

METHOD BLANK: 856249

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Fipronil Sulfone	J0.5	1.0	0.5	ng/L	4

LABORATORY CONTROL SAMPLE & LCSD: 856250 856251

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Allethrin	ng/L	20	15.8	18.4	79	92	30-130	15	35	
Bifenthrin	ng/L	20	16.9	19.5	85	98	44-130	14	35	
Chlorpyrifos	ng/L	20	18.1	22.8	91	114	25-130	23	35	
Cyfluthrin	ng/L	20	16.9	19.6	85	98	43-141	15	30	
Lambda-Cyhalothrin	ng/L	20	17.1	18.8	86	94	24-130	9.5	38	
Cypermethrin	ng/L	20	17.1	19.8	86	99	42-130	15	30	
Diazinon	ng/L	20	16.5	20.1	83	101	24-130	20	35	
Deltamethrin:Tralomethrin	ng/L	40	34.2	39.5	86	99	3-150	14	30	
Esfenvalerate:Fenvalerate	ng/L	40	33.4	40.3	84	101	32-130	19	30	
Fenpropathrin	ng/L	20	17.8	20.6	89	103	27-185	15	57	
Fipronil	ng/L	20	17.4	20.3	87	102	27-130	15	32	
Fipronil Desulfinyl	ng/L	20	18.3	23.5	92	118	25-130	25	35	
Fipronil Sulfide	ng/L	20	18.5	23.1	93	116	22-130	22	41	
Fipronil Sulfone	ng/L	20	16.3	24.1	82	121	14-130	39	32	5
Tau-Fluvalinate	ng/L	20	16.7	19.8	84	99	18-130	17	30	
Permethrin	ng/L	100	86	101	86	101	40-135	16	30	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8293
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

LABORATORY CONTROL SAMPLE & LCSD: 856250 856251

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Tetramethrin	ng/L	20	15.3	17.1	77	86	29-130	11	30	
Esfenvalerate-d6 (SS)	%				87	104	34-130	17	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 856407 856408

Parameter	Units	T111178001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	17.2	16.7	86	84	21-130	2.9	30	
Bifenthrin	ng/L	14	20	29.5	32.5	78	93	29-139	9.7	30	
Chlorpyrifos	ng/L	7.8	20	20	19.8	61	60	10-130	1	30	
Cyfluthrin	ng/L	0.8	20	23.8	23	115	111	44-130	3.4	30	
Lambda-Cyhalothrin	ng/L	0.8	20	13.1	13.3	62	63	12-141	1.5	30	
Cypermethrin	ng/L	2.5	20	26.2	26	119	118	39-130	0.8	30	
Diazinon	ng/L	0	20	17.3	15	87	75	3-151	14	46	
Deltamethrin:Tralomethrin	ng/L	2.5	40	43.8	40.6	103	95	11-130	7.6	30	
Esfenvalerate:Fenvalerate	ng/L	0.6	40	42	40.6	104	100	32-130	3.4	30	
Fenpropathrin	ng/L	0.4	20	21.3	20.4	105	100	20-168	4.3	31	
Fipronil	ng/L	4.6	20	21.5	19.6	85	75	7-142	9.2	30	
Fipronil Desulfinyl	ng/L	1.8	20	17	15.1	76	67	17-130	12	35	
Fipronil Sulfide	ng/L	0	20	15.1	13.6	76	68	3-130	10	32	
Fipronil Sulfone	ng/L	3.5	20	19.6	16.6	81	66	4-142	17	31	
Tau-Fluvalinate	ng/L	0	20	19.7	19.4	99	97	13-130	1.5	32	
Permethrin	ng/L	5.8	100	116	117	110	111	40-130	0.9	30	
Tetramethrin	ng/L	0	20	25.9	25.9	130	130	28-130	0	30	
Esfenvalerate-d6 (SS)	%					107	103	30-130	3.8	30	

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4824
Analysis Method:	SM 4500-NH3 C-11	**QC Batch Method:**	SM 4500-NH3 C-11

METHOD BLANK: 859303

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Kjeldahl Nitrogen	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 859304 859320

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Kjeldahl Nitrogen	mg/L	5	5.06	5.28	101	106	90-110	4.3	20	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4824
Analysis Method:	SM 4500-NH3 C-11	**QC Batch Method:**	SM 4500-NH3 C-11

MATRIX SPIKE SAMPLE: 859528

Parameter	Units	T120156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qualifiers
Total Kjeldahl Nitrogen	mg/L	9.4	5	14.3	98	54-154	

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14199
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

METHOD BLANK: 858958

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Nitrogen, Nitrate-Nitrite	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE: 858959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Nitrogen, Nitrate-Nitrite	mg/L	1	0.952	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858960 858961

Parameter	Units	T111209001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.54	1	1.54	1.56	100	102	90-110	1.3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 858962 858963

Parameter	Units	T111221001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.25	1	1.27	1.24	102	99	90-110	2.4	20	

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14204
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

METHOD BLANK: 859415

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Phosphorus as P	ND	0.01	0.007	mg/L	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14204
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

LABORATORY CONTROL SAMPLE: 859416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Phosphorus as P	mg/L	0.2	0.204	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 859789 859790

Parameter	Units	T110944005 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Phosphorus as P	mg/L	0.28	1	1.27	1.25	99	97	90-110	1.6	20	

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9797
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

METHOD BLANK: 856677

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Conductivity	ND	10	10	umhos/c	

LABORATORY CONTROL SAMPLE: 856678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Conductivity	umhos/c	1400	1430	101	80-120	

SAMPLE DUPLICATE: 856679

Parameter	Units	T110963001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Conductivity	umhos/c	1000	1030	3	20	10	10	

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9801
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

METHOD BLANK: 857530

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Turbidity	ND	0.070	0.07	NTU	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9801
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

LABORATORY CONTROL SAMPLE: 857531

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Turbidity	NTU	4	4.3	108	90-110	

SAMPLE DUPLICATE: 857532

Parameter	Units	T111158001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	450	467.5	2.2	20	1.8	1.75	

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/6993
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

METHOD BLANK: 856835

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Dissolved Solids	ND	10	4	mg/L	

LABORATORY CONTROL SAMPLE: 856836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Dissolved Solids	mg/L	500	474	95	80-120	

SAMPLE DUPLICATE: 857007

Parameter	Units	T111032001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	680	678	0.3	20	10	4	

SAMPLE DUPLICATE: 857008

Parameter	Units	T111180005 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	1800	1770	1.7	20	10	4	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/6993
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3110
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

METHOD BLANK: 856680

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Bicarbonate (as CACO3)	ND	10	1.2	mg/L	
Carbonate (as CACO3)	ND	10	1.2	mg/L	
Hydroxide (as CACO3)	ND	10	1.2	mg/L	
Alkalinity, Total (as CACO3)	ND	10	1.2	mg/L	

LABORATORY CONTROL SAMPLE: 856681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Bicarbonate (as CACO3)	mg/L	100	95.8	96	80-120	
Alkalinity, Total (as CACO3)	mg/L	100	95.8	96	80-120	

SAMPLE DUPLICATE: 856682

Parameter	Units	T110963001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	574	578	0.7	20	10	1.2	
Carbonate (as CACO3)	mg/L	21	21.2	0.9	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	595	599.2	0.7	20	10	1.2	

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3115
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

METHOD BLANK: 860114

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Hardness (as CACO3)	ND	5	1.7	mg/L	

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QUALITY CONTROL DATA

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3115
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

LABORATORY CONTROL SAMPLE: 860115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Hardness (as CACO3)	mg/L	100	102	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 860116 860117

Parameter	Units	T111178001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	16	90	102	102	96	96	80-120	0	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1	Sample(s) may not have received sufficient seed population and may be biased low.
4	Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.
5	LCS/LCSD RPD above the Caltest control limit for this compound. LCS/LCSD spike recoveries are in control.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: T111178
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
T111178001	**WW63-UR3**	EPA 410.4-93 / SM 5220	BIO/20075		
T111178001	**WW63-UR3**	SM 2540 D-11	BIO/20082		
T111178001	**WW63-UR3**	ASTM D 3977-97	BIO/20086		
T111178001	**WW63-UR3**	SM 5210 B-11	BOD/11461	SM 5210 B-11	BOD/11462
T111178001	**WW63-UR3**	EPA 200.8	MPR/16317	EPA 200.8	MMS/9296
T111178001	**WW63-UR3**	SW846 3510C	SPR/8293	EPA 8270M_NCI	SMS/4704
T111178001	**WW63-UR3**	SM 4500-NH3 C-11	WAT/4824		
T111178001	**WW63-UR3**	EPA353.2-93/SM4500-N	WCO/14199		
T111178001	**WW63-UR3**	SM 4500-P B/F-11 (LL)	WCO/14204		
T111178001	**WW63-UR3**	SM 2510 B-97/-11	WET/9797		
T111178001	**WW63-UR3**	EPA 180.1-93	WET/9801		
T111178001	**WW63-UR3**	SM 2540 C-97/-11	WGR/6993		
T111178001	**WW63-UR3**	SM 2320 B-97/-11	WTI/3110		
T111178001	**WW63-UR3**	SM 2340 C-97/-11	WTI/3115		

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T111178

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
WW63-UR3	CONV	11-29-18	0205	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW63-UR3	MTL_T	11-29-18	0205	Water	1	500 mL PE	HNO3												X	X				MSD
WW63-UR3	NUTR_01	11-29-18	0205	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW63-UR3	PYRETH	11-29-18	0205	Water	3	1L AG	none														X			MSD
WW63-UR3	SSC	11-29-18	0205	Water	1	250 mL PE	none											X						

TEMP. (°C): 3.9
SEALED: Y
INTACT: Y

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature: Jessica Okutsu
Print: JESSICA OKUTSU
Organization: PER
Date: 11/30/18 Time: 0910

Received By (2):
Signature: Matthew Kerr
Print: Matthew Kerr
Organization: Caltest
Date: 11-30-18 Time: 0910

Laboratory Comments:

Relinquished By (1):
Signature: Matthew Kerr
Print: Matthew Kerr
Organization: Caltest
Date: 11-30-18 Time: 1014

Received By (2):
Signature:
Print:
Organization:
Date: Time:

Crew: PER

Monday, December 31, 2018

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: T111210 Collected By: CLIENT
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, November 30, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: T111210
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T111210001	**WW63-UR2S**	Water	11/30/2018 07:10	11/30/2018 15:16
T111210002	**WW63-UR6**	Water	11/30/2018 08:15	11/30/2018 15:16
T111210003	**WW63-UR5**	Water	11/30/2018 06:15	11/30/2018 15:16

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NARRATIVE

Lab Order: T111210
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: T111210
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID T111210001 Date Collected 11/30/2018 07:10 Matrix Water
Sample ID WW63-UR2S Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	5.6	ug/L	0.50	0.15	1	12/17/18 16:55	MPR 16338	12/28/18 03:15	MMS 9310	
Iron	0.14	mg/L	0.05	0.0050	1	12/17/18 16:55	MPR 16338	12/28/18 03:15	MMS 9310	
Lead	0.88	ug/L	0.25	0.060	1	12/17/18 16:55	MPR 16338	12/28/18 03:15	MMS 9310	
Zinc	29	ug/L	1.0	0.70	1	12/17/18 16:55	MPR 16338	12/28/18 03:15	MMS 9310	

Lab ID T111210002 Date Collected 11/30/2018 08:15 Matrix Water
Sample ID WW63-UR6 Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	ND	ug/L	0.50	0.15	1	12/17/18 16:55	MPR 16338	12/28/18 03:24	MMS 9310	
Iron	ND	mg/L	0.05	0.0050	1	12/17/18 16:55	MPR 16338	12/28/18 03:24	MMS 9310	
Lead	J0.08	ug/L	0.25	0.060	1	12/17/18 16:55	MPR 16338	12/28/18 03:24	MMS 9310	
Zinc	ND	ug/L	1.0	0.70	1	12/17/18 16:55	MPR 16338	12/28/18 03:24	MMS 9310	

Lab ID T111210003 Date Collected 11/30/2018 06:15 Matrix Water
Sample ID WW63-UR5 Date Received 11/30/2018 15:16

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	4.0	ug/L	0.50	0.15	1	12/17/18 16:55	MPR 16338	12/28/18 03:32	MMS 9310	
Iron	0.10	mg/L	0.05	0.0050	1	12/17/18 16:55	MPR 16338	12/28/18 03:32	MMS 9310	
Lead	J0.18	ug/L	0.25	0.060	1	12/17/18 16:55	MPR 16338	12/28/18 03:32	MMS 9310	
Zinc	19	ug/L	1.0	0.70	1	12/17/18 16:55	MPR 16338	12/28/18 03:32	MMS 9310	

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QUALITY CONTROL DATA

Lab Order: T111210
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Analysis Description:	Metals by ICPMS Collision Mode,Dissolved	**QC Batch:**	MPR/16338
Analysis Method:	EPA 200.8 (filtrate)	**QC Batch Method:**	EPA 200.8 (filtrate)

METHOD BLANK: 859869

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 859870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	18.7	94	85-115	
Iron	mg/L	10	9.39	94	85-115	
Lead	ug/L	20	18.9	95	85-115	
Zinc	ug/L	20	19	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 859872 859873

Parameter	Units	T111221001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	0.59	20	19.3	19.2	94	93	70-130	0.5	20	
Iron	mg/L	0.08	10	9.3	9.35	92	93	70-130	0.5	20	
Lead	ug/L	0	20	18.9	18.8	95	94	70-130	0.5	20	
Zinc	ug/L	0	20	19.7	19.3	99	97	70-130	2.1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 859874 859875

Parameter	Units	T111221006 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	1.8	20	20.1	19.9	92	91	70-130	1	20	
Iron	mg/L	0.28	10	9.38	9.51	91	92	70-130	1.4	20	
Lead	ug/L	0	20	18.2	18.2	91	91	70-130	0	20	
Zinc	ug/L	1.5	20	19.1	19.3	88	89	70-130	1	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: T111210
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: T111210
Project ID: SSQ URBAN RUNOFF DISCHARGE MTN

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
T111210001	**WW63-UR2S**	EPA 200.8 (filtrate)	MPR/16338	EPA 200.8 (filtrate)	MMS/9310
T111210002	**WW63-UR6**	EPA 200.8 (filtrate)	MPR/16338	EPA 200.8 (filtrate)	MMS/9310
T111210003	**WW63-UR5**	EPA 200.8 (filtrate)	MPR/16338	EPA 200.8 (filtrate)	MMS/9310

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID: T11210

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

	Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	LL Metals, Coll.Mode, filtered, (Cu, Pb, Zn, Fe)	Notes
-1	WW63-UR2S	MTL_D	11-30-18	07:10	Water	1	500 mL PE	none	X	
-2	WW63-UR6	MTL_D	11-30-18	08:15	Water	1	500 mL PE	none	X	
-3	WW63-UR5	MTL_D	11-30-18	06:15	Water	1	500 mL PE	none	X	LD

TEMP. (°C): 5.4
SEALED: ——
INTACT: ——

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature: Jessica Okutsu
Print: JESSICA OKUTSU
Organization: PER
Date: 11/30/18 Time: 1438

Received By (2):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 11/30/18 Time: 1435

Laboratory Comments:

Relinquished By (1):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 11-30-18 Time: 1516

Received By (2):
Signature: Colby
Print: COLBY CAMPBELL
Organization: CALTEST
Date: 11/30/18 Time: 15:16

Crew: PER

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Innovative Solutions for Nature

January 07, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave
Suite 100
Davis, CA 95618

Project Name: SSQP Urban Runoff Discharge Monitoring
Physis Project ID: 1204008-035

Dear Steve,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 12/1/2018. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Organophosphorus Pesticides by EPA 625

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714-335-5918 cell
mistymercier@physislabs.com

PROJECT SAMPLE LIST

Larry Walker Associates — PHYSIS Project ID: 1204008-035

SSQP Urban Runoff Discharge Monitoring — Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix
59660	WW63-UR2S		11/29/201	23:50	Liquid
59661	WW63-UR6		11/30/201	8:00	Liquid
59662	WW63-UR5		11/30/201	1:06	Liquid
59663	WW63-UR7		11/30/201	1:06	Liquid

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

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QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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ANALYTICAL REPORT

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Organophosphorus Pesticides — ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59660-R1	**WW63-UR2S**		**Matrix: Liquid**		**Sampled: 29-Nov-18 23:50**	**Received: 01-Dec-18**
	Method: EPA 625		Batch ID: O-22008		Prepared: 01-Dec-18	Analyzed: 23-Dec-18
(PCB030)	Total	120			% Recovery	
(PCB112)	Total	121			% Recovery	
(PCB198)	Total	68			% Recovery	
(TCMX)	Total	119			% Recovery	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L	
Chlorpyrifos	Total	6.17	0.5	1	ng/L	
Demeton	Total	ND	1	2	ng/L	
Diazinon	Total	ND	0.5	1	ng/L	
Dichlorvos	Total	ND	3	6	ng/L	
Dimethoate	Total	ND	5	10	ng/L	
Disulfoton	Total	ND	1	2	ng/L	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L	
Fensulfothion	Total	ND	1	2	ng/L	
Fenthion	Total	ND	2	4	ng/L	
Malathion	Total	ND	2.5	5	ng/L	
Methidathion	Total	ND	5	10	ng/L	
Methyl Parathion	Total	ND	1	2	ng/L	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L	
Phorate	Total	ND	5	10	ng/L	
Phosmet	Total	ND	5	10	ng/L	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L	
Trichloronate	Total	ND	1	2	ng/L	
Sample ID: 59661-R1	**WW63-UR6**		**Matrix: Liquid**		**Sampled: 30-Nov-18 8:00**	**Received: 01-Dec-18**
	Method: EPA 625		Batch ID: O-22008		Prepared: 01-Dec-18	Analyzed: 23-Dec-18
(PCB030)	Total	123			% Recovery	
(PCB112)	Total	129			% Recovery	
(PCB198)	Total	68			% Recovery	

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Organophosphorus Pesticides — ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
(TCMX)	Total	117			% Recovery	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L	
Chlorpyrifos	Total	ND	0.5	1	ng/L	
Demeton	Total	ND	1	2	ng/L	
Diazinon	Total	ND	0.5	1	ng/L	
Dichlorvos	Total	ND	3	6	ng/L	
Dimethoate	Total	ND	5	10	ng/L	
Disulfoton	Total	ND	1	2	ng/L	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L	
Fensulfothion	Total	ND	1	2	ng/L	
Fenthion	Total	ND	2	4	ng/L	
Malathion	Total	ND	2.5	5	ng/L	
Methidathion	Total	ND	5	10	ng/L	
Methyl Parathion	Total	ND	1	2	ng/L	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L	
Phorate	Total	ND	5	10	ng/L	
Phosmet	Total	ND	5	10	ng/L	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L	
Trichloronate	Total	ND	1	2	ng/L	

Sample ID: 59662-R1 **WW63-UR5** **Matrix: Liquid** **Sampled: 30-Nov-18 1:06** **Received: 01-Dec-18**
Method: EPA 625 Batch ID: O-22008 Prepared: 01-Dec-18 Analyzed: 23-Dec-18

(PCB030)	Total	114			% Recovery	
(PCB112)	Total	121			% Recovery	
(PCB198)	Total	59			% Recovery	
(TCMX)	Total	114			% Recovery	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L	
Chlorpyrifos	Total	1.14	0.5	1	ng/L	
Demeton	Total	ND	1	2	ng/L	
Diazinon	Total	ND	0.5	1	ng/L	
Dichlorvos	Total	ND	3	6	ng/L	

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Organophosphorus Pesticides — ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Dimethoate	Total	ND	5	10	ng/L	
Disulfoton	Total	ND	1	2	ng/L	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L	
Fensulfothion	Total	ND	1	2	ng/L	
Fenthion	Total	ND	2	4	ng/L	
Malathion	Total	ND	2.5	5	ng/L	
Methidathion	Total	ND	5	10	ng/L	
Methyl Parathion	Total	ND	1	2	ng/L	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L	
Phorate	Total	ND	5	10	ng/L	
Phosmet	Total	ND	5	10	ng/L	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L	
Trichloronate	Total	ND	1	2	ng/L	

Sample ID: 59663-R1 **WW63-UR7** **Matrix: Liquid** **Sampled: 30-Nov-18 1:06** **Received: 01-Dec-18**
Method: EPA 625 Batch ID: O-22008 Prepared: 01-Dec-18 Analyzed: 23-Dec-18

(PCB030)	Total	118			% Recovery	
(PCB112)	Total	123			% Recovery	
(PCB198)	Total	62			% Recovery	
(TCMX)	Total	113			% Recovery	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L	
Chlorpyrifos	Total	2.29	0.5	1	ng/L	
Demeton	Total	ND	1	2	ng/L	
Diazinon	Total	ND	0.5	1	ng/L	
Dichlorvos	Total	ND	3	6	ng/L	
Dimethoate	Total	ND	5	10	ng/L	
Disulfoton	Total	ND	1	2	ng/L	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L	
Fensulfothion	Total	ND	1	2	ng/L	
Fenthion	Total	ND	2	4	ng/L	

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Organophosphorus Pesticides — ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Malathion	Total	ND	2.5	5	ng/L	
Methidathion	Total	ND	5	10	ng/L	
Methyl Parathion	Total	ND	1	2	ng/L	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L	
Phorate	Total	ND	5	10	ng/L	
Phosmet	Total	ND	5	10	ng/L	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L	
Trichloronate	Total	ND	1	2	ng/L	

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Polynuclear Aromatic Hydrocarbons ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59660-R1	**WW63-UR2S**		**Matrix: Liquid**		**Sampled: 29-Nov-18 23:50**	**Received: 01-Dec-18**
	Method: EPA 625		Batch ID: O-22008		Prepared: 01-Dec-18	Analyzed: 23-Dec-18
(d10-Acenaphthene)	Total	102			% Recovery	
(d10-Phenanthrene)	Total	102			% Recovery	
(d12-Chrysene)	Total	132			% Recovery	
(d12-Perylene)	Total	93			% Recovery	
(d8-Naphthalene)	Total	72			% Recovery	
1-Methylnaphthalene	Total	31	1	5	ng/L	
1-Methylphenanthrene	Total	4.35	1	5	ng/L	J
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	6.67	1	5	ng/L	
2-Methylnaphthalene	Total	50.4	1	5	ng/L	
Acenaphthene	Total	12.4	1	5	ng/L	
Acenaphthylene	Total	3.49	1	5	ng/L	J
Anthracene	Total	2.28	1	5	ng/L	J
Benz[a]anthracene	Total	9.35	1	5	ng/L	
Benzo[a]pyrene	Total	16.3	1	5	ng/L	
Benzo[b]fluoranthene	Total	33.8	1	5	ng/L	
Benzo[e]pyrene	Total	31.6	1	5	ng/L	
Benzo[g,h,i]perylene	Total	28.4	1	5	ng/L	
Benzo[k]fluoranthene	Total	24.3	1	5	ng/L	
Biphenyl	Total	2.58	1	5	ng/L	J
Chrysene	Total	8.4	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	7.88	1	5	ng/L	
Fluoranthene	Total	26.5	1	5	ng/L	
Fluorene	Total	4.34	1	5	ng/L	J
Indeno[1,2,3-cd]pyrene	Total	46.7	1	5	ng/L	
Naphthalene	Total	81	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	23.6	1	5	ng/L	
Pyrene	Total	24.8	1	5	ng/L	

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Polynuclear Aromatic Hydrocarbons ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59661-R1	**WW63-UR6**	**Matrix: Liquid**		**Sampled: 30-Nov-18 8:00**		**Received: 01-Dec-18**
	Method: EPA 625	Batch ID: O-22008		Prepared: 01-Dec-18		Analyzed: 23-Dec-18
(d10-Acenaphthene)	Total	98			% Recovery	
(d10-Phenanthrene)	Total	99			% Recovery	
(d12-Chrysene)	Total	105			% Recovery	
(d12-Perylene)	Total	94			% Recovery	
(d8-Naphthalene)	Total	65			% Recovery	
1-Methylnaphthalene	Total	ND	1	5	ng/L	
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	ND	1	5	ng/L	
Acenaphthene	Total	16.6	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	ND	1	5	ng/L	
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	ND	1	5	ng/L	
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.2	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	2.14	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	

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Polynuclear Aromatic Hydrocarbons ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59662-R1	**WW63-UR5**	**Matrix: Liquid**		**Sampled: 30-Nov-18 1:06**		**Received: 01-Dec-18**
	Method: EPA 625	Batch ID: O-22008		Prepared: 01-Dec-18		Analyzed: 23-Dec-18
(d10-Acenaphthene)	Total	92			% Recovery	
(d10-Phenanthrene)	Total	94			% Recovery	
(d12-Chrysene)	Total	107			% Recovery	
(d12-Perylene)	Total	88			% Recovery	
(d8-Naphthalene)	Total	82			% Recovery	
1-Methylnaphthalene	Total	1.37	1	5	ng/L	J
1-Methylphenanthrene	Total	1.26	1	5	ng/L	J
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	2.41	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	2.74	1	5	ng/L	J
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	1.5	1	5	ng/L	J
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	2.05	1	5	ng/L	J
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	2.54	1	5	ng/L	J
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	2.79	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.99	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	

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Polynuclear Aromatic Hydrocarbons ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59663-R1	**WW63-UR7**	**Matrix: Liquid**		**Sampled: 30-Nov-18 1:06**		**Received: 01-Dec-18**
	Method: EPA 625	Batch ID: O-22008		Prepared: 01-Dec-18		Analyzed: 23-Dec-18
(d10-Acenaphthene)	Total	96			% Recovery	
(d10-Phenanthrene)	Total	103			% Recovery	
(d12-Chrysene)	Total	131			% Recovery	
(d12-Perylene)	Total	94			% Recovery	
(d8-Naphthalene)	Total	62			% Recovery	
1-Methylnaphthalene	Total	1.2	1	5	ng/L	J
1-Methylphenanthrene	Total	ND	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L	
2-Methylnaphthalene	Total	2.3	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	ND	1	5	ng/L	
Anthracene	Total	ND	1	5	ng/L	
Benz[a]anthracene	Total	ND	1	5	ng/L	
Benzo[a]pyrene	Total	ND	1	5	ng/L	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L	
Benzo[e]pyrene	Total	ND	1	5	ng/L	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L	
Biphenyl	Total	1.56	1	5	ng/L	J
Chrysene	Total	ND	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	2.29	1	5	ng/L	J
Fluoranthene	Total	ND	1	5	ng/L	
Fluorene	Total	3.34	1	5	ng/L	J
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L	
Naphthalene	Total	1.98	1	5	ng/L	J
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	3.95	1	5	ng/L	J
Pyrene	Total	ND	1	5	ng/L	

QUALITY CONTROL REPORT

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 59659-B1	**QAQC Procedural Blank**				**Matrix: DI Water**			**Sampled:**			**Received:**	
	Method: EPA 625				Batch ID: O-22008			Prepared: 01-Dec-18			Analyzed: 21-Dec-18	
(PCB030)	Total	94			% Recovery	100		94	57 - 133%	PASS		
(PCB112)	Total	109			% Recovery	100		109	65 - 133%	PASS		
(PCB198)	Total	106			% Recovery	100		106	69 - 133%	PASS		
(TCMX)	Total	80			% Recovery	100		80	39 - 135%	PASS		
Bolstar (Sulprofos)	Total	ND	2	4	ng/L							
Chlorpyrifos	Total	ND	0.5	1	ng/L							
Demeton	Total	ND	1	2	ng/L							
Diazinon	Total	ND	0.5	1	ng/L							
Dichlorvos	Total	ND	3	6	ng/L							
Dimethoate	Total	ND	5	10	ng/L							
Disulfoton	Total	ND	1	2	ng/L							
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L							
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L							
Fensulfothion	Total	ND	1	2	ng/L							
Fenthion	Total	ND	2	4	ng/L							
Malathion	Total	ND	2.5	5	ng/L							
Methidathion	Total	ND	5	10	ng/L							
Methyl Parathion	Total	ND	1	2	ng/L							
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L							
Phorate	Total	ND	5	10	ng/L							
Phosmet	Total	ND	5	10	ng/L							
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L							
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L							
Trichloronate	Total	ND	1	2	ng/L							
Sample ID: 59659-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**			**Sampled:**			**Received:**	
	Method: EPA 625				Batch ID: O-22008			Prepared: 01-Dec-18			Analyzed: 21-Dec-18	
(PCB030)	Total	95			% Recovery	100	0	95	57 - 133%	PASS		
(PCB112)	Total	110			% Recovery	100	0	110	65 - 133%	PASS		

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Organophosphorus Pesticides QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
(PCB198)	Total	102			% Recovery	100	0	102	69 - 133%	PASS			
(TCMX)	Total	86			% Recovery	100	0	86	39 - 135%	PASS			
Bolstar (Sulprofos)	Total	521	2	4	ng/L	500	0	104	46 - 147%	PASS			
Chlorpyrifos	Total	446	0.5	1	ng/L	500	0	89	75 - 120%	PASS			
Demeton	Total	384	1	2	ng/L	500	0	77	0 - 140%	PASS			
Diazinon	Total	480	0.5	1	ng/L	500	0	96	65 - 125%	PASS			
Dichlorvos	Total	408	3	6	ng/L	500	0	82	58 - 131%	PASS			
Dimethoate	Total	428	5	10	ng/L	500	0	86	17 - 146%	PASS			
Disulfoton	Total	461	1	2	ng/L	500	0	92	23 - 136%	PASS			
Ethoprop (Ethoprofos)	Total	463	1	2	ng/L	500	0	93	63 - 125%	PASS			
Fenchlorphos (Ronnel)	Total	483	2	4	ng/L	500	0	97	75 - 128%	PASS			
Fensulfothion	Total	429	1	2	ng/L	500	0	86	0 - 173%	PASS			
Fenthion	Total	498	2	4	ng/L	500	0	100	57 - 133%	PASS			
Malathion	Total	559	2.5	5	ng/L	500	0	112	41 - 150%	PASS			
Methidathion	Total	482	5	10	ng/L	500	0	96	34 - 155%	PASS			
Methyl Parathion	Total	454	1	2	ng/L	500	0	91	37 - 147%	PASS			
Mevinphos (Phosdrin)	Total	346	5	10	ng/L	500	0	69	28 - 132%	PASS			
Phorate	Total	432	5	10	ng/L	500	0	86	29 - 149%	PASS			
Phosmet	Total	539	5	10	ng/L	500	0	108	47 - 141%	PASS			
Tetrachlorvinphos (Stirofos)	Total	508	2	4	ng/L	500	0	102	57 - 138%	PASS			
Tokuthion (Prothiofos)	Total	495	3	6	ng/L	500	0	99	74 - 136%	PASS			
Trichloronate	Total	426	1	2	ng/L	500	0	85	75 - 122%	PASS			

Sample ID: 59659-BS2 **QAQC Procedural Blank** **Matrix: DI Water** **Sampled:** **Received:**

Method: EPA 625 Batch ID: O-22008 Prepared: 01-Dec-18 Analyzed: 21-Dec-18

(PCB030)	Total	94			% Recovery	100	0	94	57 - 133%	PASS	1	30	PASS
(PCB112)	Total	102			% Recovery	100	0	102	65 - 133%	PASS	8	30	PASS
(PCB198)	Total	96			% Recovery	100	0	96	69 - 133%	PASS	6	30	PASS
(TCMX)	Total	86			% Recovery	100	0	86	39 - 135%	PASS	0	30	PASS
Bolstar (Sulprofos)	Total	501	2	4	ng/L	500	0	100	46 - 147%	PASS	4	30	PASS
Chlorpyrifos	Total	425	0.5	1	ng/L	500	0	85	75 - 120%	PASS	5	30	PASS
Demeton	Total	361	1	2	ng/L	500	0	72	0 - 140%	PASS	7	30	PASS

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Diazinon	Total	455	0.5	1	ng/L	500	0	91	65 - 125%	PASS	5	30	PASS	
Dichlorvos	Total	406	3	6	ng/L	500	0	81	58 - 131%	PASS	1	30	PASS	
Dimethoate	Total	355	5	10	ng/L	500	0	71	17 - 146%	PASS	19	30	PASS	
Disulfoton	Total	434	1	2	ng/L	500	0	87	23 - 136%	PASS	6	30	PASS	
Ethoprop (Ethoprofos)	Total	431	1	2	ng/L	500	0	86	63 - 125%	PASS	8	30	PASS	
Fenchlorphos (Ronnel)	Total	470	2	4	ng/L	500	0	94	75 - 128%	PASS	3	30	PASS	
Fensulfothion	Total	324	1	2	ng/L	500	0	65	0 - 173%	PASS	28	30	PASS	
Fenthion	Total	465	2	4	ng/L	500	0	93	57 - 133%	PASS	7	30	PASS	
Malathion	Total	514	2.5	5	ng/L	500	0	103	41 - 150%	PASS	8	30	PASS	
Methidathion	Total	447	5	10	ng/L	500	0	89	34 - 155%	PASS	8	30	PASS	
Methyl Parathion	Total	426	1	2	ng/L	500	0	85	37 - 147%	PASS	7	30	PASS	
Mevinphos (Phosdrin)	Total	313	5	10	ng/L	500	0	63	28 - 132%	PASS	9	30	PASS	
Phorate	Total	404	5	10	ng/L	500	0	81	29 - 149%	PASS	6	30	PASS	
Phosmet	Total	489	5	10	ng/L	500	0	98	47 - 141%	PASS	10	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	470	2	4	ng/L	500	0	94	57 - 138%	PASS	8	30	PASS	
Tokuthion (Prothiofos)	Total	463	3	6	ng/L	500	0	93	74 - 136%	PASS	6	30	PASS	
Trichloronate	Total	409	1	2	ng/L	500	0	82	75 - 122%	PASS	4	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 59659-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22008		Prepared: 01-Dec-18				Analyzed: 21-Dec-18	
(d10-Acenaphthene)	Total	75			% Recovery	100	75	65 - 113%	PASS			
(d10-Phenanthrene)	Total	102			% Recovery	100	102	80 - 111%	PASS			
(d12-Chrysene)	Total	115			% Recovery	100	115	60 - 139%	PASS			
(d12-Perylene)	Total	102			% Recovery	100	102	36 - 161%	PASS			
(d8-Naphthalene)	Total	44			% Recovery	100	44	44 - 119%	PASS			
1-Methylnaphthalene	Total	ND	1	5	ng/L							
1-Methylphenanthrene	Total	ND	1	5	ng/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L							
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L							
2-Methylnaphthalene	Total	ND	1	5	ng/L							
Acenaphthene	Total	ND	1	5	ng/L							
Acenaphthylene	Total	ND	1	5	ng/L							
Anthracene	Total	ND	1	5	ng/L							
Benz[a]anthracene	Total	ND	1	5	ng/L							
Benzo[a]pyrene	Total	ND	1	5	ng/L							
Benzo[b]fluoranthene	Total	ND	1	5	ng/L							
Benzo[e]pyrene	Total	ND	1	5	ng/L							
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L							
Benzo[k]fluoranthene	Total	ND	1	5	ng/L							
Biphenyl	Total	ND	1	5	ng/L							
Chrysene	Total	ND	1	5	ng/L							
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L							
Dibenzothiophene	Total	ND	1	5	ng/L							
Fluoranthene	Total	ND	1	5	ng/L							
Fluorene	Total	ND	1	5	ng/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L							
Naphthalene	Total	ND	1	5	ng/L							
Perylene	Total	ND	1	5	ng/L							
Phenanthrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	ND	1	5	ng/L							

Sample ID: 59659-BS1 **QAQC Procedural Blank** **Matrix: DI Water** **Sampled:** **Received:**
Method: EPA 625 Batch ID: O-22008 Prepared: 01-Dec-18 Analyzed: 21-Dec-18

(d10-Acenaphthene)	Total	85			% Recovery	100	0	85	65 - 113%	PASS	
(d10-Phenanthrene)	Total	102			% Recovery	100	0	102	80 - 111%	PASS	
(d12-Chrysene)	Total	102			% Recovery	100	0	102	60 - 139%	PASS	
(d12-Perylene)	Total	102			% Recovery	100	0	102	36 - 161%	PASS	
(d8-Naphthalene)	Total	55			% Recovery	100	0	55	44 - 119%	PASS	
1-Methylnaphthalene	Total	320	1	5	ng/L	500	0	64	49 - 117%	PASS	
1-Methylphenanthrene	Total	590	1	5	ng/L	500	0	118	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	442	1	5	ng/L	500	0	88	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	383	1	5	ng/L	500	0	77	54 - 117%	PASS	
2-Methylnaphthalene	Total	329	1	5	ng/L	500	0	66	47 - 130%	PASS	
Acenaphthene	Total	389	1	5	ng/L	500	0	78	53 - 131%	PASS	
Acenaphthylene	Total	398	1	5	ng/L	500	0	80	43 - 140%	PASS	
Anthracene	Total	468	1	5	ng/L	500	0	94	58 - 135%	PASS	
Benz[a]anthracene	Total	659	1	5	ng/L	500	0	132	55 - 145%	PASS	
Benzo[a]pyrene	Total	471	1	5	ng/L	500	0	94	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	571	1	5	ng/L	500	0	114	46 - 165%	PASS	
Benzo[e]pyrene	Total	536	1	5	ng/L	500	0	107	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	473	1	5	ng/L	500	0	95	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	502	1	5	ng/L	500	0	100	56 - 145%	PASS	
Biphenyl	Total	371	1	5	ng/L	500	0	74	56 - 119%	PASS	
Chrysene	Total	467	1	5	ng/L	500	0	93	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	592	1	5	ng/L	500	0	118	55 - 150%	PASS	
Dibenzothiophene	Total	489	1	5	ng/L	500	0	98	75 - 113%	PASS	
Fluoranthene	Total	564	1	5	ng/L	500	0	113	60 - 146%	PASS	
Fluorene	Total	433	1	5	ng/L	500	0	87	58 - 131%	PASS	
Indeno[1,2,3-cd]pyrene	Total	644	1	5	ng/L	500	0	129	50 - 151%	PASS	
Naphthalene	Total	275	1	5	ng/L	500	0	55	41 - 126%	PASS	
Perylene	Total	484	1	5	ng/L	500	0	97	48 - 141%	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Phenanthrene	Total	465	1	5	ng/L	500	0	93	67 - 127%	PASS			
Pyrene	Total	572	1	5	ng/L	500	0	114	54 - 156%	PASS			

Sample ID: 59659-BS2 **QAQC Procedural Blank** **Matrix: DI Water** **Sampled:** **Received:**
Method: EPA 625 Batch ID: O-22008 Prepared: 01-Dec-18 Analyzed: 21-Dec-18

(d10-Acenaphthene)	Total	86			% Recovery	100	0	86	65 - 113%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	99			% Recovery	100	0	99	80 - 111%	PASS	3	30	PASS
(d12-Chrysene)	Total	95			% Recovery	100	0	95	60 - 139%	PASS	7	30	PASS
(d12-Perylene)	Total	98			% Recovery	100	0	98	36 - 161%	PASS	4	30	PASS
(d8-Naphthalene)	Total	60			% Recovery	100	0	60	44 - 119%	PASS	9	30	PASS
1-Methylnaphthalene	Total	349	1	5	ng/L	500	0	70	49 - 117%	PASS	9	30	PASS
1-Methylphenanthrene	Total	573	1	5	ng/L	500	0	115	66 - 127%	PASS	3	30	PASS
2,3,5-Trimethylnaphthalene	Total	448	1	5	ng/L	500	0	90	57 - 120%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	400	1	5	ng/L	500	0	80	54 - 117%	PASS	4	30	PASS
2-Methylnaphthalene	Total	352	1	5	ng/L	500	0	70	47 - 130%	PASS	6	30	PASS
Acenaphthene	Total	411	1	5	ng/L	500	0	82	53 - 131%	PASS	5	30	PASS
Acenaphthylene	Total	414	1	5	ng/L	500	0	83	43 - 140%	PASS	4	30	PASS
Anthracene	Total	461	1	5	ng/L	500	0	92	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	647	1	5	ng/L	500	0	129	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	469	1	5	ng/L	500	0	94	51 - 143%	PASS	0	30	PASS
Benzo[b]fluoranthene	Total	559	1	5	ng/L	500	0	112	46 - 165%	PASS	2	30	PASS
Benzo[e]pyrene	Total	521	1	5	ng/L	500	0	104	42 - 152%	PASS	3	30	PASS
Benzo[g,h,i]perylene	Total	472	1	5	ng/L	500	0	94	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	484	1	5	ng/L	500	0	97	56 - 145%	PASS	3	30	PASS
Biphenyl	Total	391	1	5	ng/L	500	0	78	56 - 119%	PASS	5	30	PASS
Chrysene	Total	461	1	5	ng/L	500	0	92	56 - 141%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	599	1	5	ng/L	500	0	120	55 - 150%	PASS	2	30	PASS
Dibenzothiophene	Total	487	1	5	ng/L	500	0	97	75 - 113%	PASS	1	30	PASS
Fluoranthene	Total	542	1	5	ng/L	500	0	108	60 - 146%	PASS	5	30	PASS
Fluorene	Total	441	1	5	ng/L	500	0	88	58 - 131%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	644	1	5	ng/L	500	0	129	50 - 151%	PASS	0	30	PASS
Naphthalene	Total	297	1	5	ng/L	500	0	59	41 - 126%	PASS	7	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Perylene	Total	476	1	5	ng/L	500	0	95	48 - 141%	PASS	2	30	PASS	
Phenanthrene	Total	461	1	5	ng/L	500	0	92	67 - 127%	PASS	1	30	PASS	
Pyrene	Total	554	1	5	ng/L	500	0	111	54 - 156%	PASS	3	30	PASS	

CHAIN OF CUSTODY

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: PHYSIS
Misty Mercier
Address: 1904 East Wright Circle
Anaheim, CA 92806
Phone: 714-602-5320
Fax:

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	OP Pesticides and LL PAHs															Notes
WW63-UR2S	'_PEST_P/	11-29-18	23:50	Water	2	1L AG	none	X															
WW63-UR6	'_PEST_P/	11-30-18	08:00	Water	2	1L AG	none	X															
WW63-UR5	'_PEST_P/	11-30-18	01:06	Water	2	1L AG	none	X															
WW63-UR7	'_PEST_P/	11-30-18	01:06	Water	2	1L AG	none	X															

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Alison Briden
Organization: PER
Date: 11-30-18 Time: 1225

Received By (2):
Print: Martin Yau
Physis
Date: 12-1-18 Time: 10:50 AM

Laboratory Comments:

Relinquished By (1):
Signature:
Print:
Organization:
Date: Time:

Received By (2):
Date: Time:

Crew: PER

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Physis Project ID
1204008-035

Sample Receipt Summary

Client: Larry Walker Associates | Date Received: 12/1/2018 | Received By: MY | Inspected By: RGH

Courier:	Cooler:	Temperature:
☐ Physis ☐ FEDEX ☑ UPS ☐ Client	☑ Cooler ☐ Box Total #: 1	☐ BLUE ☑ WET ☐ DRY
Start ____ End ____ ☐ Other: ____	☐ Other : ____	☐ None 5.1 °C

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out.....Yes
2. All sample containers arrived intact.....Yes
3. All samples listed on COC(s) are present.....Yes
4. Information on containers consistent with information on COC(s).....Yes
5. Correct containers and volume for all analyses indicated.....Yes
6. All samples received within method holding time.....Yes
7. Correct preservation used for all analyses indicated.....Yes
8. Name of sampler included on COC(s).....Yes

Notes:

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January 23, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave
Suite 100
Davis, CA 95618

Project Name: SSQP Urban Runoff Discharge Monitoring
Physis Project ID: 1204008-036

Dear Steve,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 12/5/2018. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Organophosphorus Pesticides by EPA 625

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
Extension 202
714 602-5320 cell
mistymercier@physislabs.com

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PROJECT SAMPLE LIST

Larry Walker Associates — PHYSIS Project ID: 1204008-036

SSQP Urban Runoff Discharge Monitoring — Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix
59954	WW63-UR3		11/29/201	2:05	Liquid

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

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QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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ANALYTICAL REPORT

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Organophosphorus Pesticides — ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59954-R1	**WW63-UR3**	**Matrix: Liquid**		**Sampled: 29-Nov-18 2:05**		**Received: 05-Dec-18**
	Method: EPA 625	Batch ID: O-22020		Prepared: 05-Dec-18		Analyzed: 24-Dec-18
(PCB030)	Total	91			% Recovery	
(PCB112)	Total	113			% Recovery	
(PCB198)	Total	92			% Recovery	
(TCMX)	Total	84			% Recovery	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L	
Chlorpyrifos	Total	25.1	0.5	1	ng/L	
Demeton	Total	ND	1	2	ng/L	
Diazinon	Total	ND	0.5	1	ng/L	
Dichlorvos	Total	ND	3	6	ng/L	
Dimethoate	Total	ND	5	10	ng/L	
Disulfoton	Total	ND	1	2	ng/L	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L	
Fensulfothion	Total	ND	1	2	ng/L	
Fenthion	Total	ND	2	4	ng/L	
Malathion	Total	ND	2.5	5	ng/L	
Methidathion	Total	ND	5	10	ng/L	
Methyl Parathion	Total	ND	1	2	ng/L	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L	
Phorate	Total	ND	5	10	ng/L	
Phosmet	Total	ND	5	10	ng/L	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L	
Trichloronate	Total	ND	1	2	ng/L	

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Polynuclear Aromatic Hydrocarbons — ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
Sample ID: 59954-R1	**WW63-UR3**	**Matrix: Liquid**		**Sampled: 29-Nov-18 2:05**		**Received: 05-Dec-18**
	Method: EPA 625	Batch ID: O-22020		Prepared: 05-Dec-18		Analyzed: 24-Dec-18
(d10-Acenaphthene)	Total	81			% Recovery	
(d10-Phenanthrene)	Total	95			% Recovery	
(d12-Chrysene)	Total	86			% Recovery	
(d12-Perylene)	Total	93			% Recovery	
(d8-Naphthalene)	Total	62			% Recovery	
1-Methylnaphthalene	Total	2.9	1	5	ng/L	J
1-Methylphenanthrene	Total	5.64	1	5	ng/L	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L	
2,6-Dimethylnaphthalene	Total	2.5	1	5	ng/L	J
2-Methylnaphthalene	Total	4.7	1	5	ng/L	J
Acenaphthene	Total	ND	1	5	ng/L	
Acenaphthylene	Total	2.28	1	5	ng/L	J
Anthracene	Total	4.41	1	5	ng/L	J
Benz[a]anthracene	Total	23	1	5	ng/L	
Benzo[a]pyrene	Total	10.6	1	5	ng/L	
Benzo[b]fluoranthene	Total	27.7	1	5	ng/L	
Benzo[e]pyrene	Total	14.4	1	5	ng/L	
Benzo[g,h,i]perylene	Total	15.5	1	5	ng/L	
Benzo[k]fluoranthene	Total	18.4	1	5	ng/L	
Biphenyl	Total	2.37	1	5	ng/L	J
Chrysene	Total	43.9	1	5	ng/L	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L	
Dibenzothiophene	Total	ND	1	5	ng/L	
Fluoranthene	Total	39.8	1	5	ng/L	
Fluorene	Total	3.47	1	5	ng/L	J
Indeno[1,2,3-cd]pyrene	Total	14.1	1	5	ng/L	
Naphthalene	Total	7.73	1	5	ng/L	
Perylene	Total	ND	1	5	ng/L	
Phenanthrene	Total	26.6	1	5	ng/L	
Pyrene	Total	45.9	1	5	ng/L	

QUALITY CONTROL REPORT

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Organophosphorus Pesticides QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 59953-B1	**QAQC Procedural Blank**				**Matrix: DI Water**			**Sampled:**			**Received:**	
	Method: EPA 625				Batch ID: O-22020			Prepared: 05-Dec-18			Analyzed: 23-Dec-18	
(PCB030)	Total	104			% Recovery	100		104	57 - 133% PASS			
(PCB112)	Total	101			% Recovery	100		101	65 - 133% PASS			
(PCB198)	Total	93			% Recovery	100		93	69 - 133% PASS			
(TCMX)	Total	96			% Recovery	100		96	39 - 135% PASS			
Bolstar (Sulprofos)	Total	ND	2	4	ng/L							
Chlorpyrifos	Total	ND	0.5	1	ng/L							
Demeton	Total	ND	1	2	ng/L							
Diazinon	Total	ND	0.5	1	ng/L							
Dichlorvos	Total	ND	3	6	ng/L							
Dimethoate	Total	ND	5	10	ng/L							
Disulfoton	Total	ND	1	2	ng/L							
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L							
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L							
Fensulfothion	Total	ND	1	2	ng/L							
Fenthion	Total	ND	2	4	ng/L							
Malathion	Total	ND	2.5	5	ng/L							
Methidathion	Total	ND	5	10	ng/L							
Methyl Parathion	Total	ND	1	2	ng/L							
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L							
Phorate	Total	ND	5	10	ng/L							
Phosmet	Total	ND	5	10	ng/L							
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L							
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L							
Trichloronate	Total	ND	1	2	ng/L							
Sample ID: 59953-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**			**Sampled:**			**Received:**	
	Method: EPA 625				Batch ID: O-22020			Prepared: 05-Dec-18			Analyzed: 23-Dec-18	
(PCB030)	Total	97			% Recovery	100	0	97	57 - 133% PASS			
(PCB112)	Total	97			% Recovery	100	0	97	65 - 133% PASS			

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
(PCB198)	Total	85			% Recovery	100	0	85	69 - 133%	PASS			
(TCMX)	Total	91			% Recovery	100	0	91	39 - 135%	PASS			
Bolstar (Sulprofos)	Total	462	2	4	ng/L	500	0	92	46 - 147%	PASS			
Chlorpyrifos	Total	463	0.5	1	ng/L	500	0	93	75 - 120%	PASS			
Demeton	Total	442	1	2	ng/L	500	0	88	0 - 140%	PASS			
Diazinon	Total	483	0.5	1	ng/L	500	0	97	65 - 125%	PASS			
Dichlorvos	Total	494	3	6	ng/L	500	0	99	58 - 131%	PASS			
Dimethoate	Total	453	5	10	ng/L	500	0	91	17 - 146%	PASS			
Disulfoton	Total	500	1	2	ng/L	500	0	100	23 - 136%	PASS			
Ethoprop (Ethoprofos)	Total	472	1	2	ng/L	500	0	94	63 - 125%	PASS			
Fenchlorphos (Ronnel)	Total	529	2	4	ng/L	500	0	106	75 - 128%	PASS			
Fensulfothion	Total	455	1	2	ng/L	500	0	91	0 - 173%	PASS			
Fenthion	Total	470	2	4	ng/L	500	0	94	57 - 133%	PASS			
Malathion	Total	416	2.5	5	ng/L	500	0	83	41 - 150%	PASS			
Methidathion	Total	474	5	10	ng/L	500	0	95	34 - 155%	PASS			
Methyl Parathion	Total	481	1	2	ng/L	500	0	96	37 - 147%	PASS			
Mevinphos (Phosdrin)	Total	465	5	10	ng/L	500	0	93	28 - 132%	PASS			
Phorate	Total	448	5	10	ng/L	500	0	90	29 - 149%	PASS			
Phosmet	Total	482	5	10	ng/L	500	0	96	47 - 141%	PASS			
Tetrachlorvinphos (Stirofos)	Total	435	2	4	ng/L	500	0	87	57 - 138%	PASS			
Tokuthion (Prothiofos)	Total	460	3	6	ng/L	500	0	92	74 - 136%	PASS			
Trichloronate	Total	455	1	2	ng/L	500	0	91	75 - 122%	PASS			

Sample ID: 59953-BS2 **QAQC Procedural Blank** **Matrix: DI Water** **Sampled:** **Received:**

Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 23-Dec-18

(PCB030)	Total	96			% Recovery	100	0	96	57 - 133%	PASS	1	30	PASS
(PCB112)	Total	97			% Recovery	100	0	97	65 - 133%	PASS	0	30	PASS
(PCB198)	Total	89			% Recovery	100	0	89	69 - 133%	PASS	5	30	PASS
(TCMX)	Total	91			% Recovery	100	0	91	39 - 135%	PASS	0	30	PASS
Bolstar (Sulprofos)	Total	444	2	4	ng/L	500	0	89	46 - 147%	PASS	3	30	PASS
Chlorpyrifos	Total	453	0.5	1	ng/L	500	0	91	75 - 120%	PASS	2	30	PASS
Demeton	Total	422	1	2	ng/L	500	0	84	0 - 140%	PASS	5	30	PASS

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Diazinon	Total	456	0.5	1	ng/L	500	0	91	65 - 125%	PASS	6	30	PASS	
Dichlorvos	Total	438	3	6	ng/L	500	0	88	58 - 131%	PASS	12	30	PASS	
Dimethoate	Total	362	5	10	ng/L	500	0	72	17 - 146%	PASS	23	30	PASS	
Disulfoton	Total	474	1	2	ng/L	500	0	95	23 - 136%	PASS	5	30	PASS	
Ethoprop (Ethoprofos)	Total	431	1	2	ng/L	500	0	86	63 - 125%	PASS	9	30	PASS	
Fenchlorphos (Ronnel)	Total	517	2	4	ng/L	500	0	103	75 - 128%	PASS	3	30	PASS	
Fensulfothion	Total	354	1	2	ng/L	500	0	71	0 - 173%	PASS	25	30	PASS	
Fenthion	Total	455	2	4	ng/L	500	0	91	57 - 133%	PASS	3	30	PASS	
Malathion	Total	404	2.5	5	ng/L	500	0	81	41 - 150%	PASS	2	30	PASS	
Methidathion	Total	448	5	10	ng/L	500	0	90	34 - 155%	PASS	5	30	PASS	
Methyl Parathion	Total	440	1	2	ng/L	500	0	88	37 - 147%	PASS	9	30	PASS	
Mevinphos (Phosdrin)	Total	356	5	10	ng/L	500	0	71	28 - 132%	PASS	27	30	PASS	
Phorate	Total	426	5	10	ng/L	500	0	85	29 - 149%	PASS	6	30	PASS	
Phosmet	Total	447	5	10	ng/L	500	0	89	47 - 141%	PASS	8	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	407	2	4	ng/L	500	0	81	57 - 138%	PASS	7	30	PASS	
Tokuthion (Prothiofos)	Total	447	3	6	ng/L	500	0	89	74 - 136%	PASS	3	30	PASS	
Trichloronate	Total	446	1	2	ng/L	500	0	89	75 - 122%	PASS	2	30	PASS	

Sample ID: 59954-MS1 **WW63-UR3** **Matrix: Liquid** **Sampled: 29-Nov-18 2:05** **Received: 05-Dec-18**
Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 23-Dec-18

(PCB030)	Total	82			% Recovery	100	0	82	25 - 130%	PASS				
(PCB112)	Total	101			% Recovery	100	0	101	34 - 132%	PASS				
(PCB198)	Total	82			% Recovery	100	0	82	30 - 136%	PASS				
(TCMX)	Total	74			% Recovery	100	0	74	6 - 124%	PASS				
Bolstar (Sulprofos)	Total	835	2	4	ng/L	544	0	153	36 - 173%	PASS				
Chlorpyrifos	Total	705	0.5	1	ng/L	544	24.7	125	36 - 150%	PASS				
Demeton	Total	791	1	2	ng/L	544	0	145	0 - 156%	PASS				
Diazinon	Total	769	0.5	1	ng/L	544	0	141	41 - 145%	PASS				
Dichlorvos	Total	540	3	6	ng/L	544	0	99	31 - 143%	PASS				
Dimethoate	Total	882	5	10	ng/L	544	0	162	25 - 150%	FAIL				M
Disulfoton	Total	661	1	2	ng/L	544	0	122	20 - 143%	PASS				
Ethoprop (Ethoprofos)	Total	799	1	2	ng/L	544	0	147	34 - 147%	PASS				

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Organophosphorus Pesticides QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Fenchlorphos (Ronnel)	Total	715	2	4	ng/L	544	0	131	39 - 153%	PASS				
Fensulfothion	Total	925	1	2	ng/L	544	0	170	46 - 182%	PASS				
Fenthion	Total	770	2	4	ng/L	544	0	142	44 - 150%	PASS				
Malathion	Total	910	2.5	5	ng/L	544	0	167	33 - 179%	PASS				
Methidathion	Total	947	5	10	ng/L	544	0	174	28 - 175%	PASS				
Methyl Parathion	Total	809	1	2	ng/L	544	0	149	18 - 190%	PASS				
Mevinphos (Phosdrin)	Total	749	5	10	ng/L	544	0	138	19 - 160%	PASS				
Phorate	Total	710	5	10	ng/L	544	0	131	21 - 151%	PASS				
Phosmet	Total	854	5	10	ng/L	544	0	157	34 - 180%	PASS				
Tetrachlorvinphos (Stirofos)	Total	1040	2	4	ng/L	544	0	191	42 - 196%	PASS				
Tokuthion (Prothiofos)	Total	879	3	6	ng/L	544	0	161	44 - 163%	PASS				
Trichloronate	Total	703	1	2	ng/L	544	0	129	37 - 158%	PASS				

Sample ID: 59954-MS2 **WW63-UR3** **Matrix: Liquid** **Sampled: 29-Nov-18 2:05** **Received: 05-Dec-18**
Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 23-Dec-18

(PCB030)	Total	87			% Recovery	100	0	87	25 - 130%	PASS	6	30	PASS	
(PCB112)	Total	103			% Recovery	100	0	103	34 - 132%	PASS	2	30	PASS	
(PCB198)	Total	83			% Recovery	100	0	83	30 - 136%	PASS	1	30	PASS	
(TCMX)	Total	79			% Recovery	100	0	79	6 - 124%	PASS	7	30	PASS	
Bolstar (Sulprofos)	Total	937	2	4	ng/L	544	0	172	36 - 173%	PASS	12	30	PASS	
Chlorpyrifos	Total	736	0.5	1	ng/L	544	24.7	131	36 - 150%	PASS	5	30	PASS	
Demeton	Total	1090	1	2	ng/L	544	0	200	0 - 156%	FAIL	32	30	FAIL	M
Diazinon	Total	789	0.5	1	ng/L	544	0	145	41 - 145%	PASS	3	30	PASS	
Dichlorvos	Total	692	3	6	ng/L	544	0	127	31 - 143%	PASS	25	30	PASS	
Dimethoate	Total	1030	5	10	ng/L	544	0	189	25 - 150%	FAIL	15	30	PASS	M
Disulfoton	Total	732	1	2	ng/L	544	0	135	20 - 143%	PASS	10	30	PASS	
Ethoprop (Ethoprofos)	Total	791	1	2	ng/L	544	0	145	34 - 147%	PASS	1	30	PASS	
Fenchlorphos (Ronnel)	Total	748	2	4	ng/L	544	0	138	39 - 153%	PASS	5	30	PASS	
Fensulfothion	Total	1130	1	2	ng/L	544	0	208	46 - 182%	FAIL	20	30	PASS	M
Fenthion	Total	803	2	4	ng/L	544	0	148	44 - 150%	PASS	4	30	PASS	
Malathion	Total	940	2.5	5	ng/L	544	0	173	33 - 179%	PASS	3	30	PASS	
Methidathion	Total	943	5	10	ng/L	544	0	173	28 - 175%	PASS	0	30	PASS	

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Methyl Parathion	Total	1010	1	2	ng/L	544	0	186	18 - 190%	PASS	22	30	PASS	
Mevinphos (Phosdrin)	Total	809	5	10	ng/L	544	0	149	19 - 160%	PASS	8	30	PASS	
Phorate	Total	771	5	10	ng/L	544	0	142	21 - 151%	PASS	8	30	PASS	
Phosmet	Total	1050	5	10	ng/L	544	0	193	34 - 180%	FAIL	21	30	PASS	M
Tetrachlorvinphos (Stirofos)	Total	1065	2	4	ng/L	544	0	196	42 - 196%	PASS	2	30	PASS	
Tokuthion (Prothiofos)	Total	876	3	6	ng/L	544	0	161	44 - 163%	PASS	0	30	PASS	
Trichloronate	Total	736	1	2	ng/L	544	0	135	37 - 158%	PASS	5	30	PASS	

Sample ID: 59954-R2 **WW63-UR3** **Matrix: Liquid** **Sampled: 29-Nov-18 2:05** **Received: 05-Dec-18**
Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 24-Dec-18

(PCB030)	Total	90			% Recovery	100		90	25 - 130%	PASS	1	30	PASS	
(PCB112)	Total	116			% Recovery	100		116	34 - 132%	PASS	3	30	PASS	
(PCB198)	Total	83			% Recovery	100		83	30 - 136%	PASS	10	30	PASS	
(TCMX)	Total	85			% Recovery	100		85	6 - 124%	PASS	1	30	PASS	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L						0	30	PASS	
Chlorpyrifos	Total	24.2	0.5	1	ng/L						4	30	PASS	
Demeton	Total	ND	1	2	ng/L						0	30	PASS	
Diazinon	Total	ND	0.5	1	ng/L						0	30	PASS	
Dichlorvos	Total	ND	3	6	ng/L						0	30	PASS	
Dimethoate	Total	ND	5	10	ng/L						0	30	PASS	
Disulfoton	Total	ND	1	2	ng/L						0	30	PASS	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L						0	30	PASS	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L						0	30	PASS	
Fensulfothion	Total	ND	1	2	ng/L						0	30	PASS	
Fenthion	Total	ND	2	4	ng/L						0	30	PASS	
Malathion	Total	ND	2.5	5	ng/L						0	30	PASS	
Methidathion	Total	ND	5	10	ng/L						0	30	PASS	
Methyl Parathion	Total	ND	1	2	ng/L						0	30	PASS	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L						0	30	PASS	
Phorate	Total	ND	5	10	ng/L						0	30	PASS	
Phosmet	Total	ND	5	10	ng/L						0	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L						0	30	PASS	

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Organophosphorus Pesticides QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L					0	30 PASS	
Trichloronate	Total	ND	1	2	ng/L					0	30 PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 59953-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22020		Prepared: 05-Dec-18				Analyzed: 23-Dec-18	
(d10-Acenaphthene)	Total	89			% Recovery	100	89	65 - 113%	PASS			
(d10-Phenanthrene)	Total	95			% Recovery	100	95	80 - 111%	PASS			
(d12-Chrysene)	Total	85			% Recovery	100	85	60 - 139%	PASS			
(d12-Perylene)	Total	99			% Recovery	100	99	36 - 161%	PASS			
(d8-Naphthalene)	Total	74			% Recovery	100	74	44 - 119%	PASS			
1-Methylnaphthalene	Total	ND	1	5	ng/L							
1-Methylphenanthrene	Total	ND	1	5	ng/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L							
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L							
2-Methylnaphthalene	Total	ND	1	5	ng/L							
Acenaphthene	Total	ND	1	5	ng/L							
Acenaphthylene	Total	ND	1	5	ng/L							
Anthracene	Total	ND	1	5	ng/L							
Benz[a]anthracene	Total	ND	1	5	ng/L							
Benzo[a]pyrene	Total	ND	1	5	ng/L							
Benzo[b]fluoranthene	Total	ND	1	5	ng/L							
Benzo[e]pyrene	Total	ND	1	5	ng/L							
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L							
Benzo[k]fluoranthene	Total	ND	1	5	ng/L							
Biphenyl	Total	ND	1	5	ng/L							
Chrysene	Total	ND	1	5	ng/L							
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L							
Dibenzothiophene	Total	ND	1	5	ng/L							
Fluoranthene	Total	ND	1	5	ng/L							
Fluorene	Total	ND	1	5	ng/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L							
Naphthalene	Total	ND	1	5	ng/L							
Perylene	Total	ND	1	5	ng/L							
Phenanthrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	ND	1	5	ng/L							

Sample ID: 59953-BS1 **QAQC Procedural Blank** **Matrix: DI Water** **Sampled:** **Received:**
Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 23-Dec-18

(d10-Acenaphthene)	Total	97			% Recovery	100	0	97	65 - 113%	PASS	
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	80 - 111%	PASS	
(d12-Chrysene)	Total	105			% Recovery	100	0	105	60 - 139%	PASS	
(d12-Perylene)	Total	101			% Recovery	100	0	101	36 - 161%	PASS	
(d8-Naphthalene)	Total	94			% Recovery	100	0	94	44 - 119%	PASS	
1-Methylnaphthalene	Total	493	1	5	ng/L	500	0	99	49 - 117%	PASS	
1-Methylphenanthrene	Total	494	1	5	ng/L	500	0	99	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	477	1	5	ng/L	500	0	95	57 - 120%	PASS	
2,6-Dimethylnaphthalene	Total	476	1	5	ng/L	500	0	95	54 - 117%	PASS	
2-Methylnaphthalene	Total	495	1	5	ng/L	500	0	99	47 - 130%	PASS	
Acenaphthene	Total	496	1	5	ng/L	500	0	99	53 - 131%	PASS	
Acenaphthylene	Total	469	1	5	ng/L	500	0	94	43 - 140%	PASS	
Anthracene	Total	476	1	5	ng/L	500	0	95	58 - 135%	PASS	
Benz[a]anthracene	Total	533	1	5	ng/L	500	0	107	55 - 145%	PASS	
Benzo[a]pyrene	Total	518	1	5	ng/L	500	0	104	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	403	1	5	ng/L	500	0	81	46 - 165%	PASS	
Benzo[e]pyrene	Total	441	1	5	ng/L	500	0	88	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	468	1	5	ng/L	500	0	94	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	459	1	5	ng/L	500	0	92	56 - 145%	PASS	
Biphenyl	Total	499	1	5	ng/L	500	0	100	56 - 119%	PASS	
Chrysene	Total	515	1	5	ng/L	500	0	103	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	447	1	5	ng/L	500	0	89	55 - 150%	PASS	
Dibenzothiophene	Total	502	1	5	ng/L	500	0	100	75 - 113%	PASS	
Fluoranthene	Total	477	1	5	ng/L	500	0	95	60 - 146%	PASS	
Fluorene	Total	482	1	5	ng/L	500	0	96	58 - 131%	PASS	
Indeno[1,2,3-cd]pyrene	Total	461	1	5	ng/L	500	0	92	50 - 151%	PASS	
Naphthalene	Total	433	1	5	ng/L	500	0	87	41 - 126%	PASS	
Perylene	Total	457	1	5	ng/L	500	0	91	48 - 141%	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Phenanthrene	Total	501	1	5	ng/L	500	0	100	67 - 127%	PASS			
Pyrene	Total	496	1	5	ng/L	500	0	99	54 - 156%	PASS			

Sample ID: 59953-BS2 **QAQC Procedural Blank** **Matrix: DI Water** **Sampled:** **Received:**
Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 23-Dec-18

(d10-Acenaphthene)	Total	90			% Recovery	100	0	90	65 - 113%	PASS	7	30	PASS
(d10-Phenanthrene)	Total	90			% Recovery	100	0	90	80 - 111%	PASS	7	30	PASS
(d12-Chrysene)	Total	99			% Recovery	100	0	99	60 - 139%	PASS	6	30	PASS
(d12-Perylene)	Total	85			% Recovery	100	0	85	36 - 161%	PASS	17	30	PASS
(d8-Naphthalene)	Total	89			% Recovery	100	0	89	44 - 119%	PASS	5	30	PASS
1-Methylnaphthalene	Total	461	1	5	ng/L	500	0	92	49 - 117%	PASS	7	30	PASS
1-Methylphenanthrene	Total	476	1	5	ng/L	500	0	95	66 - 127%	PASS	4	30	PASS
2,3,5-Trimethylnaphthalene	Total	451	1	5	ng/L	500	0	90	57 - 120%	PASS	5	30	PASS
2,6-Dimethylnaphthalene	Total	459	1	5	ng/L	500	0	92	54 - 117%	PASS	3	30	PASS
2-Methylnaphthalene	Total	470	1	5	ng/L	500	0	94	47 - 130%	PASS	5	30	PASS
Acenaphthene	Total	465	1	5	ng/L	500	0	93	53 - 131%	PASS	6	30	PASS
Acenaphthylene	Total	452	1	5	ng/L	500	0	90	43 - 140%	PASS	4	30	PASS
Anthracene	Total	455	1	5	ng/L	500	0	91	58 - 135%	PASS	4	30	PASS
Benz[a]anthracene	Total	524	1	5	ng/L	500	0	105	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	496	1	5	ng/L	500	0	99	51 - 143%	PASS	5	30	PASS
Benzo[b]fluoranthene	Total	406	1	5	ng/L	500	0	81	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	408	1	5	ng/L	500	0	82	42 - 152%	PASS	7	30	PASS
Benzo[g,h,i]perylene	Total	453	1	5	ng/L	500	0	91	63 - 133%	PASS	3	30	PASS
Benzo[k]fluoranthene	Total	406	1	5	ng/L	500	0	81	56 - 145%	PASS	13	30	PASS
Biphenyl	Total	479	1	5	ng/L	500	0	96	56 - 119%	PASS	4	30	PASS
Chrysene	Total	504	1	5	ng/L	500	0	101	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	420	1	5	ng/L	500	0	84	55 - 150%	PASS	6	30	PASS
Dibenzothiophene	Total	482	1	5	ng/L	500	0	96	75 - 113%	PASS	4	30	PASS
Fluoranthene	Total	455	1	5	ng/L	500	0	91	60 - 146%	PASS	4	30	PASS
Fluorene	Total	456	1	5	ng/L	500	0	91	58 - 131%	PASS	5	30	PASS
Indeno[1,2,3-cd]pyrene	Total	452	1	5	ng/L	500	0	90	50 - 151%	PASS	2	30	PASS
Naphthalene	Total	418	1	5	ng/L	500	0	84	41 - 126%	PASS	4	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Perylene	Total	452	1	5	ng/L	500	0	90	48 - 141%	PASS	1	30	PASS	
Phenanthrene	Total	477	1	5	ng/L	500	0	95	67 - 127%	PASS	5	30	PASS	
Pyrene	Total	479	1	5	ng/L	500	0	96	54 - 156%	PASS	3	30	PASS	

Sample ID: 59954-MS1 **WW63-UR3** **Matrix: Liquid** **Sampled: 29-Nov-18 2:05** **Received: 05-Dec-18**
Method: EPA 625 Batch ID: O-22020 Prepared: 05-Dec-18 Analyzed: 23-Dec-18

(d10-Acenaphthene)	Total	72			% Recovery	100	0	72	45 - 118%	PASS				
(d10-Phenanthrene)	Total	93			% Recovery	100	0	93	56 - 123%	PASS				
(d12-Chrysene)	Total	97			% Recovery	100	0	97	36 - 142%	PASS				
(d12-Perylene)	Total	87			% Recovery	100	0	87	36 - 161%	PASS				
(d8-Naphthalene)	Total	47			% Recovery	100	0	47	20 - 112%	PASS				
1-Methylnaphthalene	Total	353	1	5	ng/L	544	3.1	64	39 - 104%	PASS				
1-Methylphenanthrene	Total	563	1	5	ng/L	544	5.7	102	62 - 136%	PASS				
2,3,5-Trimethylnaphthalene	Total	472	1	5	ng/L	544	0	87	47 - 132%	PASS				
2,6-Dimethylnaphthalene	Total	400	1	5	ng/L	544	2.52	73	37 - 118%	PASS				
2-Methylnaphthalene	Total	350	1	5	ng/L	544	5.21	63	33 - 113%	PASS				
Acenaphthene	Total	427	1	5	ng/L	544	0	78	51 - 116%	PASS				
Acenaphthylene	Total	426	1	5	ng/L	544	2.02	78	53 - 127%	PASS				
Anthracene	Total	518	1	5	ng/L	544	4.31	94	60 - 126%	PASS				
Benz[a]anthracene	Total	696	1	5	ng/L	544	30.4	122	51 - 165%	PASS				
Benzo[a]pyrene	Total	437	1	5	ng/L	544	16.6	77	24 - 170%	PASS				
Benzo[b]fluoranthene	Total	683	1	5	ng/L	544	40.3	118	38 - 158%	PASS				
Benzo[e]pyrene	Total	616	1	5	ng/L	544	26.2	108	26 - 157%	PASS				
Benzo[g,h,i]perylene	Total	474	1	5	ng/L	544	26.6	82	57 - 133%	PASS				
Benzo[k]fluoranthene	Total	551	1	5	ng/L	544	29.2	96	27 - 167%	PASS				
Biphenyl	Total	385	1	5	ng/L	544	2.4	70	41 - 111%	PASS				
Chrysene	Total	571	1	5	ng/L	544	49	96	58 - 136%	PASS				
Dibenz[a,h]anthracene	Total	546	1	5	ng/L	544	0	100	53 - 156%	PASS				
Dibenzothiophene	Total	535	1	5	ng/L	544	0	98	69 - 112%	PASS				
Fluoranthene	Total	620	1	5	ng/L	544	55.5	104	61 - 147%	PASS				
Fluorene	Total	480	1	5	ng/L	544	3.56	88	62 - 120%	PASS				
Indeno[1,2,3-cd]pyrene	Total	634	1	5	ng/L	544	21	113	58 - 147%	PASS				

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Naphthalene	Total	259	1	5	ng/L	544	6.77	46	22 - 110%	PASS			
Perylene	Total	492	1	5	ng/L	544	0	90	34 - 147%	PASS			
Phenanthrene	Total	550	1	5	ng/L	544	28	96	64 - 121%	PASS			
Pyrene	Total	626	1	5	ng/L	544	57.1	105	65 - 146%	PASS			
Sample ID: 59954-MS2	**WW63-UR3**				**Matrix: Liquid**			**Sampled: 29-Nov-18 2:05**			**Received: 05-Dec-18**		
	Method: EPA 625				Batch ID: O-22020			Prepared: 05-Dec-18			Analyzed: 23-Dec-18		
(d10-Acenaphthene)	Total	80			% Recovery	100	0	80	45 - 118%	PASS	11	30	PASS
(d10-Phenanthrene)	Total	93			% Recovery	100	0	93	56 - 123%	PASS	0	30	PASS
(d12-Chrysene)	Total	95			% Recovery	100	0	95	36 - 142%	PASS	2	30	PASS
(d12-Perylene)	Total	100			% Recovery	100	0	100	36 - 161%	PASS	14	30	PASS
(d8-Naphthalene)	Total	61			% Recovery	100	0	61	20 - 112%	PASS	26	30	PASS
1-Methylnaphthalene	Total	394	1	5	ng/L	544	3.1	72	39 - 104%	PASS	12	30	PASS
1-Methylphenanthrene	Total	564	1	5	ng/L	544	5.7	103	62 - 136%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	504	1	5	ng/L	544	0	93	47 - 132%	PASS	7	30	PASS
2,6-Dimethylnaphthalene	Total	447	1	5	ng/L	544	2.52	82	37 - 118%	PASS	12	30	PASS
2-Methylnaphthalene	Total	399	1	5	ng/L	544	5.21	72	33 - 113%	PASS	13	30	PASS
Acenaphthene	Total	464	1	5	ng/L	544	0	85	51 - 116%	PASS	9	30	PASS
Acenaphthylene	Total	473	1	5	ng/L	544	2.02	87	53 - 127%	PASS	11	30	PASS
Anthracene	Total	512	1	5	ng/L	544	4.31	93	60 - 126%	PASS	1	30	PASS
Benz[a]anthracene	Total	696	1	5	ng/L	544	30.4	122	51 - 165%	PASS	0	30	PASS
Benzo[a]pyrene	Total	468	1	5	ng/L	544	16.6	83	24 - 170%	PASS	8	30	PASS
Benzo[b]fluoranthene	Total	721	1	5	ng/L	544	40.3	125	38 - 158%	PASS	6	30	PASS
Benzo[e]pyrene	Total	619	1	5	ng/L	544	26.2	109	26 - 157%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	523	1	5	ng/L	544	26.6	91	57 - 133%	PASS	10	30	PASS
Benzo[k]fluoranthene	Total	527	1	5	ng/L	544	29.2	92	27 - 167%	PASS	4	30	PASS
Biphenyl	Total	421	1	5	ng/L	544	2.4	77	41 - 111%	PASS	10	30	PASS
Chrysene	Total	566	1	5	ng/L	544	49	95	58 - 136%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	628	1	5	ng/L	544	0	115	53 - 156%	PASS	14	30	PASS
Dibenzothiophene	Total	535	1	5	ng/L	544	0	98	69 - 112%	PASS	0	30	PASS
Fluoranthene	Total	612	1	5	ng/L	544	55.5	102	61 - 147%	PASS	2	30	PASS
Fluorene	Total	510	1	5	ng/L	544	3.56	93	62 - 120%	PASS	6	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Indeno[1,2,3-cd]pyrene	Total	671	1	5	ng/L	544	21	119	58 - 147%	PASS	5	30	PASS	
Naphthalene	Total	305	1	5	ng/L	544	6.77	55	22 - 110%	PASS	18	30	PASS	
Perylene	Total	509	1	5	ng/L	544	0	94	34 - 147%	PASS	4	30	PASS	
Phenanthrene	Total	546	1	5	ng/L	544	28	95	64 - 121%	PASS	1	30	PASS	
Pyrene	Total	619	1	5	ng/L	544	57.1	103	65 - 146%	PASS	2	30	PASS	
Sample ID: 59954-R2	**WW63-UR3**				**Matrix: Liquid**			**Sampled: 29-Nov-18 2:05**			**Received: 05-Dec-18**			
	Method: EPA 625				Batch ID: O-22020			Prepared: 05-Dec-18			Analyzed: 24-Dec-18			
(d10-Acenaphthene)	Total	84			% Recovery	100		84	45 - 118%	PASS	4	30	PASS	
(d10-Phenanthrene)	Total	96			% Recovery	100		96	56 - 123%	PASS	1	30	PASS	
(d12-Chrysene)	Total	74			% Recovery	100		74	36 - 142%	PASS	15	30	PASS	
(d12-Perylene)	Total	93			% Recovery	100		93	36 - 161%	PASS	0	30	PASS	
(d8-Naphthalene)	Total	59			% Recovery	100		59	20 - 112%	PASS	5	30	PASS	
1-Methylnaphthalene	Total	3.3	1	5	ng/L						13	30	PASS	J
1-Methylphenanthrene	Total	5.76	1	5	ng/L						2	30	PASS	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L						0	30	PASS	
2,6-Dimethylnaphthalene	Total	2.53	1	5	ng/L						1	30	PASS	J
2-Methylnaphthalene	Total	5.73	1	5	ng/L						20	30	PASS	
Acenaphthene	Total	ND	1	5	ng/L						0	30	PASS	
Acenaphthylene	Total	1.76	1	5	ng/L						26	30	PASS	J
Anthracene	Total	4.2	1	5	ng/L						5	30	PASS	J
Benz[a]anthracene	Total	37.8	1	5	ng/L						49	30	FAIL	M
Benzo[a]pyrene	Total	22.6	1	5	ng/L						72	30	FAIL	M
Benzo[b]fluoranthene	Total	52.9	1	5	ng/L						63	30	FAIL	M
Benzo[e]pyrene	Total	38	1	5	ng/L						90	30	FAIL	M
Benzo[g,h,i]perylene	Total	37.7	1	5	ng/L						83	30	FAIL	M
Benzo[k]fluoranthene	Total	40.1	1	5	ng/L						74	30	FAIL	M
Biphenyl	Total	2.42	1	5	ng/L						2	30	PASS	J
Chrysene	Total	54.1	1	5	ng/L						21	30	PASS	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L						0	30	PASS	
Dibenzothiophene	Total	ND	1	5	ng/L						0	30	PASS	
Fluoranthene	Total	71.2	1	5	ng/L						57	30	FAIL	M

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS		QA CODE
Fluorene	Total	3.65	1	5	ng/L					5	30	PASS	J
Indeno[1,2,3-cd]pyrene	Total	27.9	1	5	ng/L					66	30	FAIL	M
Naphthalene	Total	5.8	1	5	ng/L					29	30	PASS	
Perylene	Total	ND	1	5	ng/L					0	30	PASS	
Phenanthrene	Total	29.3	1	5	ng/L					10	30	PASS	
Pyrene	Total	68.3	1	5	ng/L					39	30	FAIL	M

CHAIN OF CUSTODY

PHTSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

1204008-036

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: PHYSIS
Misty Mercier
Address: 1904 East Wright Circle
Anaheim, CA 92806
Phone: 714-602-5320
Fax:

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	OP Pesticides and LL PAHs	Notes
WW63-UR3	›_PEST_P/	11-29-18	02:05	Water	6	1L AG	none	X	MSD

Sender Comments: Request shortest Standard turn-around-time (~15 business days)	Relinquished By (1): Signature: Alison Briden; Print: Alison Briden; Organization: PER; Date: 11-30-18 Time: 1225	Received By (2): Richard Hanker; Physis; Date: 12/5/18 Time: 1030
Laboratory Comments:	Relinquished By (1): Signature: Print: Organization: Date: Time:	Received By (2): Date: Time:

Crew: PER

PHYSIS
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Innovative Solutions for Nature

Physis Project ID
1204008-036

Sample Receipt Summary

Client: Larry Walker Associates | Date Received: 12/5/2018 | Received By: RGH | Inspected By: RGH

Courier:	Cooler:	Temperature:
☐ Physis ☐ FEDEX ☑ UPS ☐ Client	☑ Cooler ☐ Box Total #: 1	☐ BLUE ☐ WET ☐ DRY
Start End ☐ Other:	☐ Other :	☑ None 3.6 °C

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes
2. All sample containers arrived intact..... Yes
3. All samples listed on COC(s) are present..... Yes
4. Information on containers consistent with information on COC(s)..... Yes
5. Correct containers and volume for all analyses indicated..... Yes
6. All samples received within method holding time..... Yes
7. Correct preservation used for all analyses indicated..... Yes
8. Name of sampler included on COC(s)..... Not Applicable

Notes:

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Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

December 06, 2018

Steve Maricle
Larry Walker Associates
1480 Drew Ave, Suite 100
Davis, CA 95618

RE: Work Order No : 70174
Project ID: Sac Stormwater 11/29/18
SSQP Urban Runoff Discharge Monitoring

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, November 29, 2018. Results reported herein conform to the most current ELAP standards, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeste Patena
Program Coordinator
patenac@sacsewer.com

Amy Saylor
QA Officer

Srividhya Ramamoorthy
Lab Manager

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Work Order No: 70174
Project ID: Sac Stormwater 11/29/18

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1811290036	**WW63-UR3**	Surface Water	11/29/2018 02:39	11/29/2018 06:20
1811290037	**WW63-UR5**	Surface Water	11/29/2018 03:45	11/29/2018 06:20
1811290038	**WW63-UR7**	Surface Water	11/29/2018 03:45	11/29/2018 06:20
1811290042	**WW63-UR25**	Surface Water	11/29/2018 07:05	11/29/2018 10:15
1811290043	**WW63-UR6**	Surface Water	11/29/2018 07:05	11/29/2018 10:15

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ANALYTICAL RESULTS

Work Order No: 70174
Project ID: Sac Stormwater 11/29/18

Lab ID: **1811290036** Date Collected: 11/29/2018 02:39 Matrix: Stormwater
Sample ID: **WW63-UR3** Date Received: 11/29/2018 06:20

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	92,000	MPN/100mL	1	18	NA	11/29/2018	CHR
E.COLI	SM 9221 F	54,000	MPN/100mL	1	18	NA	11/29/2018	CHR

Lab ID: **1811290037** Date Collected: 11/29/2018 03:45 Matrix: Stormwater
Sample ID: **WW63-UR5** Date Received: 11/29/2018 06:20

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	54,000	MPN/100mL	1	18	NA	11/29/2018	CHR
E.COLI	SM 9221 F	92,000	MPN/100mL	1	18	NA	11/29/2018	CHR

Lab ID: **1811290038** Date Collected: 11/29/2018 03:45 Matrix: Stormwater
Sample ID: **WW63-UR7** Date Received: 11/29/2018 06:20

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	54,000	MPN/100mL	1	18	NA	11/29/2018	CHR
E.COLI	SM 9221 F	54,000	MPN/100mL	1	18	NA	11/29/2018	CHR

Lab ID: **1811290042** Date Collected: 11/29/2018 07:05 Matrix: Surface Water
Sample ID: **WW63-UR25** Date Received: 11/29/2018 10:15

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	54,000	MPN/100mL	1	18	NA	11/29/2018	CHR
E.COLI	SM 9221 F	54,000	MPN/100mL	1	18	NA	11/29/2018	CHR

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Work Order No: 70174
Project ID: Sac Stormwater 11/29/18

Lab ID: **1811290042** Date Collected: 11/29/2018 07:05 Matrix: Surface Water
Sample ID: **WW63-UR25** Date Received: 11/29/2018 10:15

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By

Lab ID: **1811290043** Date Collected: 11/29/2018 07:05 Matrix: Surface Water
Sample ID: **WW63-UR6** Date Received: 11/29/2018 10:15

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	ND	MPN/100mL	1	1.8	NA	11/29/2018	CHR
E.COLI	SM 9221 F	ND	MPN/100mL	1	1.8	NA	11/29/2018	CHR

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ANALYTICAL RESULTS QUALIFIERS

Work Order No: 70174
Project ID: Sac Stormwater 11/29/18

PARAMETER QUALIFIERS

J - The analytical result is below RL but above MDL.

MDL - Method Detection Limit defined in 40 CFR, Sect. 136, Appendix B.

ND - Non Detect - Analyte not detected above the MDL or, in the absence of a MDL, above the RL

RL - Reporting limit is the quantitation limit at which the laboratory is able to detect an analyte with a certain degree of confidence. Generally, this represents the parameter's lowest calibration point. This can also define the customer's requirement.

(S) - Surrogates.

DF - Dilution Factor.

NA - Not Applicable.

VS and VSS results reported as percentages of TS and TSS.

MBAS, calculated as LAS, mol wt 340.

Total Alkalinity is titrated to pH 4.5 per the method. This may not correspond to an inflection point where the slope changes rapidly.

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QUALITY CONTROL DATA QUALIFIERS

Work Order No: 70174
Project ID: Sac Stormwater 11/29/18

QUALITY CONTROL PARAMETER QUALIFIERS

Result Qualifiers:These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank.

LCS - Laboratory Control Standard.

DUP - Duplicate of Original Sample Matrix.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

RPD -Relative Percent Difference.

% Rec - Spike Recovery stated as a percentage.

QC - Total QC applies to total recoverable.

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Type equation here.

REGIONALSAN

Sacramento Regional County Sanitation District (Regional San) Environmental Laboratory

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(916) 875-9000
ELAP #1100

CHAIN-OF-CUSTODY

(Lab Issued)
Profile # 2210
Work order # 70174

Customer Name: Steve Mariele
Customer Address: Larry Walker Assoc
Program Name: SSQP Urban Runoff Discharge Monitoring
Lab Program Coord.: Celeste Patena Phone #:
Sampled By: Jake Prowse Phone #:
Mail code:

☒ Non-Hazardous ☐ Hazardous ☐ Unknown Material

Turnaround Time: ☐ 21 working days ☐ Rush: ☐ Other:

QA/QC Requirements: ☒ Lab Standard ☐ Special:

Contract Lab Info: Ship to: Ship date: Courier:

Remarks/Notes

SAMPLE COLLECTION SUMMARY

LIMS ID (Lab Issued)	Date	Time	Type: Composite	Type: Grab	Sample Location(s)	Field pH	Field Temp °C	Field Temp °F	# of Containers	Container Type*	Preservative*	Matrix*	Analyses Requested: Fecal	E coli						
181129 0036	11/29/18	0239	☐	☒	WW63-UR3	NA	NA		1	BACTI	STS	SW	☒	☒	☐	☐	☐	☐	☐	
181129 0037	11/29/18	0345	☐	☒	WW63-UR5	NA	NA		1	BACTI	STS	SW	☒	☒	☐	☐	☐	☐	☐	
181129 0038	11/29/18	0345	☐	☒	WW63-UR7	NA	NA		1	BACTI	STS	SW	☒	☒	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	

*Bottle Type: AL=Amber Liter, VOA= 40 mL VOA, 1LP=1 Liter Polyethylene, 2LP=2 Liter Polyethylene, Bacti= 120mL Sterile, 250LP= 250 mL Polyethylene, 500LP=500 mL Polyethylene, 25GC=2.5 Gallon Cubitainer

*Preservative: AA=Ascorbic Acid, HCl= Hydrochloric Acid, H_2SO_4=Sulfuric Acid, HNO_3=Nitric Acid, STS=Sodium Thiosulfate, NaOH=Sodium Hydroxide, ZnAc=Zinc Acetate

*Matrix: DW=Drinking Water, WW=Wastewater, SW=Surface/Ambient Water, S=Solids, B=Biosolids, GW=Groundwater, LE=Leachate, LC=Liquid Chemical, O=Other:

Relinquished By	Date	Time	Relinquished to	Date	Time	Relinquished By	Date	Time	Relinquished to	Date	Time
Jake Prowse	11/29	0620	Celeste Patena	11/29/18	0620						

Laboratory Use Only

Temperature °C: 8.0 Thermometer ID: ECC95

	Y	N
Received on ice	☑	☐
Container intact	☑	☐
Correct container	☑	☐
Within hold time	☑	☐

	Y	N	NA
Field preserved	☑	☐	☐
Preserved at receipt	☐	☐	☑
Field Filtered	☐	☐	☑
VOA bubble(s) > 6mm	☐	☐	☑

	Y	N	NA
pH < 2	☐	☐	☑
pH > 10	☐	☐	☑
Cl_2 present	☐	☐	☑

Comments:

Sample Distribution ☐ Lab Bench ☐ Walk-in Cooler ☐ Other

Type equation here.

REGIONALSAN

Sacramento Regional County Sanitation District (Regional San) Environmental Laboratory

8521 Laguna Station Road, Elk Grove, CA 95758
(916) 875-9000 ELAP #1100

CHAIN-OF-CUSTODY

(Lab Issued)
Profile # 2210
Work order # 70174

Customer Name	Steve Maricle	Phone #		Mail code	
Customer Address	LWA				
Program Name	SSQP Urban Runoff Discharge Monitoring		☒ Non-Hazardous ☐ Hazardous ☐ Unknown Material		
Lab Program Coord.	Celeste Paloma	Phone #			
Sampled By	Jake Prowse	Phone #			

Turnaround Time: ☐ 21 working days ☐ Rush: ____ ☐ Other: ____

QA/QC Requirements: ☒ Lab Standard ☐ Special: ____

Contract Lab Info: Ship to: Ship date: Courier:

Analyses Requested | **Remarks/Notes**

SAMPLE COLLECTION SUMMARY

LIMS ID (Lab Issued)	Date	Time	Type: Composite	Type: Grab	Sample Location(s)	Field pH	Field Temp °C	Field Temp °F	# of Containers	Container Type*	Preservative*	Matrix*	Fecal	E. Coli						Remarks/Notes
1811290042	11/29	0705	☐	☒	WWG3-UR2S	NA	NA		1	BACTI	STS	SW	☒	☒	☐	☐	☐	☐	☐	
1811290043	11/29	0705	☐	☒	WWG3-URC	NA	NA		1	BACTI	STS	SW	☒	☒	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	

*Bottle Type: AL=Amber Liter, VOA= 40 mL VOA, 1LP=1 Liter Polyethylene, 2LP=2 Liter Polyethylene, Bacti= 120mL Sterile, 250LP= 250 mL Polyethylene, 500LP=500 mL Polyethylene, 25GC=2.5 Gallon Cubitainer

*Preservative: AA=Ascorbic Acid, HCl= Hydrochloric Acid, H_2SO_4=Sulfuric Acid, HNO_3=Nitric Acid, STS=Sodium Thiosulfate, NaOH=Sodium Hydroxide, ZnAc=Zinc Acetate

*Matrix: DW=Drinking Water, WW=Wastewater, SW=Surface/Ambient Water, S=Solids, B=Biosolids, GW=Groundwater, LE=Leachate, LC=Liquid Chemical, O=Other:____

Relinquished By	Date	Time	Relinquished to	Date	Time	Relinquished By	Date	Time	Relinquished to	Date	Time
Jake Prowse	11/29	1015	Celeste Paloma	11/29/18	1015						

Laboratory Use Only

Temperature °C 6.8 **Thermometer ID** ECC95

	Y	N
Received on ice	☑	☐
Container intact	☑	☐
Correct container	☑	☐
Within hold time	☑	☐

	Y	N	NA
Field preserved	☑	☐	☐
Preserved at receipt	☐	☐	☑
Field Filtered	☐	☐	☑
VOA bubble(s) > 6mm	☐	☐	☑

	Y	N	NA
pH < 2	☐	☐	☑
pH > 10	☐	☐	☑
Cl_2 present	☐	☐	☑

Comments:

Sample Distribution ☑ Lab Bench ☐ Walk-in Cooler ☐ Other ____

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Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR5** Site: **North Natomas Detention Basin No. 4** 38.667779 -121.506603

Sample Crew: **LWA** Personnel: KMA + JP + VT

Date: 11/29/18 Time of arrival 3:32

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular (algae) oily sheen foam (trash) other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear) (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation (none) foggy drizzle rain snow

Prec (last 24 hours) (unknown) <1" >1" none

Photo Numbers

upstream	4:06
downstream	4:06

take photo of composite bottle if possible none

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	6.5 - 8.5	≤700	≥7	NA	NA
	~~9.32~~ 9.51	122.1	8.7	NA	1.0

Instrument(s) 5/51

Calibration Date(s) 11/26/18

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW63-UR5	NA	none	0	Field Measurements		
☐ WW63-UR5	500mL CG	HCl	1	Mercury, Total		
☐ WW63-UR5	500mL AG	HCl	1	Methylmercury		
☐ WW63-UR5	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ WW63-UR5	125 mL AG	none	1	DOC		
☐ WW63-UR5	3x40ml, VOA A	HCl	1	TOC		
☐ WW63-UR5	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ WW63-UR5	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW63-UR5	(500) ~~250~~ mL PE	none		Microbial Source Tracking		
☐ WW63-UR5	500 mL PE	none	1	Microbial Source Tracking		
☐ WW63-UR7	500mL CG	HCl	1	Mercury, Total		FD
☐ WW63-UR7	500mL AG	HCl	1	Methylmercury		FD
☐ WW63-UR7	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FD
☐ WW63-UR7	3x40ml, VOA A	HCl	1	TOC		FD
☐ WW63-UR7	125 mL AG	none	1	DOC		FD
☐ WW63-UR7	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		FD
☐ WW63-UR7	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		FD
☐ WW63-UR7	500 mL PE	none	1	Microbial Source Tracking		FD
☐ WW63-UR7	(500) ~~250~~ mL PE	none		Microbial Source Tracking		FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 3:32 Grab Resume Time: 4:02 Comp ID: 1 of ___ Level: empty L Bottle Change? yes (no)

Composite Sampler Program Running? (yes) no Time of departure 4:15

Additional Notes or Comments

Calibration of sampler at 8:38

→ well over 1,000 mL per sample

→ timed calibration

→ take manual sample 9:00

Switch Bottle ~ 8:45

leave at 8:55 9:02

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR3** Site: **Sump 111** 38.601237 -121.492729

Sample Crew: **LWA** Personnel: JP VT KMA

Date: 11/29/18 Time of arrival 2:00 am

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor none (musty) sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam (trash) other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) (cloudy) (>4" vis.) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation none foggy drizzle (rain) snow

Prec (last 24 hours) (unknown) <1" >1" none

Photo Numbers

upstream	
downstream	
site	3:03

take photo of composite bottle if possible ~~3:01~~ prior to of comp bottle

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	7.32	3.81	12.8	—	3
Instrument(s)	Hach				2100 Q turb
Calibration Date(s)	11/28/18				

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW63-UR3	NA	none	0	Field Measurements		
☐ WW63-UR3	500mL CG	HCl	1	Mercury, Total		MSD
☐ WW63-UR3	500mL AG	HCl	1	Methylmercury		MSD
☐ WW63-UR3	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ WW63-UR3	125 mL AG	none	1	DOC		
☐ WW63-UR3	3x40ml, VOA A	HCl	1	TOC		
☐ WW63-UR3	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ WW63-UR3	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW63-UR3	500 mL PE	none	1	Microbial Source Tracking		
☐ WW63-UR3	500 mL PE	none	1	Microbial Source Tracking		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time: 2:47 see memory time

Comp ID: 1 of 2 Level: overflow L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure ~3:15

Additional Notes or Comments

Change Carboy @ 2:05 am

FB taken at end of grab samples (bailer was previously used for grab samples)

Change bottle → 5:12 ~~3:30~~?

titration metals 9:36

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR2S** Site: **Strong Ranch Slough** **38.584985** **-121.417627**

Sample Crew: **LWA** Personnel: KMA + JP + VT

Date: 11/29/18 Time of arrival 07:00

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other
Site odor none musty sulfides sewage petroleum mixed other
Other presences vascular nonvascular algae oily sheen foam trash other
Water odor none sulfides sewage petroleum mixed other
Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)
Water color clear brown green grey yellow other
Sky code clear partly cloudy overcast fog hazy
Precipitation none foggy drizzle rain snow
Prec (last 24 hours) unknown <1" >1" none

Photo Numbers
upstream
downstream
take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	4.36	67.7	16.3	—	49

Instrument(s)

Calibration Date(s) 11/28/18

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW63-UR2S	NA	none	0	Field Measurements		
☐ WW63-UR2S	500mL CG	HCl	1	Mercury, Total ✓		
☐ WW63-UR2S	500mL AG	HCl	1	Methylmercury ✓		
☐ WW63-UR2S	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		
☐ WW63-UR2S	125 mL AG	none	1	DOC ✓		
☐ WW63-UR2S	3x40ml, VOA A	HCl	1	TOC ✓		
☐ WW63-UR2S	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		
☐ WW63-UR2S	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil) ✓✓		
☐ WW63-UR2S	500 ~~250~~ mL PE	none	1	Microbial Source Tracking ✓		W
☐ WW63-UR2S	500 mL PE	none	1	Microbial Source Tracking ✓		S
☐ WW63-UR6	500mL CG	HCl	1	Mercury, Total ✓		FB
☐ WW63-UR6	500mL AG	HCl	1	Methylmercury ✓		FB
☐ WW63-UR6	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		FB
☐ WW63-UR6	125 mL AG	none	1	DOC ✓		FB
☐ WW63-UR6	3x40ml, VOA A	HCl	1	TOC ✓		FB
☐ WW63-UR6	500 ~~250~~ mL PE	none	1	Microbial Source Tracking ✓		FB
☐ WW63-UR6	500 mL PE	none	1	Microbial Source Tracking ✓		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 7:00 Grab Resume Time: 7:31 Comp ID: 1 of 3 Level: 3.M L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure 8:00

Additional Notes or Comments

Wet Weather Event #2 (WW64)

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Thursday, January 10, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

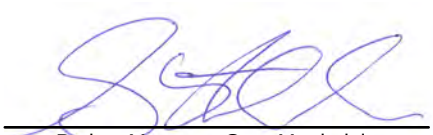
Re Lab Order: U010230 Collected By: STEVE MARICLE
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, January 07, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures



Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U010230001	**UR2S**	Water	01/07/2019 08:05	01/07/2019 12:35
U010230002	**UR5**	Water	01/07/2019 08:15	01/07/2019 12:35
U010230003	**UR3**	Water	01/05/2019 19:07	01/07/2019 12:35
U010230004	**UR6**	Water	01/07/2019 07:35	01/07/2019 12:35

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NARRATIVE

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

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ANALYTICAL RESULTS

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010230001** Date Collected 1/7/2019 08:05 Matrix Water
Sample ID **UR2S** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	3.8	ug/L	0.50	0.15	1	01/08/19 11:48	MPR 16369	01/08/19 18:55	MMS 9338	
Iron	0.09	mg/L	0.05	0.0050	1	01/08/19 11:48	MPR 16369	01/08/19 18:55	MMS 9338	
Lead	0.42	ug/L	0.25	0.060	1	01/08/19 11:48	MPR 16369	01/08/19 18:55	MMS 9338	
Zinc	23	ug/L	1.0	0.70	1	01/08/19 11:48	MPR 16369	01/08/19 18:55	MMS 9338	

Lab ID **U010230002** Date Collected 1/7/2019 08:15 Matrix Water
Sample ID **UR5** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	2.2	ug/L	0.50	0.15	1	01/08/19 11:48	MPR 16369	01/08/19 19:04	MMS 9338	
Iron	0.07	mg/L	0.05	0.0050	1	01/08/19 11:48	MPR 16369	01/08/19 19:04	MMS 9338	
Lead	J0.09	ug/L	0.25	0.060	1	01/08/19 11:48	MPR 16369	01/08/19 19:04	MMS 9338	
Zinc	14	ug/L	1.0	0.70	1	01/08/19 11:48	MPR 16369	01/08/19 19:04	MMS 9338	

Lab ID **U010230003** Date Collected 1/5/2019 19:07 Matrix Water
Sample ID **UR3** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	8.0	ug/L	0.50	0.15	1	01/08/19 11:48	MPR 16369	01/08/19 19:13	MMS 9338	
Iron	0.07	mg/L	0.05	0.0050	1	01/08/19 11:48	MPR 16369	01/08/19 19:13	MMS 9338	
Lead	0.60	ug/L	0.25	0.060	1	01/08/19 11:48	MPR 16369	01/08/19 19:13	MMS 9338	
Zinc	63	ug/L	1.0	0.70	1	01/08/19 11:48	MPR 16369	01/08/19 19:13	MMS 9338	

Lab ID **U010230004** Date Collected 1/7/2019 07:35 Matrix Water
Sample ID **UR6** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	ND	ug/L	0.50	0.15	1	01/08/19 11:48	MPR 16369	01/08/19 19:21	MMS 9338	
Iron	ND	mg/L	0.05	0.0050	1	01/08/19 11:48	MPR 16369	01/08/19 19:21	MMS 9338	
Lead	ND	ug/L	0.25	0.060	1	01/08/19 11:48	MPR 16369	01/08/19 19:21	MMS 9338	
Zinc	ND	ug/L	1.0	0.70	1	01/08/19 11:48	MPR 16369	01/08/19 19:21	MMS 9338	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	**U010230004**	Date Collected	1/7/2019 07:35	Matrix	Water
Sample ID	**UR6**	Date Received	1/7/2019 12:35		

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual

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QUALITY CONTROL DATA

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode,Dissolved	**QC Batch:**	MPR/16369
Analysis Method:	EPA 200.8 (filtrate)	**QC Batch Method:**	EPA 200.8 (filtrate)

METHOD BLANK: 862962

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 862963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	18.3	92	85-115	
Iron	mg/L	10	9.08	91	85-115	
Lead	ug/L	20	18.6	93	85-115	
Zinc	ug/L	20	18.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 862966 862967

Parameter	Units	U010227002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	4.6	20	22.2	21.7	88	86	70-130	2.3	20	
Iron	mg/L	0.03	10	9	8.86	90	88	70-130	1.6	20	
Lead	ug/L	1.2	20	19.6	19.4	92	91	70-130	1	20	
Zinc	ug/L	69	20	80.8	80.4	59	57	70-130	0.5	20	2

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

2	Low Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U010230
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U010230001	**UR2S**	EPA 200.8 (filtrate)	MPR/16369	EPA 200.8 (filtrate)	MMS/9338
U010230002	**UR5**	EPA 200.8 (filtrate)	MPR/16369	EPA 200.8 (filtrate)	MMS/9338
U010230003	**UR3**	EPA 200.8 (filtrate)	MPR/16369	EPA 200.8 (filtrate)	MMS/9338
U010230004	**UR6**	EPA 200.8 (filtrate)	MPR/16369	EPA 200.8 (filtrate)	MMS/9338

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LARRY WALKER ASSOCIATES 1480 Drew Ave Suite 100, DAVIS, CA 95618 TEL: 530.753.6400 FAX: 530.753.7030

CHAIN-OF-CUSTODY RECORD

DATE: 1/7/2019 **Lab ID:** U010230

DESTINATION LAB: Caltest
Attn: Greg Martindale
ADDRESS: 1885 North Kelly Road
Napa CA 94558

PHONE: (707) 258-4000
FAX:

SAMPLED BY: Steve Maricle
LWA TASK MANAGER: Steve Maricle
LWA PROJECT MANAGER: Steve Maricle

LARRY WALKER ASSOCIATES

	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	REQUESTED ANALYSIS: Metals, Dissolved (cu, Pb, Fe, Zn)	NOTES
-1	UR2S	1/7/2019	~~7:25~~ 8:05	W	1	500 mL PE	-	X	
-2 2	UR5	1/7/2019	~~8:00~~ 8:15	W	2	500 mL PE	-	X	[1] Bottle 1: 60% 2: 40%
-3 3	UR3 — Run MS/MSD per bottle qty	1/5/2019	19:07	W	2	500 mL PE	-	X	[1] Bottle 1: 70% 2: 30%
-4 4	UR6	1/7/2019	7:35	W	1	500 mL PE	-	X	
5									
6									
7									
8									
9									
10									
11									
12									

(*) Comp 2 by flow — Comp 2 by flow

SENDER COMMENTS:
[1] field filtered w/in 15 min

(*) per Steve M. KS 1/1/19

LABORATORY COMMENTS:
TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

RELINQUISHED BY
Signature:
Print: Katrina Arredondo
Company: LWA
Date: 1/7/19 Time: 11:41

RECEIVED BY
Signature: K. Grubbs
Print: K. Grubbs
Company: Caltest
Date: 1-7-19 Time: 1141

RELINQUISHED BY [2]
Signature: K. Grubbs
Print: K. Grubbs
Company: Caltest
Date: 1-7-19 Time: 1235

RECEIVED BY [2]
Signature:
Print: L. Gaeta
Company: Caltest
Date: 1/7/19 Time: 1235

Wednesday, January 23, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U010210 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Sunday, January 06, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U010210001	**WW64-UR3**	Water	01/05/2019 11:10	01/06/2019 09:50
U010210002	**WW64-UR3**	Water	01/05/2019 10:50	01/06/2019 09:50

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NARRATIVE

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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ANALYTICAL RESULTS

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010210001** Date Collected 1/5/2019 11:10 Matrix Water
Sample ID **WW64-UR3** Date Received 1/6/2019 09:50

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	350	ug/L	220	37	1.099	01/10/19 16:35	REFD 2933	01/11/19 18:27	REFD 2934	1
TPH - Motor Oil (C23 - C36)	1300	ug/L	550	73	1.099	01/10/19 16:35	REFD 2933	01/11/19 18:27	REFD 2934	
Tetracosane (SS)	100	%	44-127		1.099	01/10/19 16:35	REFD 2933	01/11/19 18:27	REFD 2934	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			01/15/19 17:27	VMS 4196	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			01/15/19 17:27	VMS 4196	
4-Bromofluorobenzene (SS)	94	%	70-130		1			01/15/19 17:27	VMS 4196	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	22	mg/L	0.5	0.30	1			01/10/19 18:36	WET 9837	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	21	mg/L	0.5	0.30	1			01/11/19 00:22	WET 9838	

Lab ID **U010210002** Date Collected 1/5/2019 10:50 Matrix Water
Sample ID **WW64-UR3** Date Received 1/6/2019 09:50

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.019	ug/L	0.00050	0.00020	1	01/10/19 18:13	MPR 16374	01/11/19 12:09	MHG 6064	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.18	ng/L	0.05	0.020	1	01/07/19 15:37	MPR 16368	01/08/19 16:16	MHG 6061	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16368
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

METHOD BLANK: 862797

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 862798

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	0.941	85	67-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 862800 862801

Parameter	Units	T121111001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0	1.1	0.805	0.833	72	75	65-135	3.4	35	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 862802 862803

Parameter	Units	U010210002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.18	1.1	0.965	1.02	71	76	65-135	5.5	35	

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16374
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 863699

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 863700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.019	95	79-121	

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QUALITY CONTROL DATA

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16374
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863702 863703

Parameter	Units	U010210002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.019	0.02	0.0392	0.0383	101	97	71-125	2.3	24	

Analysis Description:	Total Extractable Petroleum Hydrocarbon	**QC Batch:**	REFD/2933
Analysis Method:	SW846 8015(MOD)	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 866415

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ND	200	34	ug/L	1
TPH - Motor Oil (C23 - C36)	ND	500	66	ug/L	
Tetracosane (SS)	99	44-127		%	

LABORATORY CONTROL SAMPLE: 866416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	2500	2292.3	92	57-106	1
Tetracosane (SS)	%			97	44-127	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 866417 866418

Parameter	Units	1900908 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	0	2500	1812	2340	72	94	46-131	25	30	1
Tetracosane (SS)	%					66	94	44-127	34		

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4196
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

METHOD BLANK: 864519

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPPH - Gasoline Fuel	ND	50	20	ug/L	
TPPH quantitated as Gasoline	ND	50	20	ug/L	
4-Bromofluorobenzene (SS)	93	70-130		%	

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QUALITY CONTROL DATA

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4196
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

LABORATORY CONTROL SAMPLE & LCSD: 864520 864521

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
TPPH - Gasoline Fuel	ug/L	550	669	639	122	116	65-130	4.6	30	
4-Bromofluorobenzene (SS)	%				102	101	70-130	1.2	30	

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/9837
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

FILTER BLANK: 863554

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

METHOD BLANK: 863550

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863551 863552

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	10.1	10.2	101	102	80-120	1	20	
Dissolved Organic Carbon	mg/L	10	10.1	10.2	101	102	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863555 863556

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	3.9	10	15.1	14.3	112	104	80-120	5.4	20	
Dissolved Organic Carbon	mg/L	3.9	10	15.1	14.3	112	104	80-120	5.4	20	

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9838
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 863566

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QUALITY CONTROL DATA

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9838
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863567 863568

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	10.2	10.2	102	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863569 863570

Parameter	Units	U010229001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	7.8	10	18.1	18.9	103	111	80-120	4.3	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U010210
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U010210002	**WW64-UR3**	EPA 1630	MPR/16368	EPA 1630	MHG/6061
U010210002	**WW64-UR3**	EPA 1631E	MPR/16374	EPA 1631E	MHG/6064
U010210001	**WW64-UR3**	SW846 3510C	REFD/2933	SW846 8015(MOD)	REFD/2934
U010210001	**WW64-UR3**	SW846 5030B/8260B	VMS/4196		
U010210001	**WW64-UR3**	SM 5310 B-00/-11	WET/9837		
U010210001	**WW64-UR3**	SM 5310 B-00/-11	WET/9838		

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Date of Report: 01/14/2019

Carol Battaglia

Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Client Project:	U010210
BCL Project:	Water Analysis
BCL Work Order:	1900907
Invoice ID:	B327868

Enclosed are the results of analyses for samples received by the laboratory on 1/9/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

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.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form 3
Laboratory / Client Sample Cross Reference 5

Sample Results

1900907-01 - U010210001 WM64-UR3

Total Petroleum Hydrocarbons 6

Quality Control Reports

Total Petroleum Hydrocarbons

Method Blank Analysis 7
Laboratory Control Sample 8
Precision and Accuracy 9

Notes

Notes and Definitions 10

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Chain of Custody and Cooler Receipt Form for 1900907 Page 1 of 2

Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SUBCONTRACT CHAIN OF CUSTODY

Page 1 of 1

PROJECT ID / PO NUMBER - U010210

PM Review: GM

19-0907

Sending Laboratory
Caltest Analytical Laboratory
1885 N. Kelly Rd.
Napa, CA 94558
Phone: (707) 258-4000
Fax: (707) 226-1001
Report To: Client Services
Email: pmgr@caltestlabs.com

Receiving Laboratory
BC Laboratories, Inc.
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 800-878-4911
Fax: 661-327-1918

Due Date: **7 DAY TAT** (contact if due date cannot be met)

Sampled By: CLIENT

Caltest Lab ID (ref. only)	Client Sample ID	Matrix	Sample Date	Container Type	Presevative	Requested Analyses	Comments
U010210001	WW64-UR3	AQ	01/05/2019 11:10	4L	NONE	DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT

RUSH!

CHK BY 1419
DISTRIBUTION
SUB-OUT

Relinquished By	Date / Time	Received By	Date / Time
	1/7/19 1530		
Relinquished By	Date / Time	Received By	Date / Time
			1-9-19 09:20

Monday, January 07 2019 11:09AM Matrix: AQ - Aqueous DW - Drinking Water SL - Solid

Chain of Custody and Cooler Receipt Form for 1900907 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 19-00907

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ Ontrac ☒ Hand Delivery ☐
BC Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: .98 Container: Amber Thermometer ID: 274

Temperature: (A) 1.4 °C / (C) 1.3 °C

Date/Time 1.9.19

Analyst Init AD 09:20

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER	A									
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: Date/Time: 1/9/19 1030

A = Actual / C = Corrected

Rev 21 05/23/2016

S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010210
Project Manager: Carol Battaglia

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1900907-01	**COC Number:**	---	**Receive Date:**	01/09/2019 09:20
	Project Number:	---	**Sampling Date:**	01/05/2019 11:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U010210001 WM64-UR3	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Aqueous

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010210
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1900907-01 | **Client Sample Name:** U010210001 WM64-UR3, 1/5/2019 11:10:00AM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	**350**	**ug/L**	**200**	**34**	**EPA-8015CC**	ND		1
TPH - Motor Oil (C23 - C36)	**1300**	**ug/L**	**500**	**66**	**EPA-8015CC**	ND		1
Tetracosane (Surrogate)	99.1	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	01/10/19 16:35	01/11/19 18:27	RSM	GC-2	1.099	B034815

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010210
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B034815						
TPH - Diesel (C10 - C22)	B034815-BLK1	ND	ug/L	200	34	
TPH - Motor Oil (C23 - C36)	B034815-BLK1	ND	ug/L	500	66	
Tetracosane (Surrogate)	**B034815-BLK1**	**99.2**	%	**37 - 134 (LCL - UCL)**		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010210
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B034815										
TPH - Diesel (C10 - C22)	B034815-BS1	LCS	ND	2500.0	ug/L	0		57 - 106		
Tetracosane (Surrogate)	B034815-BS1	LCS	96.525	100.00	ug/L	96.5		37 - 134		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010210
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B034815	Used client sample: N										
TPH - Diesel (C10 - C22)	MS	**1840070-54**	**ND**	**ND**	**2500.0**	**ug/L**		**0**		**46 - 131**	
	MSD	**1840070-54**	**ND**	**ND**	**2500.0**	**ug/L**		**0**	**30**	**46 - 131**	
Tetracosane (Surrogate)	MS	1840070-54	ND	66.300	100.00	ug/L		66.3		37 - 134	
	MSD	1840070-54	ND	93.725	100.00	ug/L	34.3	93.7		37 - 134	

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010210
Project Manager: Carol Battaglia

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 01/5/19 Lab ID: 410210

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW64-UR3	DOC	1/5/19	11:10	Water	1	125 mL AG	none			X				
WW64-UR3	Hg_Meth	"	10:50	Water	1	500mL AG	HCl	X						MSD
WW64-UR3	Hg_T	"	"	Water	1	500mL CG	HCl		X					MSD
WW64-UR3	TOC	"	11:10	Water	1	3x40ml, VOA A	HCl				X			
WW64-UR3	TPH_DM	"	"	Water	2	1L AG	none					X		
WW64-UR3	TPH_GAS	"	"	Water	1	3x40ml, VOA	HCl						X	
WW64-UR2S	DOC			Water	1	125 mL AG	none			X				
WW64-UR2S	Hg_Meth			Water	1	500mL AG	HCl	X						
WW64-UR2S	Hg_T			Water	1	500mL CG	HCl		X					
WW64-UR2S	TOC			Water	1	3x40ml, VOA A	HCl				X			
WW64-UR2S	TPH_DM			Water	2	1L AG	none					X		

TEMP. (°C): 1.3
SEALED: YES
INTACT: YES

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:

	Relinquished By (1):	Received By (2):
Signature:	Katrina Arredondo	Glen Immel
Print:	Katrina Arredondo	GLEN IMMEL
Organization:	LWA	CALTEST
Date:	1/6/19	1/6/19
Time:	11:24	11 24

	Relinquished By (1):	Received By (2):
Signature:	Glen Immel	Michael Soon
Print:	CALTEST	CALTEST MICHAEL SOON
Organization:	CALTEST	CALTEST
Date:	1/6/19	1.6.19
Time:	1239	12[illegible]

Crew: TME

Friday, January 25, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

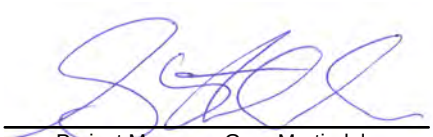
Re Lab Order: U010229 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, January 07, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures



Project Manager: Greg Martindale

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1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

SAMPLE SUMMARY

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U010229001	**WW64-UR2S**	Water	01/06/2019 13:54	01/07/2019 12:35
U010229002	**WW64-UR5**	Water	01/06/2019 15:50	01/07/2019 12:35
U010229003	**WW64-UR7**	Water	01/06/2019 15:52	01/07/2019 12:35
U010229004	**WW64-UR6**	Water	01/06/2019 14:24	01/07/2019 12:35

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NARRATIVE

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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ANALYTICAL RESULTS

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010229001** Date Collected 1/6/2019 13:54 Matrix Water
Sample ID **WW64-UR2S** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0068	ug/L	0.00050	0.00020	1	01/10/19 18:13	MPR 16374	01/11/19 12:09	MHG 6064	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.19	ng/L	0.05	0.020	1	01/16/19 00:00	MPR 16390	01/17/19 00:00	MHG 6070	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	J150	ug/L	206	35	1.031	01/10/19 16:35	REFD 2933	01/11/19 19:13	REFD 2934	1
TPH - Motor Oil (C23 - C36)	570	ug/L	516	68	1.031	01/10/19 16:35	REFD 2933	01/11/19 19:13	REFD 2934	
Tetracosane (SS)	54	%	44-127		1.031	01/10/19 16:35	REFD 2933	01/11/19 19:13	REFD 2934	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			01/15/19 17:48	VMS 4196	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			01/15/19 17:48	VMS 4196	
4-Bromofluorobenzene (SS)	95	%	70-130		1			01/15/19 17:48	VMS 4196	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	7.2	mg/L	0.5	0.30	1			01/10/19 19:09	WET 9837	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	7.8	mg/L	0.5	0.30	1			01/11/19 00:34	WET 9838	

Lab ID **U010229002** Date Collected 1/6/2019 15:50 Matrix Water
Sample ID **WW64-UR5** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0021	ug/L	0.00050	0.00020	1	01/10/19 18:13	MPR 16374	01/11/19 12:09	MHG 6064	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.08	ng/L	0.05	0.020	1	01/16/19 00:00	MPR 16390	01/17/19 00:00	MHG 6070	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	206	35	1.031	01/10/19 16:35	REFD 2933	01/11/19 19:36	REFD 2934	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	516	68	1.031	01/10/19 16:35	REFD 2933	01/11/19 19:36	REFD 2934	
Tetracosane (SS)	90	%	44-127		1.031	01/10/19 16:35	REFD 2933	01/11/19 19:36	REFD 2934	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010229002** Date Collected 1/6/2019 15:50 Matrix Water
Sample ID **WW64-UR5** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			01/15/19 18:09	VMS 4196	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			01/15/19 18:09	VMS 4196	
4-Bromofluorobenzene (SS)	94	%	70-130		1			01/15/19 18:09	VMS 4196	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	7.1	mg/L	0.5	0.30	1			01/10/19 19:20	WET 9837	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	8.6	mg/L	0.5	0.30	1			01/11/19 01:15	WET 9838	

Lab ID **U010229003** Date Collected 1/6/2019 15:52 Matrix Water
Sample ID **WW64-UR7** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level		**Prep Method:**	EPA 1631E					**Prep by:**	UKS	
		Analytical Method:	EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0021	ug/L	0.00050	0.00020	1	01/10/19 18:13	MPR 16374	01/11/19 12:09	MHG 6064	
Methyl Mercury Analysis		**Prep Method:**	EPA 1630					**Prep by:**	UKS	
		Analytical Method:	EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.08	ng/L	0.05	0.020	1	01/16/19 00:00	MPR 16390	01/17/19 00:00	MHG 6070	
Total Extractable Petroleum Hydrocarbon		**Prep Method:**	SW846 3510C					**Prep by:**	PJB	
		Analytical Method:	SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	208	35	1.042	01/10/19 16:35	REFD 2933	01/11/19 19:59	REFD 2934	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	521	69	1.042	01/10/19 16:35	REFD 2933	01/11/19 19:59	REFD 2934	
Tetracosane (SS)	93	%	44-127		1.042	01/10/19 16:35	REFD 2933	01/11/19 19:59	REFD 2934	
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			01/15/19 18:30	VMS 4196	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			01/15/19 18:30	VMS 4196	
4-Bromofluorobenzene (SS)	93	%	70-130		1			01/15/19 18:30	VMS 4196	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	7.0	mg/L	0.5	0.30	1			01/10/19 19:31	WET 9837	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	11	mg/L	0.5	0.30	1			01/11/19 01:26	WET 9838	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010229004** Date Collected 1/6/2019 14:24 Matrix Water
Sample ID **WW64-UR6** Date Received 1/7/2019 12:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	ND	ug/L	0.00050	0.00020	1	01/10/19 18:13	MPR 16374	01/11/19 12:09	MHG 6064	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	ND	ng/L	0.05	0.020	1	01/16/19 00:00	MPR 16390	01/17/19 00:00	MHG 6070	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	ND	mg/L	0.5	0.30	1			01/10/19 19:41	WET 9837	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	0.65	mg/L	0.5	0.30	1			01/11/19 16:26	WET 9841	

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

QUALITY CONTROL DATA

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16374
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 863699

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 863700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.019	95	79-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863702 863703

Parameter	Units	U010210002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.019	0.02	0.0392	0.0383	101	97	71-125	2.3	24	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863704 863705

Parameter	Units	U010269001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.00076	0.02	0.0187	0.0189	90	91	71-125	1.1	24	

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16390
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

FILTER BLANK: 865265

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

METHOD BLANK: 865258

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 865259

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	1.04	94	67-133	

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QUALITY CONTROL DATA

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16390
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 865261 865262

Parameter	Units	U010229004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0	1.1	1.05	1.08	95	97	65-135	2.8	35	

Analysis Description:	Total Extractable Petroleum Hydrocarbon	**QC Batch:**	REFD/2933
Analysis Method:	SW846 8015(MOD)	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 866415

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ND	200	34	ug/L	1
TPH - Motor Oil (C23 - C36)	ND	500	66	ug/L	
Tetracosane (SS)	99	44-127		%	

LABORATORY CONTROL SAMPLE: 866416

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	2500	2292.3	92	57-106	1
Tetracosane (SS)	%			97	44-127	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 866417 866418

Parameter	Units	1900908 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	0	2500	1812	2340	72	94	46-131	25	30	1
Tetracosane (SS)	%					66	94	44-127	34		

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4196
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

METHOD BLANK: 864519

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPPH - Gasoline Fuel	ND	50	20	ug/L	
TPPH quantitated as Gasoline	ND	50	20	ug/L	
4-Bromofluorobenzene (SS)	93	70-130		%	

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QUALITY CONTROL DATA

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4196
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

LABORATORY CONTROL SAMPLE & LCSD: 864520 864521

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
TPPH - Gasoline Fuel	ug/L	550	669	639	122	116	65-130	4.6	30	
4-Bromofluorobenzene (SS)	%				102	101	70-130	1.2	30	

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/9837
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

FILTER BLANK: 863554

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

METHOD BLANK: 863550

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863551 863552

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	10.1	10.2	101	102	80-120	1	20	
Dissolved Organic Carbon	mg/L	10	10.1	10.2	101	102	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863555 863556

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	3.9	10	15.1	14.3	112	104	80-120	5.4	20	
Dissolved Organic Carbon	mg/L	3.9	10	15.1	14.3	112	104	80-120	5.4	20	

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9838
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 863566

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QUALITY CONTROL DATA

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9838
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863567 863568

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	10.2	10.2	102	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863569 863570

Parameter	Units	U010229001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	7.8	10	18.1	18.9	103	111	80-120	4.3	20	

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9841
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 863964

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863965 863966

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	10.1	10.1	101	101	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863969 863970

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	3.6	10	14.1	14.3	105	107	80-120	1.4	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U010229
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U010229001	**WW64-UR2S**	EPA 1631E	MPR/16374	EPA 1631E	MHG/6064
U010229002	**WW64-UR5**	EPA 1631E	MPR/16374	EPA 1631E	MHG/6064
U010229003	**WW64-UR7**	EPA 1631E	MPR/16374	EPA 1631E	MHG/6064
U010229004	**WW64-UR6**	EPA 1631E	MPR/16374	EPA 1631E	MHG/6064
U010229001	**WW64-UR2S**	EPA 1630	MPR/16390	EPA 1630	MHG/6070
U010229002	**WW64-UR5**	EPA 1630	MPR/16390	EPA 1630	MHG/6070
U010229003	**WW64-UR7**	EPA 1630	MPR/16390	EPA 1630	MHG/6070
U010229004	**WW64-UR6**	EPA 1630	MPR/16390	EPA 1630	MHG/6070
U010229001	**WW64-UR2S**	SW846 3510C	REFD/2933	SW846 8015(MOD)	REFD/2934
U010229002	**WW64-UR5**	SW846 3510C	REFD/2933	SW846 8015(MOD)	REFD/2934
U010229003	**WW64-UR7**	SW846 3510C	REFD/2933	SW846 8015(MOD)	REFD/2934
U010229001	**WW64-UR2S**	SW846 5030B/8260B	VMS/4196		
U010229002	**WW64-UR5**	SW846 5030B/8260B	VMS/4196		
U010229003	**WW64-UR7**	SW846 5030B/8260B	VMS/4196		
U010229001	**WW64-UR2S**	SM 5310 B-00/-11	WET/9837		
U010229002	**WW64-UR5**	SM 5310 B-00/-11	WET/9837		
U010229003	**WW64-UR7**	SM 5310 B-00/-11	WET/9837		
U010229004	**WW64-UR6**	SM 5310 B-00/-11	WET/9837		
U010229001	**WW64-UR2S**	SM 5310 B-00/-11	WET/9838		
U010229002	**WW64-UR5**	SM 5310 B-00/-11	WET/9838		
U010229003	**WW64-UR7**	SM 5310 B-00/-11	WET/9838		
U010229004	**WW64-UR6**	SM 5310 B-00/-11	WET/9841		

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

Date of Report: 01/14/2019

Carol Battaglia

Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Client Project:	U010229
BCL Project:	Water Analysis
BCL Work Order:	1900951
Invoice ID:	B327869

Enclosed are the results of analyses for samples received by the laboratory on 1/9/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

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Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form 3
Laboratory / Client Sample Cross Reference 5

Sample Results

1900951-01 - U010229001 WW64-UR2S

Total Petroleum Hydrocarbons 6

1900951-02 - U010229002 WW64-UR5

Total Petroleum Hydrocarbons 7

1900951-03 - U010229003 WW64-UR7

Total Petroleum Hydrocarbons 8

Quality Control Reports

Total Petroleum Hydrocarbons

Method Blank Analysis 9
Laboratory Control Sample 10
Precision and Accuracy 11

Notes

Notes and Definitions 12

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Chain of Custody and Cooler Receipt Form for 1900951 Page 1 of 2

Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

Sending Laboratory
Caltest Analytical Laboratory
1885 N. Kelly Rd.
Napa, CA 94558
Phone: (707) 258-4000
Fax: (707) 226-1001
Report To: Client Services
Email: pmgr@caltestlabs.com

SUBCONTRACT CHAIN OF CUSTODY
PROJECT ID / PO NUMBER - U010229
19-000951

Page 1 of 1

PM Review: GM

Receiving Laboratory
BC Laboratories, Inc.
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 800-878-4911
Fax: 661-327-1918

RUSH!

Due Date: **7 DAY TAT** (contact if due date cannot be met)

Sampled By: **CLIENT**

Caltest Lab ID (ref. only)	Client Sample ID	Matrix	Sample Date	Container Type	Presevative	Requested Analyses	Comments
U010229001	WW64-UR2S	AQ	01/06/2019 13:54	4L		DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U010229002	WW64-UR5	AQ	01/06/2019 15:50			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U010229003	WW64-UR7	AQ	01/06/2019 15:52			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT

CHK BY
DISTRIBUTION
SUB-OUT

Relinquished By	Date / Time	Received By	Date / Time
	1/8/19 1630		
Relinquished By	Date / Time	Received By	Date / Time
			1.9.19 09:20

Tuesday, January 08 2019 12:56PM Matrix: AQ - Aqueous DW - Drinking Water SL - Solid

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Chain of Custody and Cooler Receipt Form for 1900951 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 19-00951

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ Ontrac ☑ Hand Delivery ☐
BC Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☑ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☐
W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: .98 Container: Amber Thermometer ID: 254 Date/Time 1.9.19

Temperature: (A) 2.4 °C / (C) 2.3 °C Analyst Init DD 09:20

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER	A	A	A							
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:
Sample Numbering Completed By:
A = Actual / C = Corrected

Date/Time: 1/9/19 1438

Rev 21 05/23/2016
(S:\WPDocWordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1900951-01	**COC Number:**	---	**Receive Date:**	01/09/2019 09:20
	Project Number:	---	**Sampling Date:**	01/06/2019 13:54
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U010229001 WW64-UR2S	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Aqueous
1900951-02	**COC Number:**	---	**Receive Date:**	01/09/2019 09:20
	Project Number:	---	**Sampling Date:**	01/06/2019 15:50
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U010229002 WW64-UR5	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Aqueous
1900951-03	**COC Number:**	---	**Receive Date:**	01/09/2019 09:20
	Project Number:	---	**Sampling Date:**	01/06/2019 15:52
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U010229003 WW64-UR7	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Aqueous

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1900951-01 | **Client Sample Name:** U010229001 WW64-UR2S, 1/6/2019 1:54:00PM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	**150**	**ug/L**	**200**	**34**	**EPA-8015CC**	ND	**J**	1
TPH - Motor Oil (C23 - C36)	**570**	**ug/L**	**500**	**66**	**EPA-8015CC**	ND		1
Tetracosane (Surrogate)	54.3	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	01/10/19 16:35	01/11/19 19:13	RSM	GC-2	1.031	B034815

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1900951-02 | **Client Sample Name:** U010229002 WW64-UR5, 1/6/2019 3:50:00PM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	89.8	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	01/10/19 16:35	01/11/19 19:36	RSM	GC-2	1.031	B034815

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1900951-03 | **Client Sample Name:** U010229003 WW64-UR7, 1/6/2019 3:52:00PM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	93.4	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	01/10/19 16:35	01/11/19 19:59	RSM	GC-2	1.042	B034815

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B034815						
TPH - Diesel (C10 - C22)	B034815-BLK1	ND	ug/L	200	34	
TPH - Motor Oil (C23 - C36)	B034815-BLK1	ND	ug/L	500	66	
Tetracosane (Surrogate)	**B034815-BLK1**	**99.2**	%	**37 - 134 (LCL - UCL)**		

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.
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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B034815										
TPH - Diesel (C10 - C22)	B034815-BS1	LCS	ND	2500.0	ug/L	0		57 - 106		
Tetracosane (Surrogate)	B034815-BS1	LCS	96.525	100.00	ug/L	96.5		37 - 134		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B034815	Used client sample: N										
TPH - Diesel (C10 - C22)	MS	**1840070-54**	**ND**	**ND**	**2500.0**	**ug/L**		**0**		**46 - 131**	
	MSD	**1840070-54**	**ND**	**ND**	**2500.0**	**ug/L**		**0**	**30**	**46 - 131**	
Tetracosane (Surrogate)	MS	1840070-54	ND	66.300	100.00	ug/L		66.3		37 - 134	
	MSD	1840070-54	ND	93.725	100.00	ug/L	34.3	93.7		37 - 134	

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 01/14/2019 14:49
Project: Water Analysis
Project Number: U010229
Project Manager: Carol Battaglia

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 1/6/19 Lab ID: U010229

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
~~WW64-UR3~~	~~DOC~~			~~Water~~	1	~~125 mL AG~~	~~none~~			X				
~~WW64-UR3~~	~~Hg_Meth~~			~~Water~~	1	~~500mL AG~~	~~HCl~~	X						MSD
~~WW64-UR3~~	~~Hg_T~~			~~Water~~	1	~~500mL CG~~	~~HCl~~		X					MSD
~~WW64-UR3~~	~~TOC~~			~~Water~~	1	~~3x40ml, VOA A~~	~~HCl~~				X			
~~WW64-UR3~~	~~TPH_DM~~			~~Water~~	2	~~1L AG~~	~~none~~					X		
~~WW64-UR3~~	~~TPH_GAS~~			~~Water~~	1	~~3x40ml, VOA~~	~~HCl~~						X	
WW64-UR2S	DOC	1/6/19	13:40	Water	1	125 mL AG	none			X				
WW64-UR2S	Hg_Meth	"	13:38	Water	1	500mL AG	HCl	X						
WW64-UR2S	Hg_T	"	13:44	Water	1	500mL CG	HCl		X					
WW64-UR2S	TOC	"	13:50	Water	1	3x40ml, VOA A	HCl				X			
WW64-UR2S	TPH_DM	"	13:54	Water	2	1L AG	none					X		

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Katrina Acevedo
Organization: LWA
Date: 1/7/19 Time: 11:41

Received By (2):
K. Grubbs
Caltest
Date: 1-7-19 Time: 1141

Laboratory Comments:
TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature: K. Grubbs
Print: K. Grubbs
Organization: Caltest
Date: 1-7-19 Time: 1235

Received By (2):
R. Gaeta
L. Gaeta
Caltest
Date: 1/7/19 Time: 1235

Crew: TME

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 1/6/19 Lab ID: U010229

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

	Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
-1	WW64-UR2S	TPH_GAS	1/6/19	13:49	Water	1	3x40ml, VOA	HCl						X	
-4	WW64-UR6	DOC	↓	14:24	Water	1	125 mL AG	none			X				
	WW64-UR6	Hg_Meth		14:10 ~~13:41~~	Water	1	500mL AG	HCl	X						
	WW64-UR6	Hg_T		14:10	Water	1	500mL CG	HCl		X					
	WW64-UR6	TOC	↓	14:14	Water	1	3x40ml, VOA A	HCl				X			
-2	WW64-UR5	DOC	1/6/19	15:30	Water	1	125 mL AG	none			X				
	WW64-UR5	Hg_Meth		15:17	Water	1	500mL AG	HCl	X						
	WW64-UR5	Hg_T		15:22	Water	1	500mL CG	HCl		X					
	WW64-UR5	TOC		15:33	Water	1	3x40ml, VOA A	HCl				X			
	WW64-UR5	TPH_DM		15:50	Water	2	1L AG	none					X		
	WW64-UR5	TPH_GAS	↓	15:43	Water	1	3x40ml, VOA	HCl						X	

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:
TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

	Relinquished By (1):	Received By (2):
Signature:	[signature]	[signature]
Print:	Katrina Arredondo	K. Grubbs
Organization:	LWA	CALtest
Date:	1/7/19	1-7-19
Time:	11:41	1141

	Relinquished By (1):	Received By (2):
Signature:	[signature]	[signature]
Print:	K. Grubbs	L. Gaeta
Organization:	Caltest	Caltest
Date:	1-7-19	1/7/19
Time:	1235	1235

Crew: TME

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 1/6/19 Lab ID: UD10229

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW64-UR7	DOC	1/6/19	15:32	Water	1	125 mL AG	none			X				
WW64-UR7	Hg_Meth		15:19	Water	1	500mL AG	HCl	X						
WW64-UR7	Hg_T		15:24	Water	1	500mL CG	HCl		X					
WW64-UR7	TOC		15:36	Water	1	3x40ml, VOA A	HCl				X			
WW64-UR7	TPH_DM		15:52	Water	2	1L AG	none					X		
WW64-UR7	TPH_GAS		15:46	Water	1	3x40ml, VOA	HCl						X	

-3

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Katrina Arredondo
Organization: LWA
Date: 1/9/19 Time: 11:41

Received By (2):
K. Grubbs
K. Grubbs
Caltest
Date: 1-7-19 Time: 1141

Laboratory Comments:
TEMP. (°C): 1.2
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature: K. Grubbs
Print: K. Grubbs
Organization: Caltest
Date: 1-7-19 Time: 1235

Received By (2):
L. Gaeta
L. Gaeta
Caltest
Date: 1/7/19 Time: 1235

Crew: TME

Thursday, January 31, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U010275 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, January 07, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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SAMPLE SUMMARY

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U010275001	**WW64-UR2S**	Water	01/07/2019 01:32	01/07/2019 18:57
U010275002	**WW64-UR6**	Water	01/07/2019 07:30	01/07/2019 18:57
U010275003	**WW64-UR5**	Water	01/07/2019 00:29	01/07/2019 18:57
U010275004	**WW64-UR7**	Water	01/07/2019 00:29	01/07/2019 18:57

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NARRATIVE

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1	Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in higher reporting limit(s).
2	This analysis is not covered under Caltest's NELAP/CAL-ELAP Accreditations.

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ANALYTICAL RESULTS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010275001** Date Collected 1/7/2019 01:32 Matrix Water
Sample ID **WW64-UR2S** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	39	mg/L	3	2	1			01/09/19 10:19	BIO 20222	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	DJC	
Chemical Oxygen Demand	J48	mg/L	50	20	1			01/08/19 11:30	BIO 20221	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	ACS	
Sediment Concentration	50	mg/L	3	2	1			01/11/19 09:50	BIO 20230	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	DJC	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	RJD	
Biochemical Oxygen Demand	6	mg/L	5	5	1	01/08/19 12:47	BOD 11540	01/13/19 12:26	BOD 11542	
Mercury Analysis, Trace Level	**Prep Method:**	EPA 1631E						**Prep by:**	UKS	
	Analytical Method:	EPA 1631E						**Analyzed by:**	UKS	
Mercury	0.014	ug/L	0.00050	0.00020	1	01/25/19 11:19	MPR 16422	01/25/19 13:00	MHG 6081	
Methyl Mercury Analysis	**Prep Method:**	EPA 1630						**Prep by:**	UKS	
	Analytical Method:	EPA 1630						**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.22	ng/L	0.05	0.020	1	01/29/19 13:44	MPR 16429	01/29/19 00:00	MHG 6084	
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	UKS	
	Analytical Method:	EPA 200.8						**Analyzed by:**	LM	
Copper	13	ug/L	0.50	0.15	1	01/17/19 14:37	MPR 16391	01/23/19 05:28	MMS 9354	
Iron	1.2	mg/L	0.05	0.0050	1	01/17/19 14:37	MPR 16391	01/23/19 05:28	MMS 9354	
Lead	6.5	ug/L	0.25	0.060	1	01/17/19 14:37	MPR 16391	01/23/19 05:28	MMS 9354	
Zinc	66	ug/L	1.0	0.70	1	01/17/19 14:37	MPR 16391	01/23/19 05:28	MMS 9354	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	MDW	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	RLH	
Allethrin	ND	ng/L	2.5	0.5	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	1
Bifenthrin	14	ng/L	2.5	0.5	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Chlorpyrifos	ND	ng/L	5.0	2	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Cyfluthrin	J1.0	ng/L	2.5	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Lambda-Cyhalothrin	ND	ng/L	2.5	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Cypermethrin	J1.5	ng/L	2.5	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Diazinon	ND	ng/L	2.5	0.5	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Deltamethrin:Tralomethrin	J2.2	ng/L	5.0	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Esfenvalerate:Fenvalerate	ND	ng/L	5.0	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Fenpropathrin	ND	ng/L	2.5	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Fipronil	12	ng/L	5.0	2	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Fipronil Desulfinyl	J2.8	ng/L	5.0	2	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Fipronil Sulfide	ND	ng/L	5.0	2	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Fipronil Sulfone	11	ng/L	5.0	2	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Tau-Fluvalinate	ND	ng/L	2.5	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Permethrin	ND	ng/L	25	10	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	

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ANALYTICAL RESULTS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010275001** Date Collected 1/7/2019 01:32 Matrix Water
Sample ID **WW64-UR2S** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Tetramethrin	ND	ng/L	2.5	1	5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Esfenvalerate-d6 (SS)	69	%	26-130		5	01/08/19 00:00	SPR 8315	01/11/19 15:46	SMS 4725	
Nitrogen,Total Kjeldahl Analysis		**Analytical Method:**	SM 4500-NH3 C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.1	mg/L	0.1	0.070	1			01/26/19 00:00	WAT 4868	
Phosphorus Analysis, Low Level		**Analytical Method:**	SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.29	mg/L	0.01	0.0070	1			01/15/19 11:53	WCO 14300	
Nitrogen,Nitrate-Nitrite Analysis		**Analytical Method:**	EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.41	mg/L	0.1	0.070	1			01/14/19 16:08	WCO 14298	
Turbidity Analysis		**Analytical Method:**	EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	33	NTU	0.070	0.070	1			01/08/19 10:22	WET 9859	
Electrical Conductance Analysis		**Analytical Method:**	SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	58	umhos/cm	10	10	1			01/11/19 13:14	WET 9839	
Total Dissolved Solids Analysis		**Analytical Method:**	SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	42	mg/L	10	4.0	1			01/10/19 15:31	WGR 7031	
Hardness, as CACO3 by Titrimetric		**Analytical Method:**	SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	21	mg/L	5	1.7	1			01/16/19 00:00	WTI 3125	
Alkalinity, Total Analysis		**Analytical Method:**	SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	16	mg/L	10	1.2	1			01/11/19 15:13	WTI 3122	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:13	WTI 3122	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:13	WTI 3122	
Alkalinity, Total (as CACO3)	16	mg/L	10	1.2	1			01/11/19 15:13	WTI 3122	

Lab ID **U010275002** Date Collected 1/7/2019 07:30 Matrix Water
Sample ID **WW64-UR6** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level		**Prep Method:**	EPA 1631E					**Prep by:**	UKS	
		Analytical Method:	EPA 1631E					**Analyzed by:**	UKS	
Mercury	ND	ug/L	0.00050	0.00020	1	01/25/19 11:19	MPR 16422	01/25/19 13:00	MHG 6081	
Methyl Mercury Analysis		**Prep Method:**	EPA 1630					**Prep by:**	UKS	
		Analytical Method:	EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	ND	ng/L	0.05	0.020	1	01/29/19 13:44	MPR 16429	01/29/19 00:00	MHG 6084	
Metals by ICPMS Collision Mode, Total		**Prep Method:**	EPA 200.8					**Prep by:**	UKS	
		Analytical Method:	EPA 200.8					**Analyzed by:**	LM	
Copper	ND	ug/L	0.50	0.15	1	01/17/19 14:37	MPR 16391	01/23/19 05:37	MMS 9354	
Iron	ND	mg/L	0.05	0.0050	1	01/17/19 14:37	MPR 16391	01/23/19 05:37	MMS 9354	
Lead	ND	ug/L	0.25	0.060	1	01/17/19 14:37	MPR 16391	01/23/19 05:37	MMS 9354	

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ANALYTICAL RESULTS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010275002** Date Collected 1/7/2019 07:30 Matrix Water
Sample ID **WW64-UR6** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Zinc	J0.7	ug/L	1.0	0.70	1	01/17/19 14:37	MPR 16391	01/23/19 05:37	MMS 9354	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	RLH	
Allethrin	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Bifenthrin	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Cyfluthrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Lambda-Cyhalothrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Cypermethrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Diazinon	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Fenpropathrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Fipronil	ND	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Fipronil Desulfinyl	ND	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Fipronil Sulfone	ND	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Permethrin	ND	ng/L	10	2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Tetramethrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Esfenvalerate-d6 (SS)	113	%	26-130		1	01/08/19 00:00	SPR 8315	01/11/19 17:33	SMS 4725	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	ND	mg/L	5	1.7	1			01/16/19 00:00	WTI 3125	

Lab ID **U010275003** Date Collected 1/7/2019 00:29 Matrix Water
Sample ID **WW64-UR5** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	16	mg/L	3	2	1			01/09/19 10:19	BIO 20222	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	57	mg/L	50	20	1			01/08/19 11:30	BIO 20221	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	ACS	
Sediment Concentration	9.4	mg/L	3	2	1			01/11/19 09:50	BIO 20230	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	RJD	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	01/08/19 12:47	BOD 11540	01/13/19 12:28	BOD 11542	
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	

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ANALYTICAL RESULTS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010275003** Date Collected 1/7/2019 00:29 Matrix Water
Sample ID **WW64-UR5** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury	0.0037	ug/L	0.00050	0.00020	1	01/25/19 11:19	MPR 16422	01/25/19 13:00	MHG 6081	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.08	ng/L	0.05	0.020	1	01/29/19 13:44	MPR 16429	01/29/19 00:00	MHG 6084	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	3.4	ug/L	0.50	0.15	1	01/17/19 14:37	MPR 16391	01/23/19 05:46	MMS 9354	
Iron	0.42	mg/L	0.05	0.0050	1	01/17/19 14:37	MPR 16391	01/23/19 05:46	MMS 9354	
Lead	0.44	ug/L	0.25	0.060	1	01/17/19 14:37	MPR 16391	01/23/19 05:46	MMS 9354	
Zinc	22	ug/L	1.0	0.70	1	01/17/19 14:37	MPR 16391	01/23/19 05:46	MMS 9354	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	RLH	
Allethrin	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Bifenthrin	20	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Chlorpyrifos	J0.5	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Cyfluthrin	1.6	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Lambda-Cyhalothrin	1.3	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Cypermethrin	0.6	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Diazinon	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Deltamethrin:Tralomethrin	1.9	ng/L	1.0	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Esfenvalerate:Fenvalerate	J0.7	ng/L	1.0	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Fenpropathrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Fipronil	9.1	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Fipronil Desulfinyl	4.7	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Fipronil Sulfide	2.0	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Fipronil Sulfone	12	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Permethrin	ND	ng/L	10	2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Tetramethrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Esfenvalerate-d6 (SS)	85	%	26-130		1	01/08/19 00:00	SPR 8315	01/11/19 19:19	SMS 4725	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**		SM 4500-NH3 C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.2	mg/L	0.1	0.070	1			01/26/19 00:00	WAT 4868	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.23	mg/L	0.01	0.0070	1			01/15/19 11:54	WCO 14300	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.28	mg/L	0.1	0.070	1			01/14/19 16:10	WCO 14298	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	12	NTU	0.070	0.070	1			01/08/19 10:25	WET 9859	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	

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ANALYTICAL RESULTS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010275003** Date Collected 1/7/2019 00:29 Matrix Water
Sample ID **WW64-UR5** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Conductivity	130	umhos/cm	10	10	1			01/11/19 13:16	WET 9839	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	83	mg/L	10	4.0	1			01/10/19 15:31	WGR 7031	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	42	mg/L	5	1.7	1			01/16/19 00:00	WTI 3125	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	46	mg/L	10	1.2	1			01/11/19 15:20	WTI 3122	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:20	WTI 3122	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:20	WTI 3122	
Alkalinity, Total (as CACO3)	46	mg/L	10	1.2	1			01/11/19 15:20	WTI 3122	

Lab ID **U010275004** Date Collected 1/7/2019 00:29 Matrix Water
Sample ID **WW64-UR7** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	15	mg/L	3	2	1			01/09/19 10:19	BIO 20222	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	56	mg/L	50	20	1			01/08/19 11:30	BIO 20221	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	ACS	
Sediment Concentration	11	mg/L	3	2	1			01/11/19 09:50	BIO 20230	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	RJD	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	01/08/19 12:48	BOD 11540	01/13/19 12:30	BOD 11542	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	3.5	ug/L	0.50	0.15	1	01/17/19 14:37	MPR 16391	01/23/19 05:54	MMS 9354	
Iron	0.45	mg/L	0.05	0.0050	1	01/17/19 14:37	MPR 16391	01/23/19 05:54	MMS 9354	
Lead	0.45	ug/L	0.25	0.060	1	01/17/19 14:37	MPR 16391	01/23/19 05:54	MMS 9354	
Zinc	23	ug/L	1.0	0.70	1	01/17/19 14:37	MPR 16391	01/23/19 05:54	MMS 9354	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	RLH	
Allethrin	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Bifenthrin	21	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Chlorpyrifos	J0.6	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Cyfluthrin	1.3	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Lambda-Cyhalothrin	J0.2	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	

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ANALYTICAL RESULTS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010275004** Date Collected 1/7/2019 00:29 Matrix Water
Sample ID **WW64-UR7** Date Received 1/7/2019 18:57

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Cypermethrin	0.6	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Diazinon	ND	ng/L	0.5	0.1	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Deltamethrin:Tralomethrin	2.3	ng/L	1.0	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Esfenvalerate:Fenvalerate	J0.7	ng/L	1.0	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Fenpropathrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Fipronil	8.4	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Fipronil Desulfinyl	4.4	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Fipronil Sulfide	1.8	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Fipronil Sulfone	11	ng/L	1.0	0.5	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Permethrin	ND	ng/L	10	2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Tetramethrin	ND	ng/L	0.5	0.2	1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Esfenvalerate-d6 (SS)	84	%	26-130		1	01/08/19 00:00	SPR 8315	01/11/19 21:06	SMS 4725	
Nitrogen,Total Kjeldahl Analysis		**Analytical Method:**	SM 4500-NH3 C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.2	mg/L	0.1	0.070	1			01/26/19 00:00	WAT 4868	
Phosphorus Analysis, Low Level		**Analytical Method:**	SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.23	mg/L	0.01	0.0070	1			01/15/19 11:56	WCO 14300	
Nitrogen,Nitrate-Nitrite Analysis		**Analytical Method:**	EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.27	mg/L	0.1	0.070	1			01/14/19 16:13	WCO 14298	
Turbidity Analysis		**Analytical Method:**	EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	11	NTU	0.070	0.070	1			01/08/19 10:26	WET 9859	
Electrical Conductance Analysis		**Analytical Method:**	SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	130	umhos/cm	10	10	1			01/11/19 13:17	WET 9839	
Total Dissolved Solids Analysis		**Analytical Method:**	SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	88	mg/L	10	4.0	1			01/10/19 15:31	WGR 7031	
Hardness, as CACO3 by Titrimetric		**Analytical Method:**	SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	42	mg/L	5	1.7	1			01/16/19 00:00	WTI 3125	
Alkalinity, Total Analysis		**Analytical Method:**	SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	47	mg/L	10	1.2	1			01/11/19 15:28	WTI 3122	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:28	WTI 3122	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:28	WTI 3122	
Alkalinity, Total (as CACO3)	47	mg/L	10	1.2	1			01/11/19 15:28	WTI 3122	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Chemical Oxygen Demand Analysis	**QC Batch:**	BIO/20221
Analysis Method:	EPA 410.4-93 / SM 5220 D-11	**QC Batch Method:**	EPA 410.4-93 / SM 5220 D-11

METHOD BLANK: 863029

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chemical Oxygen Demand	ND	50	20	mg/L	

LABORATORY CONTROL SAMPLE: 863030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Chemical Oxygen Demand	mg/L	300	328	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863031 863032

Parameter	Units	T120014016 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	0	300	334	370	111	123	90-110	10	20	5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863033 863034

Parameter	Units	T120014017 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	0	300	341	340	114	113	90-110	0.3	20	5

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20222
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

METHOD BLANK: 863155

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Suspended Solids	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE: 863156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Suspended Solids	mg/L	500	466	93	80-120	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20222
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

SAMPLE DUPLICATE: 863157

Parameter	Units	U010254001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	980	990	1	20	30	20	

SAMPLE DUPLICATE: 863281

Parameter	Units	U010001008 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	1040	1140	9.2	20	30	20	

Analysis Description:	Suspended Sediment Concentration	**QC Batch:**	BIO/20230
Analysis Method:	ASTM D 3977-97 B-Filtration	**QC Batch Method:**	ASTM D 3977-97 B-Filtration

METHOD BLANK: 863803

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Sediment Concentration	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863804 863805

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Sediment Concentration	mg/L	500	478	430	96	86	80-120	11	20	

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11540
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

METHOD BLANK: 862991

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Biochemical Oxygen Demand	ND	5	5	mg/L	

LABORATORY CONTROL SAMPLE: 862992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Biochemical Oxygen Demand	mg/L	198	186	94	85-115	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11540
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

SAMPLE DUPLICATE: 862993

Parameter	Units	U010001007 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Biochemical Oxygen Demand	mg/L	319	293	8.5	30	50	50	

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16391
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 865347

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 865348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	17.6	88	85-115	
Iron	mg/L	10	9.12	91	85-115	
Lead	ug/L	20	20.4	102	85-115	
Zinc	ug/L	20	19.4	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 865350 865351

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	1.5	20	19.6	20.3	91	94	70-130	3.5	20	
Iron	mg/L	0.12	10	9.58	9.8	95	97	70-130	2.3	20	
Lead	ug/L	0.11	20	20.1	20.7	100	103	70-130	2.9	20	
Zinc	ug/L	1.6	20	20.3	20.3	94	94	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 865352 865353

Parameter	Units	U010338001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	11	20	30.4	30.2	97	96	70-130	0.7	20	
Iron	mg/L	0.64	10	10.2	10.3	96	97	70-130	1	20	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16391
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 865352 865353

Parameter	Units	U010338001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Lead	ug/L	0.34	20	20.5	20.4	101	100	70-130	0.5	20	
Zinc	ug/L	20	20	38.5	37.9	93	90	70-130	1.6	20	

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16422
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 867004

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 867005

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.0213	107	79-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 867007 867008

Parameter	Units	U010525001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.0027	0.02	0.0235	0.0236	104	105	71-125	0.4	24	

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16429
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

METHOD BLANK: 867530

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 867531

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	0.862	78	67-133	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16429
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 867533 867534

Parameter	Units	U010269001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0	1.1	0.96	0.996	86	90	65-135	3.7	35	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 867535 867536

Parameter	Units	U011131001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.03	1.1	0.945	0.934	82	81	65-135	1.2	35	

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8315
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 862949

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Allethrin	ND	0.5	0.1	ng/L	
Bifenthrin	ND	0.5	0.1	ng/L	
Chlorpyrifos	ND	1.0	0.5	ng/L	
Cyfluthrin	ND	0.5	0.2	ng/L	
Lambda-Cyhalothrin	ND	0.5	0.2	ng/L	
Cypermethrin	ND	0.5	0.2	ng/L	
Diazinon	ND	0.5	0.1	ng/L	
Deltamethrin:Tralomethrin	ND	1.0	0.2	ng/L	
Esfenvalerate:Fenvalerate	ND	1.0	0.2	ng/L	
Fenpropathrin	ND	0.5	0.2	ng/L	
Fipronil	ND	1.0	0.5	ng/L	
Fipronil Desulfinyl	ND	1.0	0.5	ng/L	
Fipronil Sulfide	ND	1.0	0.5	ng/L	
Fipronil Sulfone	J0.5	1.0	0.5	ng/L	4
Tau-Fluvalinate	ND	0.5	0.2	ng/L	
Permethrin	ND	10	2	ng/L	
Tetramethrin	ND	0.5	0.2	ng/L	
Esfenvalerate-d6 (SS)	113	34-130		%	

LABORATORY CONTROL SAMPLE & LCSD: 862950 862951

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Allethrin	ng/L	20	14.7	18.6	74	93	30-130	23	35	
Bifenthrin	ng/L	20	18.5	21.3	93	107	44-130	14	35	
Chlorpyrifos	ng/L	20	16	21.2	80	106	25-130	28	35	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8315
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

LABORATORY CONTROL SAMPLE & LCSD: 862950 862951

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Cyfluthrin	ng/L	20	19	22.7	95	114	43-141	18	30	
Lambda-Cyhalothrin	ng/L	20	20.2	25.2	101	126	24-130	22	38	
Cypermethrin	ng/L	20	19.6	23.1	98	116	42-130	16	30	
Diazinon	ng/L	20	15.6	20	78	100	24-130	25	35	
Deltamethrin:Tralomethrin	ng/L	40	43.4	43.6	109	109	3-150	0.5	30	
Esfenvalerate:Fenvalerate	ng/L	40	39.9	45.7	100	114	32-130	14	30	
Fenpropathrin	ng/L	20	17.8	22.6	89	113	27-185	24	57	
Tau-Fluvalinate	ng/L	20	20.8	22.7	104	114	18-130	8.7	30	
Permethrin	ng/L	100	96.9	106	97	106	40-135	9	30	
Tetramethrin	ng/L	20	16.3	19.7	82	99	29-130	19	30	
Esfenvalerate-d6 (SS)	%				100	112	34-130	12	30	

LABORATORY CONTROL SAMPLE & LCSD: 862950 862951

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Fipronil	ng/L	20	21	23.1	105	116	27-130	9.5	32	
Fipronil Desulfinyl	ng/L	20	19.8	20.5	99	103	25-130	3.5	35	
Fipronil Sulfide	ng/L	20	20.9	20.2	105	101	22-130	3.4	41	
Fipronil Sulfone	ng/L	20	20.1	20.4	101	102	14-130	1.5	32	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 862952 862953

Parameter	Units	U010259001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	23	19.2	115	96	21-130	18	30	1
Bifenthrin	ng/L	15	20	30.1	28.4	76	67	29-139	5.8	30	
Chlorpyrifos	ng/L	6.1	20	30.5	28.6	122	113	10-130	6.4	30	
Cyfluthrin	ng/L	0	20	18.6	19.2	93	96	44-130	3.2	30	
Lambda-Cyhalothrin	ng/L	0	20	16.5	16.2	83	81	12-141	1.8	30	
Cypermethrin	ng/L	3.5	20	19.9	18.9	82	77	39-130	5.2	30	
Diazinon	ng/L	0	20	17.6	19.5	88	98	3-151	10	46	
Deltamethrin:Tralomethrin	ng/L	0	40	32.2	32	81	80	11-130	0.6	30	
Esfenvalerate:Fenvalerate	ng/L	3.7	40	37.4	39.5	84	90	32-130	5.5	30	
Fenpropathrin	ng/L	0	20	19.6	21.5	98	108	20-168	9.2	31	
Fipronil	ng/L	6.4	20	23	23.4	83	85	7-142	1.7	30	
Fipronil Desulfinyl	ng/L	0	20	13	12.7	65	64	17-130	2.3	35	
Fipronil Sulfide	ng/L	0	20	13.2	11.8	66	59	3-130	11	32	
Fipronil Sulfone	ng/L	9.9	20	13.3	12.4	17	13	4-142	7	31	
Tau-Fluvalinate	ng/L	0	20	15.8	17.5	79	88	13-130	10	32	
Permethrin	ng/L	0	100	94.3	86.7	94	87	40-130	8.4	30	
Tetramethrin	ng/L	0	20	19.1	19	96	95	28-130	0.5	30	
Esfenvalerate-d6 (SS)	%					83	90	30-130	8.1	30	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8315
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863023 863024

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	18.6	17.2	92	85	21-130	7.8	30	
Bifenthrin	ng/L	0	20	20.7	20.1	102	99	29-139	2.9	30	
Chlorpyrifos	ng/L	0	20	22.8	21.9	113	108	10-130	4	30	
Cyfluthrin	ng/L	0	20	20.8	20.8	103	103	44-130	0	30	
Lambda-Cyhalothrin	ng/L	0	20	21.8	22.1	108	109	12-141	1.4	30	
Cypermethrin	ng/L	0	20	21.4	21	106	104	39-130	1.9	30	
Diazinon	ng/L	0	20	19.3	16	96	79	3-151	19	46	
Deltamethrin:Tralomethrin	ng/L	0	40	41.7	40.7	103	101	11-130	2.4	30	
Esfenvalerate:Fenvalerate	ng/L	0	40	44.1	42.2	109	104	32-130	4.4	30	
Fenpropathrin	ng/L	0	20	22.6	21.6	112	107	20-168	4.5	31	
Fipronil	ng/L			23.2	21.9				5.8	30	
Fipronil Desulfinyl	ng/L			20.6	21.6				4.7	35	
Fipronil Sulfide	ng/L			20.9	21.9				4.7	32	
Fipronil Sulfone	ng/L			22.7	30.2				28	31	
Tau-Fluvalinate	ng/L	0	20	21.5	20.6	106	102	13-130	4.3	32	
Permethrin	ng/L	0	100	105	104	104	103	40-130	1	30	
Tetramethrin	ng/L	0	20	18.8	19.2	93	95	28-130	2.1	30	
Esfenvalerate-d6 (SS)	%					109	103	30-130	5.6	30	

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4868
Analysis Method:	SM 4500-NH3 C-11	**QC Batch Method:**	SM 4500-NH3 C-11

METHOD BLANK: 866648

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Kjeldahl Nitrogen	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 866649 866650

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Kjeldahl Nitrogen	mg/L	10	10.2	10.2	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 867162 867163

Parameter	Units	U010338001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Kjeldahl Nitrogen	mg/L	29	10	39.6	40.1	106	111	54-154	1.3	20	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14298
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

METHOD BLANK: 864332

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Nitrogen, Nitrate-Nitrite	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE: 864333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Nitrogen, Nitrate-Nitrite	mg/L	1	1.03	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864334 864335

Parameter	Units	U010143001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0	1	1.06	1.02	106	102	90-110	3.8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864336 864337

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	28	20	47	47.5	95	98	90-110	1.1	20	

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14300
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

METHOD BLANK: 864456

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Phosphorus as P	ND	0.01	0.007	mg/L	

LABORATORY CONTROL SAMPLE: 864457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Phosphorus as P	mg/L	1	1	100	90-110	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14300
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864458 864459

Parameter	Units	864907 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Phosphorus as P	mg/L	0.37	1	1.36	1.37	99	100	90-110	0.7	20	

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9839
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

METHOD BLANK: 863881

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Conductivity	ND	10	10	umhos/c	

LABORATORY CONTROL SAMPLE: 863882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Conductivity	umhos/c	1400	1420	100	80-120	

SAMPLE DUPLICATE: 863883

Parameter	Units	U010204001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Conductivity	umhos/c	2900	2900	0	20	10	10	

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9859
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

METHOD BLANK: 864950

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Turbidity	ND	0.070	0.07	NTU	

LABORATORY CONTROL SAMPLE: 864951

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Turbidity	NTU	4	4.38	110	90-110	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9859
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

SAMPLE DUPLICATE: 864952

Parameter	Units	U010276001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	7.2	7.01	3.1	20	0.070	.07	

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/7031
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

METHOD BLANK: 863653

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Dissolved Solids	ND	10	4	mg/L	

LABORATORY CONTROL SAMPLE: 863654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Dissolved Solids	mg/L	500	488	98	80-120	

SAMPLE DUPLICATE: 863655

Parameter	Units	U010299001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	850	853	0.4	20	10	4	

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3122
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

METHOD BLANK: 863892

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Bicarbonate (as CACO3)	ND	10	1.2	mg/L	
Carbonate (as CACO3)	ND	10	1.2	mg/L	
Hydroxide (as CACO3)	ND	10	1.2	mg/L	
Alkalinity, Total (as CACO3)	ND	10	1.2	mg/L	

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QUALITY CONTROL DATA

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3122
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

LABORATORY CONTROL SAMPLE: 863893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Bicarbonate (as CACO3)	mg/L	100	96	96	80-120	
Alkalinity, Total (as CACO3)	mg/L	100	96	96	80-120	

SAMPLE DUPLICATE: 863894

Parameter	Units	U010080001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	119	120	0.8	20	10	1.2	
Carbonate (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	119	120	0.8	20	10	1.2	

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3125
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

METHOD BLANK: 865926

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Hardness (as CACO3)	ND	5	1.7	mg/L	

LABORATORY CONTROL SAMPLE: 865927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Hardness (as CACO3)	mg/L	100	100	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 865928 865929

Parameter	Units	U010259001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	20	90	109	109	99	99	80-120	0	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1	Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in higher reporting limit(s).
4	Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.
5	High Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U010275001	**WW64-UR2S**	EPA 410.4-93 / SM 5220	BIO/20221		
U010275003	**WW64-UR5**	EPA 410.4-93 / SM 5220	BIO/20221		
U010275004	**WW64-UR7**	EPA 410.4-93 / SM 5220	BIO/20221		
U010275001	**WW64-UR2S**	SM 2540 D-11	BIO/20222		
U010275003	**WW64-UR5**	SM 2540 D-11	BIO/20222		
U010275004	**WW64-UR7**	SM 2540 D-11	BIO/20222		
U010275001	**WW64-UR2S**	ASTM D 3977-97	BIO/20230		
U010275003	**WW64-UR5**	ASTM D 3977-97	BIO/20230		
U010275004	**WW64-UR7**	ASTM D 3977-97	BIO/20230		
U010275001	**WW64-UR2S**	SM 5210 B-11	BOD/11540	SM 5210 B-11	BOD/11542
U010275003	**WW64-UR5**	SM 5210 B-11	BOD/11540	SM 5210 B-11	BOD/11542
U010275004	**WW64-UR7**	SM 5210 B-11	BOD/11540	SM 5210 B-11	BOD/11542
U010275001	**WW64-UR2S**	EPA 1631E	MPR/16422	EPA 1631E	MHG/6081
U010275002	**WW64-UR6**	EPA 1631E	MPR/16422	EPA 1631E	MHG/6081
U010275003	**WW64-UR5**	EPA 1631E	MPR/16422	EPA 1631E	MHG/6081
U010275001	**WW64-UR2S**	EPA 1630	MPR/16429	EPA 1630	MHG/6084
U010275002	**WW64-UR6**	EPA 1630	MPR/16429	EPA 1630	MHG/6084
U010275003	**WW64-UR5**	EPA 1630	MPR/16429	EPA 1630	MHG/6084
U010275001	**WW64-UR2S**	EPA 200.8	MPR/16391	EPA 200.8	MMS/9354
U010275002	**WW64-UR6**	EPA 200.8	MPR/16391	EPA 200.8	MMS/9354
U010275003	**WW64-UR5**	EPA 200.8	MPR/16391	EPA 200.8	MMS/9354
U010275004	**WW64-UR7**	EPA 200.8	MPR/16391	EPA 200.8	MMS/9354
U010275001	**WW64-UR2S**	SW846 3510C	SPR/8315	EPA 8270M_NCI	SMS/4725
U010275002	**WW64-UR6**	SW846 3510C	SPR/8315	EPA 8270M_NCI	SMS/4725
U010275003	**WW64-UR5**	SW846 3510C	SPR/8315	EPA 8270M_NCI	SMS/4725
U010275004	**WW64-UR7**	SW846 3510C	SPR/8315	EPA 8270M_NCI	SMS/4725
U010275001	**WW64-UR2S**	SM 4500-NH3 C-11	WAT/4868		
U010275003	**WW64-UR5**	SM 4500-NH3 C-11	WAT/4868		
U010275004	**WW64-UR7**	SM 4500-NH3 C-11	WAT/4868		
U010275001	**WW64-UR2S**	EPA353.2-93/SM4500-N	WCO/14298		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U010275
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U010275003	**WW64-UR5**	EPA353.2-93/SM4500-N	WCO/14298		
U010275004	**WW64-UR7**	EPA353.2-93/SM4500-N	WCO/14298		
U010275001	**WW64-UR2S**	SM 4500-P B/F-11 (LL)	WCO/14300		
U010275003	**WW64-UR5**	SM 4500-P B/F-11 (LL)	WCO/14300		
U010275004	**WW64-UR7**	SM 4500-P B/F-11 (LL)	WCO/14300		
U010275001	**WW64-UR2S**	SM 2510 B-97/-11	WET/9839		
U010275003	**WW64-UR5**	SM 2510 B-97/-11	WET/9839		
U010275004	**WW64-UR7**	SM 2510 B-97/-11	WET/9839		
U010275001	**WW64-UR2S**	EPA 180.1-93	WET/9859		
U010275003	**WW64-UR5**	EPA 180.1-93	WET/9859		
U010275004	**WW64-UR7**	EPA 180.1-93	WET/9859		
U010275001	**WW64-UR2S**	SM 2540 C-97/-11	WGR/7031		
U010275003	**WW64-UR5**	SM 2540 C-97/-11	WGR/7031		
U010275004	**WW64-UR7**	SM 2540 C-97/-11	WGR/7031		
U010275001	**WW64-UR2S**	SM 2320 B-97/-11	WTI/3122		
U010275003	**WW64-UR5**	SM 2320 B-97/-11	WTI/3122		
U010275004	**WW64-UR7**	SM 2320 B-97/-11	WTI/3122		
U010275001	**WW64-UR2S**	SM 2340 C-97/-11	WTI/3125		
U010275002	**WW64-UR6**	SM 2340 C-97/-11	WTI/3125		
U010275003	**WW64-UR5**	SM 2340 C-97/-11	WTI/3125		
U010275004	**WW64-UR7**	SM 2340 C-97/-11	WTI/3125		

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

Date: Lab ID: 410275

CHAIN-OF-CUSTODY RECORD

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

TEMP. (°C): 2.3
SEALED: Y
INTACT: Y

Sampled By:
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorypriffos, Diazinon, Fipronil)			Notes
~~WW64-UR3~~	~~CONV~~			~~Water~~	~~1~~	~~1000 mL PE~~	~~none~~	X	X	X	X	X	X											
~~WW64-UR3~~	~~MTL_T~~			~~Water~~	~~1~~	~~500 mL PE~~	~~HNO3~~												X	X				MSD
~~WW64-UR3~~	~~NUTR_01~~			~~Water~~	~~2~~	~~500 mL PE~~	~~H2SO4~~							X	X	X	X							
~~WW64-UR3~~	~~PYRETH~~			~~Water~~	~~3~~	~~1L AG~~	~~none~~														X			MSD
~~WW64-UR3~~	~~SSC~~			~~Water~~	~~1~~	~~250 mL PE~~	~~none~~											X						
WW64-UR2S	CONV	1-7-19	01:32	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW64-UR2S	MTL_T	1-7-19	01:32	Water	1	500 mL PE	HNO3												X	X				
WW64-UR2S	NUTR_01	1-7-19	01:32	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW64-UR2S	PYRETH	1-7-19	01:32	Water	2	1L AG	none														X			
WW64-UR2S	SSC	1-7-19	01:32	Water	1	250 mL PE	none											X						
WW64-UR6	MTL_T	1-7-19	07:30	Water	1	500 mL PE	HNO3												X	X				

-1
-2

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:

Relinquished By (1):
Signature:
Print: Alison Briden
Organization: PER
Date: 1-7-19 Time: 1607

Received By (2):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 1-7-19 Time: 1607

Relinquished By (1):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 1-7-19 Time: 1857

Received By (2):
Signature:
Print: L Gaeta
Organization: Caltest
Date: 1/7/19 Time: 1857

Crew: PER

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date:

Lab ID: U010275

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

	Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	Notes
	~~WW64-UR3~~	~~Hg_Meth~~			~~Water~~	~~1~~	~~500mL AG~~	~~HCl~~	X		
	~~WW64-UR3~~	~~Hg_T~~			~~Water~~	1	500mL CG	HCl		X	
-1	WW64-UR2S	Hg_Meth	1-7-19	01:32	Water	1	500mL AG	HCl	X		
↓	WW64-UR2S	Hg_T	1-7-19	01:32	Water	1	500mL CG	HCl		X	
-2	WW64-UR6	Hg_Meth	1-7-19	07:30	Water	1	500mL AG	HCl	X		
↓	WW64-UR6	Hg_T	1-7-19	07:30	Water	1	500mL CG	HCl		X	
-3	WW64-UR5	Hg_Meth	1-7-19	00:29	Water	1	500mL AG	HCl	X		
↓	WW64-UR5	Hg_T	1-7-19	00:29	Water	1	500mL CG	HCl		X	

TEMP. (°C): 2.3
SEALED: X
INTACT: X

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:

Relinquished By (1):
Signature: Alison Brid
Print: Alison Briden
Organization: PER
Date: 1-7-19 Time: 1607

Received By (2):
Signature: Matthew Kerr
Print: Matthew Kerr
Organization: Caltest
Date: 1-8-19 Time: 1607

Relinquished By (1):
Signature: Matthew Kerr
Print: Matthew Kerr
Organization: Caltest
Date: 1-7-19 Time: 1857

Received By (2):
Signature: L. Gaeta
Print: L. Gaeta
Organization: Caltest
Date: 1/7/19 Time: 1857

Crew: PER

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

Date: Lab ID: 4010275

CHAIN-OF-CUSTODY RECORD

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

TEMP. (°C): 2.3
SEALED: Y
INTACT: Y

Sampled By:
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
WW64-UR6	PYRETH	1-7-19	07:30	Water	2	1L AG	none														X			
WW64-UR5	CONV	1-7-19	00:29	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW64-UR5	MTL_T	1-7-19	00:29	Water	1	500 mL PE	HNO3												X	X				
WW64-UR5	NUTR_01	1-7-19	00:29	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW64-UR5	PYRETH	1-7-19	00:29	Water	2	1L AG	none														X			
WW64-UR5	SSC	1-7-19	00:29	Water	1	250 mL PE	none											X						
WW64-UR7	CONV	1-7-19	00:29	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW64-UR7	MTL_T	1-7-19	00:29	Water	1	500 mL PE	HNO3												X	X				
WW64-UR7	NUTR_01	1-7-19	00:29	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW64-UR7	PYRETH	1-7-19	00:29	Water	2	1L AG	none														X			
WW64-UR7	SSC	1-7-19	00:29	Water	1	250 mL PE	none											X						

-2
-3
-4

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:

Relinquished By (1):
Signature: Alison Briden
Print: Alison Briden
Organization: PER
Date: 1-7-19 Time: 1607

Received By (2):
Signature: Matthew Kerr
Print: Matthew Kerr
Organization: Caltest
Date: 1-7-19 Time: 1607

Relinquished By (1):
Signature: Matthew Kerr
Print: Matthew Kerr
Organization: Caltest
Date: 1-7-19 Time: 1857

Received By (2):
Signature: L Gaeta
Print: L Gaeta
Organization: Caltest
Date: 1/7/19 Time: 1857

Crew: PER

Caltest ANALYTICAL LABORATORY

ENVIRONMENTAL ANALYSES

Thursday, January 31, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U010259 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, January 07, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY

ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U010259001	**WW64-UR3**	Water	01/05/2019 22:38	01/07/2019 14:36

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NARRATIVE

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1	Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in higher reporting limit(s).
2	This analysis is not covered under Caltest's NELAP/CAL-ELAP Accreditations.

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ANALYTICAL RESULTS

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010259001** Date Collected 1/5/2019 22:38 Matrix Water
Sample ID **WW64-UR3** Date Received 1/7/2019 14:36

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	37	mg/L	3	2	1			01/08/19 10:57	BIO 20215	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	RJD	
Chemical Oxygen Demand	153	mg/L	50	20	1			01/07/19 14:40	BIO 20214	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	ACS	
Sediment Concentration	41	mg/L	3	2	1			01/11/19 09:50	BIO 20230	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	RJD	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	DJC	
Biochemical Oxygen Demand	16	mg/L	5	5	1	01/07/19 14:45	BOD 11539	01/12/19 11:28	BOD 11541	
Mercury Analysis, Trace Level	**Prep Method:**	EPA 1631E						**Prep by:**	UKS	
	Analytical Method:	EPA 1631E						**Analyzed by:**	UKS	
Mercury	0.014	ug/L	0.00050	0.00020	1	01/08/19 18:07	MPR 16370	01/09/19 16:21	MHG 6062	
Methyl Mercury Analysis	**Prep Method:**	EPA 1630						**Prep by:**	UKS	
	Analytical Method:	EPA 1630						**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.15	ng/L	0.05	0.020	1	01/29/19 13:44	MPR 16429	01/29/19 00:00	MHG 6084	
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	UKS	
	Analytical Method:	EPA 200.8						**Analyzed by:**	LM	
Copper	16	ug/L	0.50	0.15	1	01/16/19 12:00	MPR 16387	01/18/19 19:42	MMS 9352	
Iron	1.0	mg/L	0.05	0.0050	1	01/16/19 12:00	MPR 16387	01/18/19 19:42	MMS 9352	
Lead	5.3	ug/L	0.25	0.060	1	01/16/19 12:00	MPR 16387	01/18/19 19:42	MMS 9352	
Zinc	120	ug/L	1.0	0.70	1	01/16/19 12:00	MPR 16387	01/18/19 19:42	MMS 9352	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	MDW	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	RLH	
Allethrin	ND	ng/L	5.0	1	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	1
Bifenthrin	15	ng/L	5.0	1	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Chlorpyrifos	J6.1	ng/L	10	5	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Cyfluthrin	ND	ng/L	5.0	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Lambda-Cyhalothrin	ND	ng/L	5.0	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Cypermethrin	J3.5	ng/L	5.0	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Diazinon	ND	ng/L	5.0	1	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Deltamethrin:Tralomethrin	ND	ng/L	10	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Esfenvalerate:Fenvalerate	J3.7	ng/L	10	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Fenpropathrin	ND	ng/L	5.0	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Fipronil	J6.4	ng/L	10	5	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Fipronil Desulfinyl	ND	ng/L	10	5	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Fipronil Sulfide	ND	ng/L	10	5	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Fipronil Sulfone	J9.9	ng/L	10	5	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Tau-Fluvalinate	ND	ng/L	5.0	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Permethrin	ND	ng/L	50	20	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U010259001** Date Collected 1/5/2019 22:38 Matrix Water
Sample ID **WW64-UR3** Date Received 1/7/2019 14:36

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Tetramethrin	ND	ng/L	5.0	2	10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Esfenvalerate-d6 (SS)	79	%	26-130		10	01/08/19 00:00	SPR 8315	01/24/19 04:53	SMS 4725	
Nitrogen,Total Kjeldahl Analysis		**Analytical Method:**	SM 4500-NH3 C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	2.4	mg/L	0.1	0.070	1			01/25/19 00:00	WAT 4867	
Phosphorus Analysis, Low Level		**Analytical Method:**	SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.37	mg/L	0.01	0.0070	1			01/15/19 11:51	WCO 14300	
Nitrogen,Nitrate-Nitrite Analysis		**Analytical Method:**	EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.51	mg/L	0.1	0.070	1			01/14/19 16:06	WCO 14298	
Turbidity Analysis		**Analytical Method:**	EPA 180.1-93					**Analyzed by:**	MYS	
Turbidity	37	NTU	0.070	0.070	1			01/07/19 19:04	WET 9858	
Electrical Conductance Analysis		**Analytical Method:**	SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	66	umhos/cm	10	10	1			01/11/19 13:13	WET 9839	
Total Dissolved Solids Analysis		**Analytical Method:**	SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	38	mg/L	10	4.0	1			01/09/19 15:03	WGR 7030	
Hardness, as CACO3 by Titrimetric		**Analytical Method:**	SM 2340 C-97/-11					**Analyzed by:**	DR	
Hardness (as CACO3)	20	mg/L	5	1.7	1			01/16/19 00:00	WTI 3125	
Alkalinity, Total Analysis		**Analytical Method:**	SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	15	mg/L	10	1.2	1			01/11/19 15:05	WTI 3122	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:05	WTI 3122	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			01/11/19 15:05	WTI 3122	
Alkalinity, Total (as CACO3)	15	mg/L	10	1.2	1			01/11/19 15:05	WTI 3122	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Chemical Oxygen Demand Analysis	**QC Batch:**	BIO/20214
Analysis Method:	EPA 410.4-93 / SM 5220 D-11	**QC Batch Method:**	EPA 410.4-93 / SM 5220 D-11

METHOD BLANK: 862835

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chemical Oxygen Demand	ND	50	20	mg/L	

LABORATORY CONTROL SAMPLE: 862836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Chemical Oxygen Demand	mg/L	300	322	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 862837 862838

Parameter	Units	U010029004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	31	300	357	361	109	110	90-110	1.1	20	

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20215
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

METHOD BLANK: 862911

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Suspended Solids	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE: 862912

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Suspended Solids	mg/L	500	516	103	80-120	

SAMPLE DUPLICATE: 862954

Parameter	Units	U010227003 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	1420	1570	10	20	12	8	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20215
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

SAMPLE DUPLICATE: 863010

Parameter	Units	U010001007 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	940	1020	8.2	20	30	20	

Analysis Description:	Suspended Sediment Concentration	**QC Batch:**	BIO/20230
Analysis Method:	ASTM D 3977-97 B-Filtration	**QC Batch Method:**	ASTM D 3977-97 B-Filtration

METHOD BLANK: 863803

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Sediment Concentration	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 863804 863805

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Sediment Concentration	mg/L	500	478	430	96	86	80-120	11	20	

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11539
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

METHOD BLANK: 862794

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Biochemical Oxygen Demand	ND	5	5	mg/L	

LABORATORY CONTROL SAMPLE: 862795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Biochemical Oxygen Demand	mg/L	198	174	88	85-115	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11539
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

SAMPLE DUPLICATE: 862796

Parameter	Units	U010001006 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Biochemical Oxygen Demand	mg/L	1070	1050	1.9	30	50	50	

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16370
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 863048

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 863049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.0204	102	79-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 863055 863056

Parameter	Units	U010091003 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.0015	0.02	0.0218	0.0223	102	104	71-125	2.3	24	

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16387
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 864857

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16387
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

LABORATORY CONTROL SAMPLE: 864858

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	19.2	96	85-115	
Iron	mg/L	10	9.24	92	85-115	
Lead	ug/L	20	19.6	98	85-115	
Zinc	ug/L	20	19.1	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864860 864861

Parameter	Units	U010251001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	3	20	21.8	21.5	94	93	70-130	1.4	20	
Iron	mg/L	0.3	10	9.32	9.47	90	92	70-130	1.6	20	
Lead	ug/L	0.2	20	18.4	18.7	91	93	70-130	1.6	20	
Zinc	ug/L	19	20	36.9	36.9	90	90	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864862 864863

Parameter	Units	U010259001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	16	20	35.4	35.5	97	98	70-130	0.3	20	
Iron	mg/L	1	10	10.4	10.4	94	94	70-130	0	20	
Lead	ug/L	5.3	20	24.4	24.3	96	95	70-130	0.4	20	
Zinc	ug/L	120	20	142	143	110	115	70-130	0.7	20	

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16429
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

METHOD BLANK: 867530

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 867531

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	0.862	78	67-133	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16429
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 867533 867534

Parameter	Units	U010269001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0	1.1	0.96	0.996	86	90	65-135	3.7	35	

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8315
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 862949

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Allethrin	ND	0.5	0.1	ng/L	
Bifenthrin	ND	0.5	0.1	ng/L	
Chlorpyrifos	ND	1.0	0.5	ng/L	
Cyfluthrin	ND	0.5	0.2	ng/L	
Lambda-Cyhalothrin	ND	0.5	0.2	ng/L	
Cypermethrin	ND	0.5	0.2	ng/L	
Diazinon	ND	0.5	0.1	ng/L	
Deltamethrin:Tralomethrin	ND	1.0	0.2	ng/L	
Esfenvalerate:Fenvalerate	ND	1.0	0.2	ng/L	
Fenpropathrin	ND	0.5	0.2	ng/L	
Fipronil	ND	1.0	0.5	ng/L	
Fipronil Desulfinyl	ND	1.0	0.5	ng/L	
Fipronil Sulfide	ND	1.0	0.5	ng/L	
Fipronil Sulfone	J0.5	1.0	0.5	ng/L	3
Tau-Fluvalinate	ND	0.5	0.2	ng/L	
Permethrin	ND	10	2	ng/L	
Tetramethrin	ND	0.5	0.2	ng/L	
Esfenvalerate-d6 (SS)	113	34-130		%	

LABORATORY CONTROL SAMPLE & LCSD: 862950 862951

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Allethrin	ng/L	20	14.7	18.6	74	93	30-130	23	35	
Bifenthrin	ng/L	20	18.5	21.3	93	107	44-130	14	35	
Chlorpyrifos	ng/L	20	16	21.2	80	106	25-130	28	35	
Cyfluthrin	ng/L	20	19	22.7	95	114	43-141	18	30	
Lambda-Cyhalothrin	ng/L	20	20.2	25.2	101	126	24-130	22	38	
Cypermethrin	ng/L	20	19.6	23.1	98	116	42-130	16	30	
Diazinon	ng/L	20	15.6	20	78	100	24-130	25	35	
Deltamethrin:Tralomethrin	ng/L	40	43.4	43.6	109	109	3-150	0.5	30	
Esfenvalerate:Fenvalerate	ng/L	40	39.9	45.7	100	114	32-130	14	30	
Fenpropathrin	ng/L	20	17.8	22.6	89	113	27-185	24	57	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8315
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

LABORATORY CONTROL SAMPLE & LCSD: 862950 862951

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Tau-Fluvalinate	ng/L	20	20.8	22.7	104	114	18-130	8.7	30	
Permethrin	ng/L	100	96.9	106	97	106	40-135	9	30	
Tetramethrin	ng/L	20	16.3	19.7	82	99	29-130	19	30	
Esfenvalerate-d6 (SS)	%				100	112	34-130	12	30	

LABORATORY CONTROL SAMPLE & LCSD: 862950 862951

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Fipronil	ng/L	20	21	23.1	105	116	27-130	9.5	32	
Fipronil Desulfinyl	ng/L	20	19.8	20.5	99	103	25-130	3.5	35	
Fipronil Sulfide	ng/L	20	20.9	20.2	105	101	22-130	3.4	41	
Fipronil Sulfone	ng/L	20	20.1	20.4	101	102	14-130	1.5	32	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 862952 862953

Parameter	Units	U010259001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	23	19.2	115	96	21-130	18	30	1
Bifenthrin	ng/L	15	20	30.1	28.4	76	67	29-139	5.8	30	
Chlorpyrifos	ng/L	6.1	20	30.5	28.6	122	113	10-130	6.4	30	
Cyfluthrin	ng/L	0	20	18.6	19.2	93	96	44-130	3.2	30	
Lambda-Cyhalothrin	ng/L	0	20	16.5	16.2	83	81	12-141	1.8	30	
Cypermethrin	ng/L	3.5	20	19.9	18.9	82	77	39-130	5.2	30	
Diazinon	ng/L	0	20	17.6	19.5	88	98	3-151	10	46	
Deltamethrin:Tralomethrin	ng/L	0	40	32.2	32	81	80	11-130	0.6	30	
Esfenvalerate:Fenvalerate	ng/L	3.7	40	37.4	39.5	84	90	32-130	5.5	30	
Fenpropathrin	ng/L	0	20	19.6	21.5	98	108	20-168	9.2	31	
Fipronil	ng/L	6.4	20	23	23.4	83	85	7-142	1.7	30	
Fipronil Desulfinyl	ng/L	0	20	13	12.7	65	64	17-130	2.3	35	
Fipronil Sulfide	ng/L	0	20	13.2	11.8	66	59	3-130	11	32	
Fipronil Sulfone	ng/L	9.9	20	13.3	12.4	17	13	4-142	7	31	
Tau-Fluvalinate	ng/L	0	20	15.8	17.5	79	88	13-130	10	32	
Permethrin	ng/L	0	100	94.3	86.7	94	87	40-130	8.4	30	
Tetramethrin	ng/L	0	20	19.1	19	96	95	28-130	0.5	30	
Esfenvalerate-d6 (SS)	%					83	90	30-130	8.1	30	

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4867
Analysis Method:	SM 4500-NH3 C-11	**QC Batch Method:**	SM 4500-NH3 C-11

METHOD BLANK: 866586

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4867
Analysis Method:	SM 4500-NH3 C-11	**QC Batch Method:**	SM 4500-NH3 C-11

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Kjeldahl Nitrogen	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 866587 866589

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Kjeldahl Nitrogen	mg/L	10	10.3	10.8	103	108	90-110	4.7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 867113 867114

Parameter	Units	U010238001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Kjeldahl Nitrogen	mg/L	21	10	33.1	33.8	121	128	54-154	2.1	20	

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14298
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

METHOD BLANK: 864332

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Nitrogen, Nitrate-Nitrite	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE: 864333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Nitrogen, Nitrate-Nitrite	mg/L	1	1.03	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864334 864335

Parameter	Units	U010143001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0	1	1.06	1.02	106	102	90-110	3.8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864336 864337

Parameter	Units	U010276001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	28	20	47	47.5	95	98	90-110	1.1	20	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14298
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14300
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

METHOD BLANK: 864456

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Phosphorus as P	ND	0.01	0.007	mg/L	

LABORATORY CONTROL SAMPLE: 864457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Phosphorus as P	mg/L	1	1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 864458 864459

Parameter	Units	864907 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Phosphorus as P	mg/L	0.37	1	1.36	1.37	99	100	90-110	0.7	20	

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9839
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

METHOD BLANK: 863881

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Conductivity	ND	10	10	umhos/c	

LABORATORY CONTROL SAMPLE: 863882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Conductivity	umhos/c	1400	1420	100	80-120	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9839
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

SAMPLE DUPLICATE: 863883

Parameter	Units	U010204001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Conductivity	umhos/c	2900	2900	0	20	10	10	

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9858
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

METHOD BLANK: 864944

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Turbidity	ND	0.070	0.07	NTU	

LABORATORY CONTROL SAMPLE: 864945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Turbidity	NTU	4	4.4	110	90-110	

SAMPLE DUPLICATE: 864946

Parameter	Units	U010233001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	6.6	6.6	0.5	20	0.070	.07	

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/7030
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

METHOD BLANK: 863312

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Dissolved Solids	ND	10	4	mg/L	

LABORATORY CONTROL SAMPLE: 863313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Dissolved Solids	mg/L	500	474	95	80-120	

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/7030
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

SAMPLE DUPLICATE: 863316

Parameter	Units	U010204001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	1500	1590	5.8	20	20	10	

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3122
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

METHOD BLANK: 863892

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Bicarbonate (as CACO3)	ND	10	1.2	mg/L	
Carbonate (as CACO3)	ND	10	1.2	mg/L	
Hydroxide (as CACO3)	ND	10	1.2	mg/L	
Alkalinity, Total (as CACO3)	ND	10	1.2	mg/L	

LABORATORY CONTROL SAMPLE: 863893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Bicarbonate (as CACO3)	mg/L	100	96	96	80-120	
Alkalinity, Total (as CACO3)	mg/L	100	96	96	80-120	

SAMPLE DUPLICATE: 863894

Parameter	Units	U010080001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	119	120	0.8	20	10	1.2	
Carbonate (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	119	120	0.8	20	10	1.2	

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3125
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

METHOD BLANK: 865926

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QUALITY CONTROL DATA

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3125
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Hardness (as CACO3)	ND	5	1.7	mg/L	

LABORATORY CONTROL SAMPLE: 865927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Hardness (as CACO3)	mg/L	100	100	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 865928 865929

Parameter	Units	U010259001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	20	90	109	109	99	99	80-120	0	20	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA QUALIFIERS

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1	Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in higher reporting limit(s).
3	Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U010259
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U010259001	**WW64-UR3**	EPA 410.4-93 / SM 5220	BIO/20214		
U010259001	**WW64-UR3**	SM 2540 D-11	BIO/20215		
U010259001	**WW64-UR3**	ASTM D 3977-97	BIO/20230		
U010259001	**WW64-UR3**	SM 5210 B-11	BOD/11539	SM 5210 B-11	BOD/11541
U010259001	**WW64-UR3**	EPA 1631E	MPR/16370	EPA 1631E	MHG/6062
U010259001	**WW64-UR3**	EPA 1630	MPR/16429	EPA 1630	MHG/6084
U010259001	**WW64-UR3**	EPA 200.8	MPR/16387	EPA 200.8	MMS/9352
U010259001	**WW64-UR3**	SW846 3510C	SPR/8315	EPA 8270M_NCI	SMS/4725
U010259001	**WW64-UR3**	SM 4500-NH3 C-11	WAT/4867		
U010259001	**WW64-UR3**	EPA353.2-93/SM4500-N	WCO/14298		
U010259001	**WW64-UR3**	SM 4500-P B/F-11 (LL)	WCO/14300		
U010259001	**WW64-UR3**	SM 2510 B-97/-11	WET/9839		
U010259001	**WW64-UR3**	EPA 180.1-93	WET/9858		
U010259001	**WW64-UR3**	SM 2540 C-97/-11	WGR/7030		
U010259001	**WW64-UR3**	SM 2320 B-97/-11	WTI/3122		
U010259001	**WW64-UR3**	SM 2340 C-97/-11	WTI/3125		

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

TEMP. (°C): 1.6
SEALED: Y
INTACT: Y Date:

1 of 2

Lab ID: 401259

CHAIN-OF-CUSTODY RECORD

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorypriros, Diazinon, Fipronil)		Notes
WW64-UR3	CONV	1-5-19	22:38	Water	1	1000 mL PE	none	X	X	X	X	X	X										
WW64-UR3	MTL_T	1-5-19	22:38	Water	1	500 mL PE	HNO3												X	X			MSD
WW64-UR3	NUTR_01	1-5-19	22:38	Water	2	500 mL PE	H2SO4							X	X	X	X						
WW64-UR3	PYRETH	1-5-19	22:38	Water	3	1L AG	none														X		MSD
WW64-UR3	SSC	1-5-19	22:38	Water	1	250 mL PE	none											X					
~~WW64-UR2S~~	~~CONV~~			~~Water~~	~~1~~	~~1000 mL PE~~	~~none~~	X	X	X	X	X	X										
~~WW64-UR2S~~	~~MTL_T~~			~~Water~~	~~1~~	~~500 mL PE~~	~~HNO3~~												X	X			
~~WW64-UR2S~~	~~NUTR_01~~			~~Water~~	~~2~~	~~500 mL PE~~	~~H2SO4~~							X	X	X	X						
~~WW64-UR2S~~	~~PYRETH~~			~~Water~~	2	1L AG	none														X		
~~WW64-UR2S~~	~~SSC~~			~~Water~~	~~1~~	~~250 mL PE~~	~~none~~											X					
~~WW64-UR6~~	~~MTL_T~~			~~Water~~	~~1~~	~~500 mL PE~~	~~HNO3~~												X	X			

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Alison Briden
Organization: PER
Date: 1-7-19 Time: 1407

Received By (2):
Matthew Kerr
Caltest
Date: 1-7-19 Time: 1407

Laboratory Comments:

Relinquished By (1):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 1-7-19 Time: 1436

Received By (2):
Date: Time:

Crew: PER

2 of 2

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

Date:

Lab ID: 4017259

CHAIN-OF-CUSTODY RECORD

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	Notes
WW64-UR3	Hg_Meth	1-5-19	22:38	Water	1	500mL AG	HCl	X		
WW64-UR3	Hg_T	1-5-19	22:38	Water	1	500mL CG	HCl		X	
~~WW64-UR2S~~	~~Hg_Meth~~			~~Water~~	~~1~~	~~500mL AG~~	~~HCl~~	~~X~~		
~~WW64-UR2S~~	~~Hg_T~~			~~Water~~	~~1~~	~~500mL CG~~	~~HCl~~		~~X~~	
~~WW64-UR6~~	~~Hg_Meth~~			~~Water~~	~~1~~	~~500mL AG~~	~~HCl~~	~~X~~		
~~WW64-UR6~~	~~Hg_T~~			~~Water~~	~~1~~	~~500mL CG~~	~~HCl~~		~~X~~	
~~WW64-UR5~~	~~Hg_Meth~~			~~Water~~	~~1~~	~~500mL AG~~	~~HCl~~	~~X~~		
~~WW64-UR5~~	~~Hg_T~~			~~Water~~	~~1~~	~~500mL CG~~	~~HCl~~		~~X~~	

TEMP. (°C): 1.6
SEALED: Y
INTACT: Y

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Alison Briden
Organization: PER
Date: 1-7-19 Time: 1407

Received By (2):
Matthew Kaf
Caltest
Date: 1-7-19 Time: 1407

Laboratory Comments:

Relinquished By (1):
Signature:
Print: Matthew Kaf
Organization: Caltest
Date: 1-7-19 Time: 1433

Received By (2):
Date: Time:

Crew: PER

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February 15, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave
Suite 100
Davis, CA 95618

Project Name: SSQP Urban Runoff Discharge Monitoring
Physis Project ID: 1204008-037

Dear Steve,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 1/8/2019. A total of 5 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Organophosphorus Pesticides by EPA 625

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

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PROJECT SAMPLE LIST

Larry Walker Associates — PHYSIS Project ID: 1204008-037

SSQP Urban Runoff Discharge Monitoring — Total Samples: 5

PHYSIS ID	Sample ID	Description	Date	Time	Matrix
60794	WW64-UR3		1/5/2019	22:38	Liquid
60795	WW64-UR2S		1/7/2019	1:32	Liquid
60796	WW64-UR6		1/7/2019	7:30	Liquid
60797	WW64-UR5		1/7/2019	0:29	Liquid
60798	WW64-UR7		1/7/2019	0:29	Liquid

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

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QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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ANALYTICAL REPORT

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Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60794-R1	**WW64-UR3**			**Matrix: Liquid**		**Sampled: 05-Jan-19**		**22:38**	**Received: 08-Jan-19**	
(PCB030)	EPA 625	% Recovery	76			Total		O-22046	08-Jan-19	08-Feb-19
(PCB112)	EPA 625	% Recovery	100			Total		O-22046	08-Jan-19	08-Feb-19
(PCB198)	EPA 625	% Recovery	64			Total		O-22046	08-Jan-19	08-Feb-19
(TCMX)	EPA 625	% Recovery	73			Total		O-22046	08-Jan-19	08-Feb-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	08-Feb-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	08-Feb-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	08-Feb-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	08-Feb-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	08-Feb-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	08-Feb-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	08-Feb-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	08-Feb-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	08-Feb-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	08-Feb-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	08-Feb-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22046	08-Jan-19	08-Feb-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	08-Feb-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	08-Feb-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	08-Feb-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	08-Feb-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	08-Feb-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	08-Feb-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	08-Feb-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	08-Feb-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60795-R1	**WW64-UR2S**		**Matrix: Liquid**			**Sampled: 07-Jan-19**	**1:32**	**Received: 08-Jan-19**		
(PCB030)	EPA 625	% Recovery	92			Total		O-22046	08-Jan-19	09-Feb-19
(PCB112)	EPA 625	% Recovery	116			Total		O-22046	08-Jan-19	09-Feb-19
(PCB198)	EPA 625	% Recovery	76			Total		O-22046	08-Jan-19	09-Feb-19
(TCMX)	EPA 625	% Recovery	82			Total		O-22046	08-Jan-19	09-Feb-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22046	08-Jan-19	09-Feb-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60796-R1	**WW64-UR6**			**Matrix: Liquid**		**Sampled: 07-Jan-19**		**7:30**	**Received: 08-Jan-19**	
(PCB030)	EPA 625	% Recovery	79			Total		O-22046	08-Jan-19	09-Feb-19
(PCB112)	EPA 625	% Recovery	107			Total		O-22046	08-Jan-19	09-Feb-19
(PCB198)	EPA 625	% Recovery	80			Total		O-22046	08-Jan-19	09-Feb-19
(TCMX)	EPA 625	% Recovery	62			Total		O-22046	08-Jan-19	09-Feb-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22046	08-Jan-19	09-Feb-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60797-R1	**WW64-UR5**			**Matrix: Liquid**		**Sampled: 07-Jan-19**	**0:29**	**Received: 08-Jan-19**		
(PCB030)	EPA 625	% Recovery	90			Total		O-22046	08-Jan-19	09-Feb-19
(PCB112)	EPA 625	% Recovery	119			Total		O-22046	08-Jan-19	09-Feb-19
(PCB198)	EPA 625	% Recovery	77			Total		O-22046	08-Jan-19	09-Feb-19
(TCMX)	EPA 625	% Recovery	75			Total		O-22046	08-Jan-19	09-Feb-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22046	08-Jan-19	09-Feb-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60798-R1	**WW64-UR7**			**Matrix: Liquid**		**Sampled: 07-Jan-19**	**0:29**	**Received: 08-Jan-19**		
(PCB030)	EPA 625	% Recovery	97			Total		O-22046	08-Jan-19	09-Feb-19
(PCB112)	EPA 625	% Recovery	132			Total		O-22046	08-Jan-19	09-Feb-19
(PCB198)	EPA 625	% Recovery	73			Total		O-22046	08-Jan-19	09-Feb-19
(TCMX)	EPA 625	% Recovery	80			Total		O-22046	08-Jan-19	09-Feb-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22046	08-Jan-19	09-Feb-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22046	08-Jan-19	09-Feb-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22046	08-Jan-19	09-Feb-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22046	08-Jan-19	09-Feb-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22046	08-Jan-19	09-Feb-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60794-R1	**WW64-UR3**		**Matrix: Liquid**			**Sampled: 05-Jan-19**		**22:38**	**Received: 08-Jan-19**	
(d10-Acenaphthene)	EPA 625	% Recovery	95			Total		O-22046	08-Jan-19	08-Feb-19
(d10-Phenanthrene)	EPA 625	% Recovery	93			Total		O-22046	08-Jan-19	08-Feb-19
(d12-Chrysene)	EPA 625	% Recovery	132			Total		O-22046	08-Jan-19	08-Feb-19
(d12-Perylene)	EPA 625	% Recovery	84			Total		O-22046	08-Jan-19	08-Feb-19
(d8-Naphthalene)	EPA 625	% Recovery	66			Total		O-22046	08-Jan-19	08-Feb-19
1-Methylnaphthalene	EPA 625	ng/L	6.8	1	5	Total		O-22046	08-Jan-19	08-Feb-19
1-Methylphenanthrene	EPA 625	ng/L	4	1	5	Total	J	O-22046	08-Jan-19	08-Feb-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	08-Feb-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	3.25	1	5	Total	J	O-22046	08-Jan-19	08-Feb-19
2-Methylnaphthalene	EPA 625	ng/L	9.83	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Acenaphthene	EPA 625	ng/L	7.13	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Acenaphthylene	EPA 625	ng/L	3.52	1	5	Total	J	O-22046	08-Jan-19	08-Feb-19
Anthracene	EPA 625	ng/L	4.91	1	5	Total	J	O-22046	08-Jan-19	08-Feb-19
Benz[a]anthracene	EPA 625	ng/L	17.8	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Benzo[a]pyrene	EPA 625	ng/L	11.1	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Benzo[b]fluoranthene	EPA 625	ng/L	24	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Benzo[e]pyrene	EPA 625	ng/L	27	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Benzo[g,h,i]perylene	EPA 625	ng/L	36.3	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Benzo[k]fluoranthene	EPA 625	ng/L	14.3	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Biphenyl	EPA 625	ng/L	4.69	1	5	Total	J	O-22046	08-Jan-19	08-Feb-19
Chrysene	EPA 625	ng/L	49.5	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Dibenz[a,h]anthracene	EPA 625	ng/L	5.87	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Fluoranthene	EPA 625	ng/L	42.2	1	5	Total		O-22046	08-Jan-19	08-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	5.07	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	15	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Naphthalene	EPA 625	ng/L	13.4	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Perylene	EPA 625	ng/L	55.4	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Phenanthrene	EPA 625	ng/L	30.5	1	5	Total		O-22046	08-Jan-19	08-Feb-19
Pyrene	EPA 625	ng/L	54.9	1	5	Total		O-22046	08-Jan-19	08-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60795-R1	**WW64-UR2S**		**Matrix: Liquid**			**Sampled: 07-Jan-19**	**1:32**	**Received: 08-Jan-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	98			Total		O-22046	08-Jan-19	09-Feb-19
(d10-Phenanthrene)	EPA 625	% Recovery	97			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Chrysene)	EPA 625	% Recovery	116			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Perylene)	EPA 625	% Recovery	92			Total		O-22046	08-Jan-19	09-Feb-19
(d8-Naphthalene)	EPA 625	% Recovery	74			Total		O-22046	08-Jan-19	09-Feb-19
1-Methylnaphthalene	EPA 625	ng/L	3.56	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
1-Methylphenanthrene	EPA 625	ng/L	3.44	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	2.84	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
2-Methylnaphthalene	EPA 625	ng/L	6.14	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Acenaphthene	EPA 625	ng/L	3.4	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Acenaphthylene	EPA 625	ng/L	2.72	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Anthracene	EPA 625	ng/L	3.96	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benz[a]anthracene	EPA 625	ng/L	14.6	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[a]pyrene	EPA 625	ng/L	13.3	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[b]fluoranthene	EPA 625	ng/L	19.7	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[e]pyrene	EPA 625	ng/L	19.8	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[g,h,i]perylene	EPA 625	ng/L	22.9	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[k]fluoranthene	EPA 625	ng/L	15.8	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Biphenyl	EPA 625	ng/L	3.28	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Chrysene	EPA 625	ng/L	32.4	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Dibenz[a,h]anthracene	EPA 625	ng/L	3.83	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Fluoranthene	EPA 625	ng/L	34.4	1	5	Total		O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	6.13	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	15.1	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Naphthalene	EPA 625	ng/L	7.74	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Perylene	EPA 625	ng/L	41	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Phenanthrene	EPA 625	ng/L	21	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Pyrene	EPA 625	ng/L	33	1	5	Total		O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60796-R1	**WW64-UR6**		**Matrix: Liquid**			**Sampled: 07-Jan-19**	**7:30**	**Received: 08-Jan-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	82			Total		O-22046	08-Jan-19	09-Feb-19
(d10-Phenanthrene)	EPA 625	% Recovery	87			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Chrysene)	EPA 625	% Recovery	108			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Perylene)	EPA 625	% Recovery	90			Total		O-22046	08-Jan-19	09-Feb-19
(d8-Naphthalene)	EPA 625	% Recovery	48			Total		O-22046	08-Jan-19	09-Feb-19
1-Methylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2-Methylnaphthalene	EPA 625	ng/L	1.08	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Acenaphthene	EPA 625	ng/L	13.5	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[b]fluoranthene	EPA 625	ng/L	1.13	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Biphenyl	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Dibenz[a,h]anthracene	EPA 625	ng/L	1.07	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Naphthalene	EPA 625	ng/L	1.62	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Perylene	EPA 625	ng/L	1.59	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Phenanthrene	EPA 625	ng/L	1.98	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60797-R1	**WW64-UR5**		**Matrix: Liquid**			**Sampled: 07-Jan-19**	**0:29**	**Received: 08-Jan-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	96			Total		O-22046	08-Jan-19	09-Feb-19
(d10-Phenanthrene)	EPA 625	% Recovery	96			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Chrysene)	EPA 625	% Recovery	124			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Perylene)	EPA 625	% Recovery	93			Total		O-22046	08-Jan-19	09-Feb-19
(d8-Naphthalene)	EPA 625	% Recovery	66			Total		O-22046	08-Jan-19	09-Feb-19
1-Methylnaphthalene	EPA 625	ng/L	3.03	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2-Methylnaphthalene	EPA 625	ng/L	4.18	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Acenaphthene	EPA 625	ng/L	8	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Acenaphthylene	EPA 625	ng/L	1.36	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Anthracene	EPA 625	ng/L	1.18	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[a]pyrene	EPA 625	ng/L	1.51	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[b]fluoranthene	EPA 625	ng/L	2.28	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[e]pyrene	EPA 625	ng/L	2.2	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[g,h,i]perylene	EPA 625	ng/L	3.23	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[k]fluoranthene	EPA 625	ng/L	1.36	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Biphenyl	EPA 625	ng/L	1.58	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Chrysene	EPA 625	ng/L	4.69	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Dibenz[a,h]anthracene	EPA 625	ng/L	2.54	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Fluoranthene	EPA 625	ng/L	3.91	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	5.81	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Naphthalene	EPA 625	ng/L	5.89	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Perylene	EPA 625	ng/L	14.2	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Phenanthrene	EPA 625	ng/L	4.96	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Pyrene	EPA 625	ng/L	5.44	1	5	Total		O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 60798-R1	**WW64-UR7**		**Matrix: Liquid**			**Sampled: 07-Jan-19**	**0:29**	**Received: 08-Jan-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	98			Total		O-22046	08-Jan-19	09-Feb-19
(d10-Phenanthrene)	EPA 625	% Recovery	97			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Chrysene)	EPA 625	% Recovery	113			Total		O-22046	08-Jan-19	09-Feb-19
(d12-Perylene)	EPA 625	% Recovery	93			Total		O-22046	08-Jan-19	09-Feb-19
(d8-Naphthalene)	EPA 625	% Recovery	58			Total		O-22046	08-Jan-19	09-Feb-19
1-Methylnaphthalene	EPA 625	ng/L	2.81	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	1.1	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
2-Methylnaphthalene	EPA 625	ng/L	4.14	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Acenaphthene	EPA 625	ng/L	8.12	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Acenaphthylene	EPA 625	ng/L	1.23	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Benzo[b]fluoranthene	EPA 625	ng/L	1.61	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[e]pyrene	EPA 625	ng/L	1.92	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[g,h,i]perylene	EPA 625	ng/L	4.73	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Benzo[k]fluoranthene	EPA 625	ng/L	1.11	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Biphenyl	EPA 625	ng/L	1.65	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Chrysene	EPA 625	ng/L	5.13	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Fluoranthene	EPA 625	ng/L	3.14	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	4.13	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Naphthalene	EPA 625	ng/L	5.02	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Perylene	EPA 625	ng/L	14.3	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Phenanthrene	EPA 625	ng/L	5.06	1	5	Total		O-22046	08-Jan-19	09-Feb-19
Pyrene	EPA 625	ng/L	4.46	1	5	Total	J	O-22046	08-Jan-19	09-Feb-19

QUALITY CONTROL REPORT

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60793-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19	
(PCB030)	Total	79			% Recovery	100	79	57 - 133%	PASS			
(PCB112)	Total	100			% Recovery	100	100	65 - 133%	PASS			
(PCB198)	Total	114			% Recovery	100	114	69 - 133%	PASS			
(TCMX)	Total	45			% Recovery	100	45	39 - 135%	PASS			
Bolstar (Sulprofos)	Total	ND	2	4	ng/L							
Chlorpyrifos	Total	ND	0.5	1	ng/L							
Demeton	Total	ND	1	2	ng/L							
Diazinon	Total	ND	0.5	1	ng/L							
Dichlorvos	Total	ND	3	6	ng/L							
Dimethoate	Total	ND	5	10	ng/L							
Disulfoton	Total	ND	1	2	ng/L							
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L							
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L							
Fensulfothion	Total	ND	1	2	ng/L							
Fenthion	Total	ND	2	4	ng/L							
Malathion	Total	ND	2.5	5	ng/L							
Methidathion	Total	ND	5	10	ng/L							
Methyl Parathion	Total	ND	1	2	ng/L							
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L							
Phorate	Total	ND	5	10	ng/L							
Phosmet	Total	ND	5	10	ng/L							
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L							
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L							
Trichloronate	Total	ND	1	2	ng/L							

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60793-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19	
(PCB030)	Total	99			% Recovery	100	0	99	57 - 133%	PASS		
(PCB112)	Total	100			% Recovery	100	0	100	65 - 133%	PASS		
(PCB198)	Total	104			% Recovery	100	0	104	69 - 133%	PASS		
(TCMX)	Total	92			% Recovery	100	0	92	39 - 135%	PASS		
Bolstar (Sulprofos)	Total	443	2	4	ng/L	500	0	89	46 - 147%	PASS		
Chlorpyrifos	Total	441	0.5	1	ng/L	500	0	88	75 - 120%	PASS		
Demeton	Total	436	1	2	ng/L	500	0	87	0 - 140%	PASS		
Diazinon	Total	430	0.5	1	ng/L	500	0	86	65 - 125%	PASS		
Dichlorvos	Total	447	3	6	ng/L	500	0	89	58 - 131%	PASS		
Dimethoate	Total	435	5	10	ng/L	500	0	87	17 - 146%	PASS		
Disulfoton	Total	436	1	2	ng/L	500	0	87	23 - 136%	PASS		
Ethoprop (Ethoprofos)	Total	437	1	2	ng/L	500	0	87	63 - 125%	PASS		
Fenchlorphos (Ronnel)	Total	493	2	4	ng/L	500	0	99	75 - 128%	PASS		
Fensulfothion	Total	491	1	2	ng/L	500	0	98	0 - 173%	PASS		
Fenthion	Total	426	2	4	ng/L	500	0	85	57 - 133%	PASS		
Malathion	Total	456	2.5	5	ng/L	500	0	91	41 - 150%	PASS		
Methidathion	Total	516	5	10	ng/L	500	0	103	34 - 155%	PASS		
Methyl Parathion	Total	522	1	2	ng/L	500	0	104	37 - 147%	PASS		
Mevinphos (Phosdrin)	Total	421	5	10	ng/L	500	0	84	28 - 132%	PASS		
Phorate	Total	415	5	10	ng/L	500	0	83	29 - 149%	PASS		
Phosmet	Total	574	5	10	ng/L	500	0	115	47 - 141%	PASS		
Tetrachlorvinphos (Stirofos)	Total	455	2	4	ng/L	500	0	91	57 - 138%	PASS		
Tokuthion (Prothiofos)	Total	439	3	6	ng/L	500	0	88	74 - 136%	PASS		
Trichloronate	Total	441	1	2	ng/L	500	0	88	75 - 122%	PASS		

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60793-BS2	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19		
(PCB030)	Total	85			% Recovery	100	0	85	57 - 133%	PASS	15	30	PASS
(PCB112)	Total	101			% Recovery	100	0	101	65 - 133%	PASS	1	30	PASS
(PCB198)	Total	107			% Recovery	100	0	107	69 - 133%	PASS	3	30	PASS
(TCMX)	Total	68			% Recovery	100	0	68	39 - 135%	PASS	30	30	PASS
Bolstar (Sulprofos)	Total	471	2	4	ng/L	500	0	94	46 - 147%	PASS	5	30	PASS
Chlorpyrifos	Total	458	0.5	1	ng/L	500	0	92	75 - 120%	PASS	4	30	PASS
Demeton	Total	433	1	2	ng/L	500	0	87	0 - 140%	PASS	0	30	PASS
Diazinon	Total	420	0.5	1	ng/L	500	0	84	65 - 125%	PASS	2	30	PASS
Dichlorvos	Total	376	3	6	ng/L	500	0	75	58 - 131%	PASS	17	30	PASS
Dimethoate	Total	423	5	10	ng/L	500	0	85	17 - 146%	PASS	2	30	PASS
Disulfoton	Total	433	1	2	ng/L	500	0	87	23 - 136%	PASS	0	30	PASS
Ethoprop (Ethoprofos)	Total	420	1	2	ng/L	500	0	84	63 - 125%	PASS	4	30	PASS
Fenchlorphos (Ronnel)	Total	507	2	4	ng/L	500	0	101	75 - 128%	PASS	2	30	PASS
Fensulfothion	Total	492	1	2	ng/L	500	0	98	0 - 173%	PASS	0	30	PASS
Fenthion	Total	458	2	4	ng/L	500	0	92	57 - 133%	PASS	8	30	PASS
Malathion	Total	447	2.5	5	ng/L	500	0	89	41 - 150%	PASS	2	30	PASS
Methidathion	Total	513	5	10	ng/L	500	0	103	34 - 155%	PASS	0	30	PASS
Methyl Parathion	Total	515	1	2	ng/L	500	0	103	37 - 147%	PASS	1	30	PASS
Mevinphos (Phosdrin)	Total	374	5	10	ng/L	500	0	75	28 - 132%	PASS	11	30	PASS
Phorate	Total	382	5	10	ng/L	500	0	76	29 - 149%	PASS	9	30	PASS
Phosmet	Total	625	5	10	ng/L	500	0	125	47 - 141%	PASS	8	30	PASS
Tetrachlorvinphos (Stirofos)	Total	470	2	4	ng/L	500	0	94	57 - 138%	PASS	3	30	PASS
Tokuthion (Prothiofos)	Total	462	3	6	ng/L	500	0	92	74 - 136%	PASS	4	30	PASS
Trichloronate	Total	442	1	2	ng/L	500	0	88	75 - 122%	PASS	0	30	PASS

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60794-MS1	**WW64-UR3**				**Matrix: Liquid**		**Sampled: 05-Jan-19 22:38**			**Received: 08-Jan-19**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19			Analyzed: 07-Feb-19		
(PCB030)	Total	89			% Recovery	100	0	89	25 - 130%		PASS	
(PCB112)	Total	106			% Recovery	100	0	106	34 - 132%		PASS	
(PCB198)	Total	91			% Recovery	100	0	91	30 - 136%		PASS	
(TCMX)	Total	82			% Recovery	100	0	82	6 - 124%		PASS	
Bolstar (Sulprofos)	Total	425	2	4	ng/L	500	0	85	36 - 173%		PASS	
Chlorpyrifos	Total	369	0.5	1	ng/L	500	0	74	36 - 150%		PASS	
Demeton	Total	410	1	2	ng/L	500	0	82	0 - 156%		PASS	
Diazinon	Total	368	0.5	1	ng/L	500	0	74	41 - 145%		PASS	
Dichlorvos	Total	398	3	6	ng/L	500	0	80	31 - 143%		PASS	
Dimethoate	Total	358	5	10	ng/L	500	0	72	25 - 150%		PASS	
Disulfoton	Total	410	1	2	ng/L	500	0	82	20 - 143%		PASS	
Ethoprop (Ethoprofos)	Total	462	1	2	ng/L	500	0	92	34 - 147%		PASS	
Fenchlorphos (Ronnel)	Total	398	2	4	ng/L	500	0	80	39 - 153%		PASS	
Fensulfothion	Total	409	1	2	ng/L	500	0	82	46 - 182%		PASS	
Fenthion	Total	410	2	4	ng/L	500	0	82	44 - 150%		PASS	
Malathion	Total	348	2.5	5	ng/L	500	0	70	33 - 179%		PASS	
Methidathion	Total	347	5	10	ng/L	500	0	69	28 - 175%		PASS	
Methyl Parathion	Total	363	1	2	ng/L	500	0	73	18 - 190%		PASS	
Mevinphos (Phosdrin)	Total	325	5	10	ng/L	500	0	65	19 - 160%		PASS	
Phorate	Total	432	5	10	ng/L	500	0	86	21 - 151%		PASS	
Phosmet	Total	397	5	10	ng/L	500	0	79	34 - 180%		PASS	
Tetrachlorvinphos (Stirofos)	Total	294	2	4	ng/L	500	0	59	42 - 196%		PASS	
Tokuthion (Prothiofos)	Total	418	3	6	ng/L	500	0	84	44 - 163%		PASS	
Trichloronate	Total	366	1	2	ng/L	500	0	73	37 - 158%		PASS	

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60794-MS2	**WW64-UR3**				**Matrix: Liquid**		**Sampled: 05-Jan-19 22:38**				**Received: 08-Jan-19**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19		
(PCB030)	Total	84			% Recovery	100	0	84	25 - 130%	PASS	6	30	PASS
(PCB112)	Total	104			% Recovery	100	0	104	34 - 132%	PASS	2	30	PASS
(PCB198)	Total	88			% Recovery	100	0	88	30 - 136%	PASS	3	30	PASS
(TCMX)	Total	77			% Recovery	100	0	77	6 - 124%	PASS	6	30	PASS
Bolstar (Sulprofos)	Total	416	2	4	ng/L	500	0	83	36 - 173%	PASS	2	30	PASS
Chlorpyrifos	Total	356	0.5	1	ng/L	500	0	71	36 - 150%	PASS	4	30	PASS
Demeton	Total	400	1	2	ng/L	500	0	80	0 - 156%	PASS	2	30	PASS
Diazinon	Total	334	0.5	1	ng/L	500	0	67	41 - 145%	PASS	10	30	PASS
Dichlorvos	Total	411	3	6	ng/L	500	0	82	31 - 143%	PASS	2	30	PASS
Dimethoate	Total	342	5	10	ng/L	500	0	68	25 - 150%	PASS	6	30	PASS
Disulfoton	Total	400	1	2	ng/L	500	0	80	20 - 143%	PASS	2	30	PASS
Ethoprop (Ethoprofos)	Total	411	1	2	ng/L	500	0	82	34 - 147%	PASS	11	30	PASS
Fenchlorphos (Ronnel)	Total	366	2	4	ng/L	500	0	73	39 - 153%	PASS	9	30	PASS
Fensulfothion	Total	374	1	2	ng/L	500	0	75	46 - 182%	PASS	9	30	PASS
Fenthion	Total	385	2	4	ng/L	500	0	77	44 - 150%	PASS	6	30	PASS
Malathion	Total	365	2.5	5	ng/L	500	0	73	33 - 179%	PASS	4	30	PASS
Methidathion	Total	409	5	10	ng/L	500	0	82	28 - 175%	PASS	17	30	PASS
Methyl Parathion	Total	414	1	2	ng/L	500	0	83	18 - 190%	PASS	13	30	PASS
Mevinphos (Phosdrin)	Total	282	5	10	ng/L	500	0	56	19 - 160%	PASS	15	30	PASS
Phorate	Total	408	5	10	ng/L	500	0	82	21 - 151%	PASS	5	30	PASS
Phosmet	Total	439	5	10	ng/L	500	0	88	34 - 180%	PASS	11	30	PASS
Tetrachlorvinphos (Stirofos)	Total	341	2	4	ng/L	500	0	68	42 - 196%	PASS	14	30	PASS
Tokuthion (Prothiofos)	Total	409	3	6	ng/L	500	0	82	44 - 163%	PASS	2	30	PASS
Trichloronate	Total	341	1	2	ng/L	500	0	68	37 - 158%	PASS	7	30	PASS

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Organophosphorus Pesticides QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60794-R2	**WW64-UR3**				**Matrix: Liquid**		**Sampled: 05-Jan-19 22:38**				**Received: 08-Jan-19**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 08-Feb-19		
(PCB030)	Total	74			% Recovery	100	74	25 - 130%	PASS	3	30	PASS	
(PCB112)	Total	96			% Recovery	100	96	34 - 132%	PASS	4	30	PASS	
(PCB198)	Total	65			% Recovery	100	65	30 - 136%	PASS	2	30	PASS	
(TCMX)	Total	70			% Recovery	100	70	6 - 124%	PASS	4	30	PASS	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L					0	30	PASS	
Chlorpyrifos	Total	ND	0.5	1	ng/L					0	30	PASS	
Demeton	Total	ND	1	2	ng/L					0	30	PASS	
Diazinon	Total	ND	0.5	1	ng/L					0	30	PASS	
Dichlorvos	Total	ND	3	6	ng/L					0	30	PASS	
Dimethoate	Total	ND	5	10	ng/L					0	30	PASS	
Disulfoton	Total	ND	1	2	ng/L					0	30	PASS	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L					0	30	PASS	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L					0	30	PASS	
Fensulfothion	Total	ND	1	2	ng/L					0	30	PASS	
Fenthion	Total	ND	2	4	ng/L					0	30	PASS	
Malathion	Total	ND	2.5	5	ng/L					0	30	PASS	
Methidathion	Total	ND	5	10	ng/L					0	30	PASS	
Methyl Parathion	Total	ND	1	2	ng/L					0	30	PASS	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L					0	30	PASS	
Phorate	Total	ND	5	10	ng/L					0	30	PASS	
Phosmet	Total	ND	5	10	ng/L					0	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L					0	30	PASS	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L					0	30	PASS	
Trichloronate	Total	ND	1	2	ng/L					0	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60793-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19	
(d10-Acenaphthene)	Total	65			% Recovery	100	65	65 - 113%	PASS			
(d10-Phenanthrene)	Total	85			% Recovery	100	85	80 - 111%	PASS			
(d12-Chrysene)	Total	80			% Recovery	100	80	60 - 139%	PASS			
(d12-Perylene)	Total	96			% Recovery	100	96	36 - 161%	PASS			
(d8-Naphthalene)	Total	44			% Recovery	100	44	44 - 119%	PASS			
1-Methylnaphthalene	Total	ND	1	5	ng/L							
1-Methylphenanthrene	Total	ND	1	5	ng/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L							
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L							
2-Methylnaphthalene	Total	ND	1	5	ng/L							
Acenaphthene	Total	ND	1	5	ng/L							
Acenaphthylene	Total	ND	1	5	ng/L							
Anthracene	Total	ND	1	5	ng/L							
Benz[a]anthracene	Total	ND	1	5	ng/L							
Benzo[a]pyrene	Total	ND	1	5	ng/L							
Benzo[b]fluoranthene	Total	ND	1	5	ng/L							
Benzo[e]pyrene	Total	ND	1	5	ng/L							
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L							
Benzo[k]fluoranthene	Total	ND	1	5	ng/L							
Biphenyl	Total	ND	1	5	ng/L							
Chrysene	Total	ND	1	5	ng/L							
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L							
Dibenzothiophene	Total	ND	1	5	ng/L							
Fluoranthene	Total	ND	1	5	ng/L							
Fluorene	Total	ND	1	5	ng/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L							
Naphthalene	Total	ND	1	5	ng/L							
Perylene	Total	ND	1	5	ng/L							
Phenanthrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60793-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**			**Received:**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19			Analyzed: 07-Feb-19		
(d10-Acenaphthene)	Total	109			% Recovery	100	0	109	65 - 113%	PASS		
(d10-Phenanthrene)	Total	95			% Recovery	100	0	95	80 - 111%	PASS		
(d12-Chrysene)	Total	83			% Recovery	100	0	83	60 - 139%	PASS		
(d12-Perylene)	Total	93			% Recovery	100	0	93	36 - 161%	PASS		
(d8-Naphthalene)	Total	83			% Recovery	100	0	83	44 - 119%	PASS		
1-Methylnaphthalene	Total	381	1	5	ng/L	500	0	76	49 - 117%	PASS		
1-Methylphenanthrene	Total	410	1	5	ng/L	500	0	82	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	418	1	5	ng/L	500	0	84	57 - 120%	PASS		
2,6-Dimethylnaphthalene	Total	390	1	5	ng/L	500	0	78	54 - 117%	PASS		
2-Methylnaphthalene	Total	362	1	5	ng/L	500	0	72	47 - 130%	PASS		
Acenaphthene	Total	336	1	5	ng/L	500	0	67	53 - 131%	PASS		
Acenaphthylene	Total	387	1	5	ng/L	500	0	77	43 - 140%	PASS		
Anthracene	Total	413	1	5	ng/L	500	0	83	58 - 135%	PASS		
Benz[a]anthracene	Total	311	1	5	ng/L	500	0	62	55 - 145%	PASS		
Benzo[a]pyrene	Total	370	1	5	ng/L	500	0	74	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	262	1	5	ng/L	500	0	52	46 - 165%	PASS		
Benzo[e]pyrene	Total	311	1	5	ng/L	500	0	62	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	397	1	5	ng/L	500	0	79	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	368	1	5	ng/L	500	0	74	56 - 145%	PASS		
Biphenyl	Total	415	1	5	ng/L	500	0	83	56 - 119%	PASS		
Chrysene	Total	371	1	5	ng/L	500	0	74	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	353	1	5	ng/L	500	0	71	55 - 150%	PASS		
Dibenzothiophene	Total	428	1	5	ng/L	500	0	86	75 - 113%	PASS		
Fluoranthene	Total	416	1	5	ng/L	500	0	83	60 - 146%	PASS		
Fluorene	Total	417	1	5	ng/L	500	0	83	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	331	1	5	ng/L	500	0	66	50 - 151%	PASS		
Naphthalene	Total	125	1	5	ng/L	500	0	125	41 - 126%	PASS		
Perylene	Total	398	1	5	ng/L	500	0	80	48 - 141%	PASS		
Phenanthrene	Total	430	1	5	ng/L	500	0	86	67 - 127%	PASS		

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	427	1	5	ng/L	500	0	85	54 - 156%	PASS			

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60793-BS2	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19		
(d10-Acenaphthene)	Total	85			% Recovery	100	0	85	65 - 113%	PASS	25	30	PASS
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	80 - 111%	PASS	2	30	PASS
(d12-Chrysene)	Total	85			% Recovery	100	0	85	60 - 139%	PASS	2	30	PASS
(d12-Perylene)	Total	98			% Recovery	100	0	98	36 - 161%	PASS	5	30	PASS
(d8-Naphthalene)	Total	72			% Recovery	100	0	72	44 - 119%	PASS	14	30	PASS
1-Methylnaphthalene	Total	326	1	5	ng/L	500	0	65	49 - 117%	PASS	16	30	PASS
1-Methylphenanthrene	Total	443	1	5	ng/L	500	0	89	66 - 127%	PASS	8	30	PASS
2,3,5-Trimethylnaphthalene	Total	361	1	5	ng/L	500	0	72	57 - 120%	PASS	15	30	PASS
2,6-Dimethylnaphthalene	Total	383	1	5	ng/L	500	0	77	54 - 117%	PASS	1	30	PASS
2-Methylnaphthalene	Total	314	1	5	ng/L	500	0	63	47 - 130%	PASS	13	30	PASS
Acenaphthene	Total	335	1	5	ng/L	500	0	67	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	396	1	5	ng/L	500	0	79	43 - 140%	PASS	3	30	PASS
Anthracene	Total	426	1	5	ng/L	500	0	85	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	339	1	5	ng/L	500	0	68	55 - 145%	PASS	9	30	PASS
Benzo[a]pyrene	Total	452	1	5	ng/L	500	0	90	51 - 143%	PASS	20	30	PASS
Benzo[b]fluoranthene	Total	294	1	5	ng/L	500	0	59	46 - 165%	PASS	13	30	PASS
Benzo[e]pyrene	Total	335	1	5	ng/L	500	0	67	42 - 152%	PASS	8	30	PASS
Benzo[g,h,i]perylene	Total	406	1	5	ng/L	500	0	81	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	394	1	5	ng/L	500	0	79	56 - 145%	PASS	7	30	PASS
Biphenyl	Total	398	1	5	ng/L	500	0	80	56 - 119%	PASS	4	30	PASS
Chrysene	Total	375	1	5	ng/L	500	0	75	56 - 141%	PASS	1	30	PASS
Dibenz[a,h]anthracene	Total	366	1	5	ng/L	500	0	73	55 - 150%	PASS	3	30	PASS
Dibenzothiophene	Total	428	1	5	ng/L	500	0	86	75 - 113%	PASS	0	30	PASS
Fluoranthene	Total	462	1	5	ng/L	500	0	92	60 - 146%	PASS	10	30	PASS
Fluorene	Total	382	1	5	ng/L	500	0	76	58 - 131%	PASS	9	30	PASS
Indeno[1,2,3-cd]pyrene	Total	363	1	5	ng/L	500	0	73	50 - 151%	PASS	10	30	PASS
Naphthalene	Total	126	1	5	ng/L	500	0	126	41 - 126%	PASS	1	30	PASS
Perylene	Total	431	1	5	ng/L	500	0	86	48 - 141%	PASS	7	30	PASS
Phenanthrene	Total	438	1	5	ng/L	500	0	88	67 - 127%	PASS	2	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	475	1	5	ng/L	500	0	95	54 - 156%	PASS	11	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60794-MS1	**WW64-UR3**				**Matrix: Liquid**		**Sampled: 05-Jan-19 22:38**			**Received: 08-Jan-19**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19			Analyzed: 07-Feb-19		
(d10-Acenaphthene)	Total	103			% Recovery	100	0	103	45 - 118%			PASS
(d10-Phenanthrene)	Total	103			% Recovery	100	0	103	56 - 123%			PASS
(d12-Chrysene)	Total	112			% Recovery	100	0	112	36 - 142%			PASS
(d12-Perylene)	Total	90			% Recovery	100	0	90	36 - 161%			PASS
(d8-Naphthalene)	Total	73			% Recovery	100	0	73	20 - 112%			PASS
1-Methylnaphthalene	Total	372	1	5	ng/L	500	7.05	73	39 - 104%			PASS
1-Methylphenanthrene	Total	515	1	5	ng/L	500	5.33	102	62 - 136%			PASS
2,3,5-Trimethylnaphthalene	Total	451	1	5	ng/L	500	0	90	47 - 132%			PASS
2,6-Dimethylnaphthalene	Total	404	1	5	ng/L	500	3.37	80	37 - 118%			PASS
2-Methylnaphthalene	Total	372	1	5	ng/L	500	10.3	72	33 - 113%			PASS
Acenaphthene	Total	430	1	5	ng/L	500	6.79	85	51 - 116%			PASS
Acenaphthylene	Total	412	1	5	ng/L	500	3.47	82	53 - 127%			PASS
Anthracene	Total	474	1	5	ng/L	500	5.15	94	60 - 126%			PASS
Benz[a]anthracene	Total	668	1	5	ng/L	500	19.7	130	51 - 165%			PASS
Benzo[a]pyrene	Total	479	1	5	ng/L	500	12.6	93	24 - 170%			PASS
Benzo[b]fluoranthene	Total	566	1	5	ng/L	500	25.3	108	38 - 158%			PASS
Benzo[e]pyrene	Total	480	1	5	ng/L	500	28	90	26 - 157%			PASS
Benzo[g,h,i]perylene	Total	478	1	5	ng/L	500	37.2	88	57 - 133%			PASS
Benzo[k]fluoranthene	Total	511	1	5	ng/L	500	15.1	99	27 - 167%			PASS
Biphenyl	Total	388	1	5	ng/L	500	4.96	77	41 - 111%			PASS
Chrysene	Total	589	1	5	ng/L	500	50.7	108	58 - 136%			PASS
Dibenz[a,h]anthracene	Total	547	1	5	ng/L	500	5.38	108	53 - 156%			PASS
Dibenzothiophene	Total	482	1	5	ng/L	500	0	96	69 - 112%			PASS
Fluoranthene	Total	564	1	5	ng/L	500	44.9	104	61 - 147%			PASS
Fluorene	Total	456	1	5	ng/L	500	4.97	90	62 - 120%			PASS
Indeno[1,2,3-cd]pyrene	Total	535	1	5	ng/L	500	15.5	104	58 - 147%			PASS
Naphthalene	Total	342	1	5	ng/L	500	14.5	65	22 - 110%			PASS
Perylene	Total	472	1	5	ng/L	500	55.9	83	34 - 147%			PASS
Phenanthrene	Total	506	1	5	ng/L	500	31.6	95	64 - 121%			PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	575	1	5	ng/L	500	58.1	103	65 - 146%	PASS			

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 60794-MS2	**WW64-UR3**				**Matrix: Liquid**		**Sampled: 05-Jan-19 22:38**				**Received: 08-Jan-19**		
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 07-Feb-19		
(d10-Acenaphthene)	Total	103			% Recovery	100	0	103	45 - 118%	PASS	0	30	PASS
(d10-Phenanthrene)	Total	103			% Recovery	100	0	103	56 - 123%	PASS	0	30	PASS
(d12-Chrysene)	Total	129			% Recovery	100	0	129	36 - 142%	PASS	14	30	PASS
(d12-Perylene)	Total	91			% Recovery	100	0	91	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	69			% Recovery	100	0	69	20 - 112%	PASS	6	30	PASS
1-Methylnaphthalene	Total	362	1	5	ng/L	500	7.05	71	39 - 104%	PASS	3	30	PASS
1-Methylphenanthrene	Total	514	1	5	ng/L	500	5.33	102	62 - 136%	PASS	0	30	PASS
2,3,5-Trimethylnaphthalene	Total	445	1	5	ng/L	500	0	89	47 - 132%	PASS	1	30	PASS
2,6-Dimethylnaphthalene	Total	395	1	5	ng/L	500	3.37	78	37 - 118%	PASS	3	30	PASS
2-Methylnaphthalene	Total	359	1	5	ng/L	500	10.3	70	33 - 113%	PASS	3	30	PASS
Acenaphthene	Total	422	1	5	ng/L	500	6.79	83	51 - 116%	PASS	2	30	PASS
Acenaphthylene	Total	401	1	5	ng/L	500	3.47	80	53 - 127%	PASS	2	30	PASS
Anthracene	Total	475	1	5	ng/L	500	5.15	94	60 - 126%	PASS	0	30	PASS
Benz[a]anthracene	Total	758	1	5	ng/L	500	19.7	148	51 - 165%	PASS	13	30	PASS
Benzo[a]pyrene	Total	482	1	5	ng/L	500	12.6	94	24 - 170%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	587	1	5	ng/L	500	25.3	112	38 - 158%	PASS	4	30	PASS
Benzo[e]pyrene	Total	490	1	5	ng/L	500	28	92	26 - 157%	PASS	2	30	PASS
Benzo[g,h,i]perylene	Total	493	1	5	ng/L	500	37.2	91	57 - 133%	PASS	3	30	PASS
Benzo[k]fluoranthene	Total	528	1	5	ng/L	500	15.1	103	27 - 167%	PASS	4	30	PASS
Biphenyl	Total	381	1	5	ng/L	500	4.96	75	41 - 111%	PASS	3	30	PASS
Chrysene	Total	666	1	5	ng/L	500	50.7	123	58 - 136%	PASS	13	30	PASS
Dibenz[a,h]anthracene	Total	558	1	5	ng/L	500	5.38	111	53 - 156%	PASS	3	30	PASS
Dibenzothiophene	Total	483	1	5	ng/L	500	0	97	69 - 112%	PASS	1	30	PASS
Fluoranthene	Total	568	1	5	ng/L	500	44.9	105	61 - 147%	PASS	1	30	PASS
Fluorene	Total	449	1	5	ng/L	500	4.97	89	62 - 120%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	550	1	5	ng/L	500	15.5	107	58 - 147%	PASS	3	30	PASS
Naphthalene	Total	320	1	5	ng/L	500	14.5	61	22 - 110%	PASS	8	30	PASS
Perylene	Total	479	1	5	ng/L	500	55.9	85	34 - 147%	PASS	2	30	PASS
Phenanthrene	Total	506	1	5	ng/L	500	31.6	95	64 - 121%	PASS	0	30	PASS

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature
1904 E. Wright Circle, Anaheim CA 92806 main: (714) 602-5320 fax: (714) 602-5321 www.physislabs.com info@physislabs.com CA ELAP #2769

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	584	1	5	ng/L	500	58.1	105	65 - 146%	PASS	2	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Sample ID: 60794-R2	**WW64-UR3**				**Matrix: Liquid**		**Sampled: 05-Jan-19 22:38**				**Received: 08-Jan-19**			
	Method: EPA 625				Batch ID: O-22046		Prepared: 08-Jan-19				Analyzed: 08-Feb-19			
(d10-Acenaphthene)	Total	99			% Recovery	100	99	45 - 118%	PASS		30	PASS		
(d10-Phenanthrene)	Total	98			% Recovery	100	98	56 - 123%	PASS	5	30	PASS		
(d12-Chrysene)	Total	131			% Recovery	100	131	36 - 142%	PASS	1	30	PASS		
(d12-Perylene)	Total	90			% Recovery	100	90	36 - 161%	PASS	7	30	PASS		
(d8-Naphthalene)	Total	77			% Recovery	100	77	20 - 112%	PASS	15	30	PASS		
1-Methylnaphthalene	Total	7.3	1	5	ng/L					7	30	PASS		
1-Methylphenanthrene	Total	6.66	1	5	ng/L					50	30	FAIL		SL
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					0	30	PASS		
2,6-Dimethylnaphthalene	Total	3.5	1	5	ng/L					7	30	PASS		J
2-Methylnaphthalene	Total	10.7	1	5	ng/L					8	30	PASS		
Acenaphthene	Total	6.44	1	5	ng/L					10	30	PASS		
Acenaphthylene	Total	3.43	1	5	ng/L					3	30	PASS		J
Anthracene	Total	5.39	1	5	ng/L					9	30	PASS		
Benz[a]anthracene	Total	21.6	1	5	ng/L					19	30	PASS		
Benzo[a]pyrene	Total	14.1	1	5	ng/L					24	30	PASS		
Benzo[b]fluoranthene	Total	26.7	1	5	ng/L					11	30	PASS		
Benzo[e]pyrene	Total	29	1	5	ng/L					7	30	PASS		
Benzo[g,h,i]perylene	Total	38.1	1	5	ng/L					5	30	PASS		
Benzo[k]fluoranthene	Total	15.8	1	5	ng/L					10	30	PASS		
Biphenyl	Total	5.24	1	5	ng/L					11	30	PASS		
Chrysene	Total	51.9	1	5	ng/L					5	30	PASS		
Dibenz[a,h]anthracene	Total	4.9	1	5	ng/L					18	30	PASS		J
Dibenzothiophene	Total	ND	1	5	ng/L					0	30	PASS		
Fluoranthene	Total	47.7	1	5	ng/L					12	30	PASS		
Fluorene	Total	4.86	1	5	ng/L					4	30	PASS		J
Indeno[1,2,3-cd]pyrene	Total	16.1	1	5	ng/L					7	30	PASS		
Naphthalene	Total	15.6	1	5	ng/L					15	30	PASS		
Perylene	Total	56.3	1	5	ng/L					2	30	PASS		
Phenanthrene	Total	32.7	1	5	ng/L					7	30	PASS		

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	61.3	1	5	ng/L					11	30 PASS	

CHAIN OF CUSTODY

PHTSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

1204008-037

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: PHYSIS
Misty Mercier
Address: 1904 East Wright Circle
Anaheim, CA 92806
Phone: 714-602-5320
Fax:
Sampled By:
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	OP Pesticides and LL PAHs															Notes
WW64-UR3	›_PEST_P/	1-5-19	22:38	Water	6	1L AG	none	X															MSD
WW64-UR2S	›_PEST_P/	1-7-19	01:32	Water	2	1L AG	none	X															
WW64-UR6	›_PEST_P/	1-7-19	07:30	Water	2	1L AG	none	X															
WW64-UR5	›_PEST_P/	1-7-19	00:29	Water	2	1L AG	none	X															
WW64-UR7	›_PEST_P/	1-7-19	00:29	Water	2	1L AG	none	X															

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature: Alison Briden
Print: Alison Briden
Organization: PER
Date: 1-7-19 Time: 1525

Received By (2):
Signature:
Print: Richard Hanken
Organization: Physis
Date: 1/8/19 Time: 1015

Laboratory Comments:
Cooler 1 of 3

Relinquished By (1):
Signature:
Print:
Organization:
Date: Time:

Received By (2):
Date: Time:

Crew: PER

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Physis Project ID
1204008-037

Sample Receipt Summary

Client: Larry Walker Associates | Date Received: 1/8/2019 | Received By: RGH | Inspected By: RGH

Courier:	Cooler:	Temperature:
☐ Physis ☑ FEDEX ☐ UPS ☐ Client	☑ Cooler ☐ Box Total #: 3	☐ BLUE ☑ WET ☐ DRY
Start End ☐ Other:	☐ Other :	☐ None 5.8 °C

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes
2. All sample containers arrived intact..... Yes
3. All samples listed on COC(s) are present..... Yes
4. Information on containers consistent with information on COC(s)..... Yes
5. Correct containers and volume for all analyses indicated..... Yes
6. All samples received within method holding time..... Yes
7. Correct preservation used for all analyses indicated..... Yes
8. Name of sampler included on COC(s)..... No

Notes:

[This page intentionally left blank.]

Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

January 11, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave. Suite 100
Davis, CA 95618

RE: Work Order No: 70394
Project ID: Sac Stormwater 1/6/19

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Sunday, January 06, 2019. Results reported herein conform to the most current ELAP standards, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeste Patena
Program Coordinator
patenac@sacsewer.com

Justin Nordin
QA Officer

Srividhya Ramamoorthy
Lab Manager

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Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

SAMPLE SUMMARY

Work Order No: 70394
Project ID: Sac Stormwater 1/6/19

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1901060024	**WW 64 - UR 25**	Surface Water	01/06/2019 13:48	01/06/2019 22:19
1901060025	**WW 64 - UR 7**	Surface Water	01/06/2019 15:28	01/06/2019 22:19
1901060026	**WW 64 - UR 5**	Surface Water	01/06/2019 15:27	01/06/2019 22:19
1901060027	**WW 64 - UR 6**	Surface Water	01/06/2019 14:08	01/06/2019 22:19

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ANALYTICAL RESULTS

Work Order No: 70394
Project ID: Sac Stormwater 1/6/19

Lab ID: **1901060024** Date Collected: 1/6/2019 13:48 Matrix: Surface Water
Sample ID: **WW 64 - UR 25** Date Received: 1/6/2019 22:19

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By	
BIOLOGICAL									
Coliform,Fecal	SM 9221 E	11,000	MPN/100mL	1	18	NA	01/06/2019	JTA	[1]
E.COLI	SM 9221 F	11,000	MPN/100mL	1	18	NA	01/06/2019	JTA	[1]

Lab ID: **1901060025** Date Collected: 1/6/2019 15:28 Matrix: Surface Water
Sample ID: **WW 64 - UR 7** Date Received: 1/6/2019 22:19

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	4,900	MPN/100mL	1	18	NA	01/06/2019	JTA
E.COLI	SM 9221 F	3,300	MPN/100mL	1	18	NA	01/06/2019	JTA

Lab ID: **1901060026** Date Collected: 1/6/2019 15:27 Matrix: Surface Water
Sample ID: **WW 64 - UR 5** Date Received: 1/6/2019 22:19

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	4,900	MPN/100mL	1	18	NA	01/06/2019	JTA
E.COLI	SM 9221 F	3,300	MPN/100mL	1	18	NA	01/06/2019	JTA

Lab ID: **1901060027** Date Collected: 1/6/2019 14:08 Matrix: Surface Water
Sample ID: **WW 64 - UR 6** Date Received: 1/6/2019 22:19

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By	
BIOLOGICAL									
Coliform,Fecal	SM 9221 E	ND	MPN/100mL	1	1.8	NA	01/06/2019	JTA	[1]
E.COLI	SM 9221 F	ND	MPN/100mL	1	1.8	NA	01/06/2019	JTA	[1]

REPORT OF LABORATORY ANALYSIS

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Regional San Environmental Laboratory
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ANALYTICAL RESULTS QUALIFIERS

Work Order No: 70394
Project ID: Sac Stormwater 1/6/19

PARAMETER QUALIFIERS

J - The analytical result is below RL but above MDL.

MDL - Method Detection Limit defined in 40 CFR, Sect. 136, Appendix B.

ND - Non Detect - Analyte not detected above the MDL or, in the absence of a MDL, above the RL

RL - Reporting limit is the quantitation limit at which the laboratory is able to detect an analyte with a certain degree of confidence. Generally, this represents the parameter's lowest calibration point. This can also define the customer's requirement.

(S) - Surrogates.

DF - Dilution Factor.

NA - Not Applicable.

VS and VSS results reported as percentages of TS and TSS.

MBAS, calculated as LAS, mol wt 340.

Total Alkalinity is titrated to pH 4.5 per the method. This may not correspond to an inflection point where the slope changes rapidly.

[1] Sample was received outside of method required hold time.

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QUALITY CONTROL DATA QUALIFIERS

Work Order No: 70394
Project ID: Sac Stormwater 1/6/19

QUALITY CONTROL PARAMETER QUALIFIERS

Result Qualifiers:These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank.

LCS - Laboratory Control Standard.

DUP - Duplicate of Original Sample Matrix.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

RPD -Relative Percent Difference.

% Rec - Spike Recovery stated as a percentage.

QC - Total QC applies to total recoverable.

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REGIONALSAN

Sacramento Regional County Sanitation District (Regional San) Environmental Laboratory

8521 Laguna Station Road, Elk Grove, CA 95758
(916) 875-9000 ELAP #1100

CHAIN-OF-CUSTODY

(Lab Issued)
Profile # 2210
Work order 70394

Customer Name: LARRY WALKER ASSOCIATES Phone # 530-753-6400 Mail code
Customer Address: 1480 DRIVE AVE, DAVIS
Program Name:
Lab Program Coord. Phone #
Sampled By: JD, DP, AR Phone #

☐ Non-Hazardous ☐ Hazardous ☐ Unknown Material

Turnaround Time
☐ 21 working days
☐ Rush:
☐ Other:

QA/QC Requirements
☐ Lab Standard
☐ Special:

SAMPLE COLLECTION SUMMARY

LIMS ID (Lab Issued)	Date	Time	Type: Composite	Type: Grab	Sample Location(s)	Field pH	Field Temp °C	Field Temp °F	# of Containers	Container Type*	Preservative*	Matrix*	Analyses Requested: Total Coliform	Analyses Requested: E.coli	Remarks/Notes
1901060024	01/06/19	13:48	☐	☑	WW64-UR25	NA	NA		1	BACTI	$Na_2S_2O_3$	SW	☑	☑	
1901060025	01/06/19	15:28	☐	☑	WW64-UR7	NA	NA		1	BACTI	$Na_2S_2O_3$	SW	☑	☑	
1901060026	↓	15:27	☐	☑	WW64-UR5	NA	NA		1	BACTI	↓	SW	☑	☑	
1901060027	↓	14:08	☐	☑	WW 64-UR10	NA	NA		1	BACTI	↓	SW	☑	☑	
			☐	☐									☐	☐	
			☐	☐									☐	☐	
			☐	☐									☐	☐	
			☐	☐									☐	☐	
			☐	☐									☐	☐	
			☐	☐									☐	☐	

*Bottle Type: AL=Amber Liter, VOA= 40 mL VOA, 1LP=1 Liter Polyethylene, 2LP=2 Liter Polyethylene, Bacti= 120mL Sterile, 250LP= 250 mL Polyethylene, 500LP=500 mL Polyethylene, 25GC=2.5 Gallon Cubitainer, Other:
*Preservative: AA=Ascorbic Acid, HCl= Hydrochloric Acid, H_2SO_4=Sulfuric Acid, HNO_3=Nitric Acid, STS=Sodium Thiosulfate, NaOH=Sodium Hydroxide, ZnAc=Zinc Acetate
*Matrix: DW=Drinking Water, WW=Wastewater, SW=Surface/Ambient Water, S=Solids, B=Biosolids, GW=Groundwater, LE=Leachate, LC=Liquid Chemical, O=Other:

Relinquished By	Date	Time	Relinquished to	Date	Time	Relinquished By	Date	Time	Relinquished to	Date	Time
Kelsey McNeill	01/06/19	19:27	[illegible]	1-6-19	2219						

Laboratory Use Only

Temperature °C: 20.03 Thermometer ID: EB 98

	Y	N		Y	N		Y	N
Received on ice	☐	☐	Field preserved	☐	☐	pH < 2	☐	☐
Container intact	☑	☐	Preserved at receipt	☐	☐	pH > 10 CA 1-6-19	☐	☐
Correct container	☐	☐	Field Filtered 1-6-19 CA	☐	☐	Cl_2 present	☐	☐
Within hold time	☑	☐	VOA bubble(s) > 6mm	☐	☐	Contract Lab	☐	☐

Comments:
* Samples dropped off overnight refrigerator. 1-6-19 CA
Biology

Sample Distribution ☐ Lab Bench ☐ Walk-in Cooler ☐ Other

Revised 3/21/2018

Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

January 16, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave.
Davis, CA 95618

RE: Work Order No: 70393
Project ID: Sac Stormwater 1/5/19

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Saturday, January 05, 2019. Results reported herein conform to the most current ELAP standards, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeste Patena
Program Coordinator
patenac@sacsewer.com

Justin Nordin
QA Officer

Srividhya Ramamoorthy
Lab Manager

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Regional San Environmental Laboratory
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Phone: (916) 875-9000 Fax: (916) 875-9069

SAMPLE SUMMARY

Work Order No: 70393
Project ID: Sac Stormwater 1/5/19

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1901050019	**SUMP 111 (UR-3)**	Surface Water	01/05/2019 11:06	01/05/2019 12:31

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ANALYTICAL RESULTS

Work Order No: 70393
Project ID: Sac Stormwater 1/5/19

Lab ID: **1901050019** Date Collected: 1/5/2019 11:06 Matrix: Surface Water
Sample ID: **SUMP 111 (UR-3)** Date Received: 1/5/2019 12:31

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	92,000	MPN/100mL	1	18	NA	01/05/2019	LLC
E.COLI	SM 9221 F	92,000	MPN/100mL	1	18	NA	01/05/2019	LLC

REPORT OF LABORATORY ANALYSIS

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Regional San Environmental Laboratory
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ANALYTICAL RESULTS QUALIFIERS

Work Order No: 70393
Project ID: Sac Stormwater 1/5/19

PARAMETER QUALIFIERS

J - The analytical result is below RL but above MDL.

MDL - Method Detection Limit defined in 40 CFR, Sect. 136, Appendix B.

ND - Non Detect - Analyte not detected above the MDL or, in the absence of a MDL, above the RL

RL - Reporting limit is the quantitation limit at which the laboratory is able to detect an analyte with a certain degree of confidence. Generally, this represents the parameter's lowest calibration point. This can also define the customer's requirement.

(S) - Surrogates.

DF - Dilution Factor.

NA - Not Applicable.

VS and VSS results reported as percentages of TS and TSS.

MBAS, calculated as LAS, mol wt 340.

Total Alkalinity is titrated to pH 4.5 per the method. This may not correspond to an inflection point where the slope changes rapidly.

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Phone: (916) 875-9000 Fax: (916) 875-9069

QUALITY CONTROL DATA QUALIFIERS

Work Order No: 70393
Project ID: Sac Stormwater 1/5/19

QUALITY CONTROL PARAMETER QUALIFIERS

Result Qualifiers:These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank.

LCS - Laboratory Control Standard.

DUP - Duplicate of Original Sample Matrix.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

RPD -Relative Percent Difference.

% Rec - Spike Recovery stated as a percentage.

QC - Total QC applies to total recoverable.

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Type equation here.

REGIONALSAN

Sacramento Regional County Sanitation District (Regional San) Environmental Laboratory

8521 Laguna Station Road, Elk Grove, CA 95758
(916) 875-9000
ELAP #1100

CHAIN-OF-CUSTODY

(Lab Issued)
Profile # 2210
Work order # 70393

Customer Name	Steve Maricle	Phone # 530.753.6400	Mail code	Turnaround Time	QA/QC Requirements
Customer Address	1480 Drew Avenue Davis, CA 95618			☒21 working days	☒Lab Standard
Program Name	Sacramento Stormwater Quality Partnership		☒Non-Hazardous	☐Rush:	☐ Special:
Lab Program Coord.		Phone #	☐Hazardous	☐Other:	
Sampled By	EMA,	Phone # 530 902 0563	☐Unknown Material		

Contract Lab Info: Ship to: / Ship date: / Courier:

Analyses Requested | Remarks/Notes

SAMPLE COLLECTION SUMMARY

LIMS ID (Lab Issued)	Date	Time	Type: Composite	Type: Grab	Sample Location(s)	Field pH	Field Temp °C ☑	Field Temp °F ☐	# of Containers	Container Type*	Preservative*	Matrix*	E. coli #	Fecal Coliform					
1901050019	01/5/19	11:06	☐	☒	Sump 111 - VR3	6.03	10.90		1	Bacti	STS	~~WW~~SW	☒	☒	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐
			☐	☐									☐	☐	☐	☐	☐	☐	☐

*Bottle Type: AL=Amber Liter, VOA= 40 mL VOA, 1LP=1 Liter Polyethylene, 2LP=2 Liter Polyethylene, Bacti= 120mL Sterile, 250LP= 250 mL Polyethylene, 500LP=500 mL Polyethylene, 25GC=2.5 Gallon Cubitainer

*Preservative: AA=Ascorbic Acid, HCl= Hydrochloric Acid, H_2SO_4=Sulfuric Acid, HNO_3=Nitric Acid, STS=Sodium Thiosulfate, NaOH=Sodium Hydroxide, ZnAc=Zinc Acetate

*Matrix: DW=Drinking Water, WW=Wastewater, SW=Surface/Ambient Water, S=Solids, B=Biosolids, GW=Groundwater, LE=Leachate, LC=Liquid Chemical, O=Other:_____

Relinquished By	Date	Time	Relinquished to	Date	Time	Relinquished By	Date	Time	Relinquished to	Date	Time
[signature]	01/5/19	12:31	Yaren Drew	1-5-19	1231						

Laboratory Use Only

Temperature °C: 5.6 | Thermometer ID: EDC-015

	Y	N
Received on ice	☒	☐
Container intact	☒	☐
Correct container	☒	☐
Within hold time	☒	☐

	Y	N	NA
Field preserved	~~☒~~ N/A	☐	☐
Preserved at receipt	☐	☐	☐
Field Filtered	☐	☐	☐
~~VOA bubble(s) > 6mm~~	☐	☐	☐

	Y	N	NA
pH < 2	☐	☐	☐
pH > 10	☐	☐	☐
Cl_2 present	☐	☐	☐

N/A

Comments: Biolusy

Sample Distribution ☒ Lab Bench ☐ Walk-in Cooler ☐ Other _____

[This page intentionally left blank.]

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

38.601237 | -121.492729

Site Id: **UR3** Site: **Sump 111**

Sample Crew: **TME** Personnel: AR, JD, DR, KMA

Date: 1/5/19 Time of arrival 10:30

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam (trash) other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) (cloudy) (>4" vis.) murky (<4" vis.)

Water color clear brown green (grey) yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation (none) foggy drizzle rain snow

Prec (last 24 hours) unknown (<1") (>1") none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.03	99.8	11.16	10.90	43.3
Instrument(s)	Smarttroll	789			Hach 2100 P
Calibration Date(s)	11/4/19				11/4/19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW64-UR3	NA	none	0	Field Measurements		
☐ WW64-UR3	500mL CG	HCl	1	Mercury, Total		MSD
☐ WW64-UR3	500mL AG	HCl	1	Methylmercury		MSD
☐ WW64-UR3	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform	11:06	
☐ WW64-UR3	3x40ml, VOA A	HCl	1	TOC		
☐ WW64-UR3	125 mL AG	none	1	DOC		
☐ WW64-UR3	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ WW64-UR3	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW64-UR3	~~250~~ 500 mL PE	none	1	Microbial Source Tracking → Weston		
☐ WW64-UR3	500 mL PE	none	1	Microbial Source Tracking Source		

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 10:55 Grab Resume Time: 11:10 Comp ID: 1 of ? Level: 1/3 bottle Bottle Change? yes / (no)

Composite Sampler Program Running? (yes) / no Time of departure 11:50

Additional Notes or Comments

Used intermediate → 1000 mL graduated cylinder pre-cleaned w/ DI water + sample water rinsed with

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR2S** Site: **Strong Ranch Slough** 38.584985 -121.417627

Sample Crew: **TME** Personnel: KMA, JD, DP, AJR

Date: 1/6/19 Time of arrival 13:20

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) (cloudy (>4" vis.)) murky (<4" vis.)

Water color clear brown green (grey) yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation none foggy drizzle (rain) snow

Prec (last 24 hours) unknown (<1") >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	6.5 - 8.5	≤700	≥7	NA	NA
	Ux C1	176.5	10.20	12.60	138
Instrument(s)	SmartTROLL			Hach 2100P	
Calibration Date(s)	1/5/19			1/6/19	

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW64-UR2S	NA	none	0	Field Measurements		
☐ WW64-UR2S	500mL CG	HCl	1	Mercury, Total		
☐ WW64-UR2S	500mL AG	HCl	1	Methylmercury		
☐ WW64-UR2S	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ WW64-UR2S	125 mL AG	none	1	DOC		
☐ WW64-UR2S	3x40ml, VOA A	HCl	1	TOC		
☐ WW64-UR2S	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ WW64-UR2S	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW64-UR2S	250 mL PE	none	1	Microbial Source Tracking Weston		
☐ WW64-UR6	500mL CG	HCl	1	Mercury, Total		FB
☐ WW64-UR6	500mL AG	HCl	1	Methylmercury		FB
☐ WW64-UR6	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FB
☐ WW64-UR6	3x40ml, VOA A	HCl	1	TOC		FB
☐ WW64-UR6	125 mL AG	none	1	DOC		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 13:35 Grab Resume Time: 14:00 Comp ID: 1-2 of ? Level: 0.1 L Bottle Change? yes / (no)

Composite Sampler Program Running? (yes) / no Time of departure 14:30

Additional Notes or Comments

intermediate container → graduated cylinder 1000 mL cleaned with DI water previously

UR 5 labels used for UR2S

UR 7 labels used for UR6

→ half gallon cleaned w/ DI water

sampler → half gallon → graduated cylinder → sample bottle

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR5** Site: **North Natomas Detention Basin No. 4** 38.667779 -121.506603

Sample Crew: **TME** Personnel: JD, DP, MD, KMA

Date: 1/6/19 Time of arrival 15:10

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.83	336.4	7.97	11.85	92
Instrument(s)	SmarTroll				Hach 2100Q
Calibration Date(s)	1/5/19				1/6/19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW64-UR5	NA	none	0	Field Measurements		
☐ WW64-UR5	500mL CG	HCl	1	Mercury, Total		
☐ WW64-UR5	500mL AG	HCl	1	Methylmercury		
☐ WW64-UR5	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ WW64-UR5	3x40ml, VOA A	HCl	1	TOC		
☐ WW64-UR5	125 mL AG	none	1	DOC		
☐ WW64-UR5	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ WW64-UR5	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW64-UR5	250 mL PE	none	1	Microbial Source Tracking Weston		
☐ WW64-UR7	500mL CG	HCl	1	Mercury, Total		FD
☐ WW64-UR7	500mL AG	HCl	1	Methylmercury		FD
☐ WW64-UR7	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FD
☐ WW64-UR7	3x40ml, VOA A	HCl	1	TOC		FD
☐ WW64-UR7	125 mL AG	none	1	DOC		FD
☐ WW64-UR7	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		FD
☐ WW64-UR7	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		FD
☐ WW64-UR7	250 mL PE	none	1	Microbial Source Tracking		FD
☐ WW64-UR7	250 mL PE	none	1	Microbial Source Tracking		FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 15:15 Grab Resume Time: 15:20 Comp ID: 1 of 2 Level: 1.5 L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

used intermediate → 1000 mL graduated cylinder cleaned w/ DI water → same container as SFS (not for mercury)

UR7 → labels used for UR5

UR25 labels were used for UR7

Field Sampling Pre-Storm Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR3** Site: **Sump 111** 38.601237 -121.492729

Sample Crew: **TME** Personnel: AJ Reed, Jeff Dumm, David Pfuhler

Date: 1/4/2015 Time of arrival: 2:50

Site Observations and Inspection: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam (trash) other

Water odor none sulfides sewage petroleum (mixed) other

Water clarity clear (can see bottom) cloudy (>4" vis.) (murky) (<4" vis.)

Water color clear brown green grey yellow (other)

Sky code (clear) partly cloudy overcast fog hazy

Precipitation (none) foggy drizzle rain snow

Additional Notes:

Photo Numbers	
upstream	
downstream	

Site Checklist

		Notes
Call control 12 (UR3 and UR5):	✓	
Site inspected for hazards:	✓	
Intake tubing inspected:	✓	
Intake cleaned of debris (UR2S):	✓	N/A
Sampler calibrated:	✓	
Program running:	✓	
Carboy installed w/ straps:	✓	
Sampler setup with tubing in lid:	✓	
Photos Taken:		N/D
Other actions or notes:		
Call control 12 (UR3 and UR5:	✓	

Time of departure: 2:58 PM

Additional Notes or Comments

Field Sampling Composite Bottle Change Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR3** Site: **Sump 111** 38.601237 -121.492729

Sample Crew: **TME** Personnel: JD, AJ, DP

Date: 1-5-19 Time of arrival: 6:00 PM

Site Observations and Inspection: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Additional Notes:

Photo Numbers

upstream

downstream

Activities Performed Yes No

Call control 12 (UR3 and UR5): ✓

Describe activites performed CHANGED OUT CARBOY & PUT AN EMPTY ONE ON THE SCALE.

Storm Activities Performed Yes No

Composite bottle change? ✓

New composite ID:

Removed composite ID:

Time of bottle change: 6:05 PM

Estimated volume: 19 L

Notes:

Program running when leaving: ✓

Call control 12 (UR3 and UR5): ✓

Time of departure: 6:10 PM

Additional Notes or Comments

STRONG RANCH SLOUGH

Field Sampling Pre-Storm Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR2S** Site: ~~North Natomas Detention Basin No. 4~~ **38.584985** **-121.506603**

Sample Crew: **TME** Personnel: AJ Reed, Jeff Dumm, Dave Fowler

Date: 1/4/2019 Time of arrival: 1:15

Site Observations and Inspection: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code (clear) partly cloudy overcast fog hazy

Precipitation (none) foggy drizzle rain snow

Additional Notes:

Photo Numbers	
upstream	
downstream	

Site Checklist

		Notes
Call control 12 (UR3 and UR5):	☐	
Site inspected for hazards:	☑	
Intake tubing inspected:	☑	
Intake cleaned of debris (UR2S):	☑	
Sampler calibrated:	☑	
Program running:	☑	
Carboy installed w/ straps:	☑	
Sampler setup with tubing in lid:	☑	
Photos Taken:	☐	N/A
Other actions or notes:		
Call control 12 (UR3 and UR5:	☐	

Time of departure: 1:45

Additional Notes or Comments

Field Sampling Composite Bottle Change Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: UR2S Site: ~~North Natomas Detention Basin No. 4~~ STRONG RIVER SLOUGH 38.584985 -121.506603

Sample Crew: TME Personnel: JD, AR, DP

Date: 1-7-19 Time of arrival: 7:00 am

Site Observations and Inspection: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Additional Notes:

Photo Numbers

upstream

downstream

Activities Performed Yes No

Call control 12 (UR3 and UR5): ✓

Describe activites performed

collected empty & turned on program.
collected dissolved metal sample. 7:23 AM

Storm Activities Performed Yes No

Composite bottle change? ✓

New composite ID:

Time of bottle change: 7:23 AM

Removed composite ID:

Estimated volume: L

Notes:

Program running when leaving:

turned program off

Call control 12 (UR3 and UR5): ✓

Time of departure: 7:25 AM

Additional Notes or Comments

Field Sampling Pre-Storm Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: ~~UR3~~ 5 Site: **North Natomas Detention Basin No. 4** 38.601237 -121.506603

Sample Crew: **TME** Personnel: Jeff Dumm, AJ Read, Dave Pfuhler

Date: 1/4/19 Time of arrival: 15:00

Site Observations and Inspection: Circle your observations

Dominant substrate concrete cobble gravel sand (mud) unknown other

Site odor none (musty) sulfides sewage petroleum mixed other

Other presences (vascular) (nonvascular) (algae) oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear) (can see bottom) (cloudy) (>4" vis.) (murky) (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code (clear) partly cloudy overcast fog hazy

Precipitation (none) foggy drizzle rain snow

Additional Notes:

Photo Numbers	
upstream	
downstream	

Site Checklist

		Notes
Call control 12 (UR3 and UR5):	✓	
Site inspected for hazards:	✓	
Intake tubing inspected:	✓	
Intake cleaned of debris (UR2S):	✓	
Sampler calibrated:	✓	
Program running:	✓	
Carboy installed w/ straps:	✓	
Sampler setup with tubing in lid:	✓	
Photos Taken:		N/A
Other actions or notes:		
Call control 12 (UR3 and UR5:	✓	

Time of departure: 15:23

Additional Notes or Comments

Field Sampling Composite Bottle Change Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: UR3 Site: North Natomas Detention Basin No. 4 38.601237 -121.506603

Sample Crew: TME Personnel: JD, AR, DP

Date: 1-7-19 Time of arrival: 7:54 AM

Site Observations and Inspection: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Additional Notes:

Photo Numbers	
upstream	
downstream	

Activities Performed Yes No

Call control 12 (UR3 and UR5): ☑

Describe activites performed

collected canisay & collected sample for dissolved metals.

TURNED OFF pump.

Storm Activities Performed Yes No

Composite bottle change? ☑

New composite ID:

Removed composite ID:

Time of bottle change: 8:00 AM

Estimated volume: 12 L

Notes:

Program running when leaving: ☐ PROGRAM IS TURNED OFF

Call control 12 (UR3 and UR5): ☑

Time of departure: 8:25

Additional Notes or Comments

Field Sampling Data Log Sheet

SSQP Urban Tributary Monitoring

Site Id: **LC02** Site: **Laguna Creek** **38.653665** **-121.18353**

Sample Crew: **TME** Personnel: Beth Smiley

Date: 1-5-19 Time of arrival 11:28 am

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel (sand) (mud) unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other none

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green (grey) yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation (none) foggy (drizzle) rain snow

Prec (last 24 hours) unknown (<1") >1" none

Photo Numbers

upstream #1

downstream #2

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	7.9	182.4	9.5.4	53°	19.1

Instrument(s) Hach 2100 P TME #7, pen type meter 14.3 °C

Calibration Date(s) 1-4-19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WWCRK44-LC02	NA	none	0	Field Measurements	11:34	

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, (GP) = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

Field Sampling Data Log Sheet

SSQP Urban Tributary Monitoring

Site Id: **WC01** Site: **Willow Creek** **38.429853** **-121.400426**

Sample Crew: **TME** Personnel: Beth Smiley

Date: 1-5-19 Time of arrival 1:45

Habitat Observations: Circle your observations

Dominant substrate concrete (cobble) (gravel) sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other none

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear (can see bottom)) cloudy (>4" vis.) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation none foggy (drizzle) rain snow It rain

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream #3

downstream #4

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	8.5	298.	102.2	11.5°C	5.09 NTU

Instrument(s) Hach 2100P TME #7, pen type meter

Calibration Date(s) 1-4-19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WWCRK44-WC0	NA	none	0	Field Measurements	1:45	

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, (GP) = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

Wet Weather Event #3 (WW65)

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Thursday, February 21, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U020085 Collected By: CD / OP / KMA
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Saturday, February 02, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

SAMPLE SUMMARY

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U020085001	**WW65-UR2S**	Water	02/02/2019 07:46	02/02/2019 13:30
U020085002	**WW65-UR7**	Water	02/02/2019 07:58	02/02/2019 13:30
U020085003	**WW65-UR3**	Water	02/02/2019 03:07	02/02/2019 13:30
U020085004	**WW65-UR5**	Water	02/02/2019 04:28	02/02/2019 13:30
U020085005	**WW65-UR6**	Water	02/02/2019 02:50	02/02/2019 13:30
U020085006	**WW65-UR2S**	Water	02/02/2019 08:13	02/02/2019 13:30
U020085007	**WW65-UR7**	Water	02/02/2019 08:24	02/02/2019 13:30
U020085008	**WW65-UR3**	Water	02/02/2019 03:10	02/02/2019 13:30
U020085009	**WW65-UR5**	Water	02/02/2019 04:27	02/02/2019 13:30

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NARRATIVE

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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ANALYTICAL RESULTS

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020085001** Date Collected 2/2/2019 07:46 Matrix Water
Sample ID **WW65-UR2S** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.032	ug/L	0.00050	0.00020	1	02/05/19 09:26	MPR 16449	02/06/19 16:22	MHG 6092	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.19	ng/L	0.05	0.020	1	02/06/19 00:00	MPR 16452	02/06/19 18:37	MHG 6093	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			02/05/19 15:40	VMS 4214	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			02/05/19 15:40	VMS 4214	
4-Bromofluorobenzene (SS)	104	%	70-130		1			02/05/19 15:40	VMS 4214	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	4.0	mg/L	0.5	0.30	1			02/18/19 17:11	WET 9898	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	4.4	mg/L	0.5	0.30	1			02/18/19 12:33	WET 9897	

Lab ID **U020085002** Date Collected 2/2/2019 07:58 Matrix Water
Sample ID **WW65-UR7** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.029	ug/L	0.00050	0.00020	1	02/05/19 09:26	MPR 16449	02/06/19 16:22	MHG 6092	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.19	ng/L	0.05	0.020	1	02/06/19 00:00	MPR 16452	02/06/19 18:37	MHG 6093	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			02/05/19 16:22	VMS 4214	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			02/05/19 16:22	VMS 4214	
4-Bromofluorobenzene (SS)	101	%	70-130		1			02/05/19 16:22	VMS 4214	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	3.3	mg/L	0.5	0.30	1			02/18/19 17:51	WET 9898	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	4.1	mg/L	0.5	0.30	1			02/18/19 13:13	WET 9897	

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ANALYTICAL RESULTS

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020085003** Date Collected 2/2/2019 03:07 Matrix Water
Sample ID **WW65-UR3** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0063	ug/L	0.00050	0.00020	1	02/05/19 09:26	MPR 16449	02/06/19 16:22	MHG 6092	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.07	ng/L	0.05	0.020	1	02/06/19 00:00	MPR 16452	02/06/19 18:37	MHG 6093	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			02/05/19 17:03	VMS 4214	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			02/05/19 17:03	VMS 4214	
4-Bromofluorobenzene (SS)	99	%	70-130		1			02/05/19 17:03	VMS 4214	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	3.3	mg/L	0.5	0.30	1			02/18/19 18:01	WET 9898	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	3.5	mg/L	0.5	0.30	1			02/18/19 13:23	WET 9897	

Lab ID **U020085004** Date Collected 2/2/2019 04:28 Matrix Water
Sample ID **WW65-UR5** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0034	ug/L	0.00050	0.00020	1	02/05/19 09:26	MPR 16449	02/06/19 16:22	MHG 6092	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	0.10	ng/L	0.05	0.020	1	02/06/19 00:00	MPR 16452	02/06/19 18:37	MHG 6093	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			02/05/19 17:45	VMS 4214	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			02/05/19 17:45	VMS 4214	
4-Bromofluorobenzene (SS)	99	%	70-130		1			02/05/19 17:45	VMS 4214	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	5.8	mg/L	0.5	0.30	1			02/18/19 18:12	WET 9898	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	7.3	mg/L	0.5	0.30	1			02/18/19 13:35	WET 9897	

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ANALYTICAL RESULTS

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020085005** Date Collected 2/2/2019 02:50 Matrix Water
Sample ID **WW65-UR6** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	J0.00022	ug/L	0.00050	0.00020	1	02/05/19 09:26	MPR 16449	02/06/19 16:22	MHG 6092	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	UKS	
	Analytical Method:		EPA 1630					**Analyzed by:**	UKS	
Methyl Mercury (as Hg)	ND	ng/L	0.05	0.020	1	02/06/19 00:00	MPR 16452	02/06/19 18:37	MHG 6093	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	J0.37	mg/L	0.5	0.30	1			02/18/19 18:22	WET 9898	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	J0.41	mg/L	0.5	0.30	1			02/18/19 14:06	WET 9897	

Lab ID **U020085006** Date Collected 2/2/2019 08:13 Matrix Water
Sample ID **WW65-UR2S** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	220	37	1.099	02/06/19 16:50	REFD 3011	02/07/19 17:31	REFD 3012	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	550	73	1.099	02/06/19 16:50	REFD 3011	02/07/19 17:31	REFD 3012	
Tetracosane (SS)	84	%	44-127		1.099	02/06/19 16:50	REFD 3011	02/07/19 17:31	REFD 3012	

Lab ID **U020085007** Date Collected 2/2/2019 08:24 Matrix Water
Sample ID **WW65-UR7** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	213	36	1.064	02/06/19 16:50	REFD 3011	02/07/19 17:54	REFD 3012	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	532	70	1.064	02/06/19 16:50	REFD 3011	02/07/19 17:54	REFD 3012	
Tetracosane (SS)	47	%	44-127		1.064	02/06/19 16:50	REFD 3011	02/07/19 17:54	REFD 3012	

Lab ID **U020085008** Date Collected 2/2/2019 03:10 Matrix Water
Sample ID **WW65-UR3** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	

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ANALYTICAL RESULTS

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020085008** Date Collected 2/2/2019 03:10 Matrix Water
Sample ID **WW65-UR3** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
TPH - Diesel (C10 - C22)	ND	ug/L	217	37	1.087	02/06/19 16:50	REFD 3011	02/07/19 18:17	REFD 3012	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	544	72	1.087	02/06/19 16:50	REFD 3011	02/07/19 18:17	REFD 3012	
Tetracosane (SS)	57	%	44-127		1.087	02/06/19 16:50	REFD 3011	02/07/19 18:17	REFD 3012	

Lab ID **U020085009** Date Collected 2/2/2019 04:27 Matrix Water
Sample ID **WW65-UR5** Date Received 2/2/2019 13:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	1	02/06/19 16:50	REFD 3011	02/07/19 18:40	REFD 3012	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	1	02/06/19 16:50	REFD 3011	02/07/19 18:40	REFD 3012	
Tetracosane (SS)	82	%	44-127		1	02/06/19 16:50	REFD 3011	02/07/19 18:40	REFD 3012	

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QUALITY CONTROL DATA

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16449
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 869061

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 869062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.0224	112	79-121	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 869064 869065

Parameter	Units	U020082004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.012	0.02	0.0353	0.0345	117	113	71-125	2.3	24	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 869066 869067

Parameter	Units	U020130001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.0046	0.02	0.0275	0.0273	115	114	71-125	0.7	24	

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16452
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

METHOD BLANK: 869334

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 869335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	0.91	82	67-133	

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QUALITY CONTROL DATA

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16452
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 869337 869338

Parameter	Units	U011334001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.02	1.1	0.889	0.899	78	79	65-135	1.1	35	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 869339 869340

Parameter	Units	U020085001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.19	1.1	1.09	1.1	81	82	65-135	0.9	35	

Analysis Description:	Total Extractable Petroleum Hydrocarbon	**QC Batch:**	REFD/3011
Analysis Method:	SW846 8015(MOD)	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 871810

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ND	200	34	ug/L	1
TPH - Motor Oil (C23 - C36)	ND	500	66	ug/L	
Tetracosane (SS)	85	44-127		%	

LABORATORY CONTROL SAMPLE: 871811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	2500	2038.9	82	57-106	1
Tetracosane (SS)	%			72	44-127	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871812 871813

Parameter	Units	1903685 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	0	2500	1966	2373.5	79	95	46-131	19	30	1
Tetracosane (SS)	%					74	85	44-127	14		

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4214
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

METHOD BLANK: 868888

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QUALITY CONTROL DATA

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4214
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPPH - Gasoline Fuel	ND	50	20	ug/L	
TPPH quantitated as Gasoline	ND	50	20	ug/L	
4-Bromofluorobenzene (SS)	101	70-130		%	

LABORATORY CONTROL SAMPLE & LCSD: 868889 868890

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
TPPH - Gasoline Fuel	ug/L	550	652	637	119	116	65-130	2.3	30	
4-Bromofluorobenzene (SS)	%				104	108	70-130	3.4	30	

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/9897
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 871683

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 871684 871685

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	9.71	9.6	97	96	80-120	1.1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871686 871687

Parameter	Units	U011313005 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	21	10	29.8	30.1	88	91	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871688 871689

Parameter	Units	U020085001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	4.4	10	14.6	14.6	102	102	80-120	0	20	

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QUALITY CONTROL DATA

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/9898
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

FILTER BLANK: 871694

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

METHOD BLANK: 871690

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 871691 871692

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	9.74	9.78	97	98	80-120	0.4	20	
Dissolved Organic Carbon	mg/L	10	9.74	9.78	97	98	80-120	0.4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871696 871697

Parameter	Units	U020085001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	4	10	14.4	14.6	104	106	80-120	1.4	20	
Dissolved Organic Carbon	mg/L	4	10	14.4	14.6	104	106	80-120	1.4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871698 871699

Parameter	Units	U020093001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	12	10	22.3	22.2	103	102	80-120	0.4	20	
Dissolved Organic Carbon	mg/L	12	10	22.3	22.2	103	102	80-120	0.4	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U020085
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U020085001	**WW65-UR2S**	EPA 1631E	MPR/16449	EPA 1631E	MHG/6092
U020085002	**WW65-UR7**	EPA 1631E	MPR/16449	EPA 1631E	MHG/6092
U020085003	**WW65-UR3**	EPA 1631E	MPR/16449	EPA 1631E	MHG/6092
U020085004	**WW65-UR5**	EPA 1631E	MPR/16449	EPA 1631E	MHG/6092
U020085005	**WW65-UR6**	EPA 1631E	MPR/16449	EPA 1631E	MHG/6092
U020085001	**WW65-UR2S**	EPA 1630	MPR/16452	EPA 1630	MHG/6093
U020085002	**WW65-UR7**	EPA 1630	MPR/16452	EPA 1630	MHG/6093
U020085003	**WW65-UR3**	EPA 1630	MPR/16452	EPA 1630	MHG/6093
U020085004	**WW65-UR5**	EPA 1630	MPR/16452	EPA 1630	MHG/6093
U020085005	**WW65-UR6**	EPA 1630	MPR/16452	EPA 1630	MHG/6093
U020085006	**WW65-UR2S**	SW846 3510C	REFD/3011	SW846 8015(MOD)	REFD/3012
U020085007	**WW65-UR7**	SW846 3510C	REFD/3011	SW846 8015(MOD)	REFD/3012
U020085008	**WW65-UR3**	SW846 3510C	REFD/3011	SW846 8015(MOD)	REFD/3012
U020085009	**WW65-UR5**	SW846 3510C	REFD/3011	SW846 8015(MOD)	REFD/3012
U020085001	**WW65-UR2S**	SW846 5030B/8260B	VMS/4214		
U020085002	**WW65-UR7**	SW846 5030B/8260B	VMS/4214		
U020085003	**WW65-UR3**	SW846 5030B/8260B	VMS/4214		
U020085004	**WW65-UR5**	SW846 5030B/8260B	VMS/4214		
U020085001	**WW65-UR2S**	SM 5310 B-00/-11	WET/9897		
U020085002	**WW65-UR7**	SM 5310 B-00/-11	WET/9897		
U020085003	**WW65-UR3**	SM 5310 B-00/-11	WET/9897		
U020085004	**WW65-UR5**	SM 5310 B-00/-11	WET/9897		
U020085005	**WW65-UR6**	SM 5310 B-00/-11	WET/9897		
U020085001	**WW65-UR2S**	SM 5310 B-00/-11	WET/9898		
U020085002	**WW65-UR7**	SM 5310 B-00/-11	WET/9898		
U020085003	**WW65-UR3**	SM 5310 B-00/-11	WET/9898		
U020085004	**WW65-UR5**	SM 5310 B-00/-11	WET/9898		
U020085005	**WW65-UR6**	SM 5310 B-00/-11	WET/9898		

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without the written consent of CALTEST ANALYTICAL LABORATORY

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

BC Laboratories, Inc.
Environmental Testing Laboratory Since 1949

Date of Report: 02/11/2019

Carol Battaglia

Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Client Project:	U020085
BCL Project:	Water Analysis
BCL Work Order:	1903685
Invoice ID:	B330491

Enclosed are the results of analyses for samples received by the laboratory on 2/5/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form 3
Laboratory / Client Sample Cross Reference 5

Sample Results

1903685-01 - U020085006 WW65-UR2S

Total Petroleum Hydrocarbons 6

1903685-02 - U020085007 WW65-UR7

Total Petroleum Hydrocarbons 7

1903685-03 - U020085008 WW65-UR3

Total Petroleum Hydrocarbons 8

1903685-04 - U020085009 WW65-UR5

Total Petroleum Hydrocarbons 9

Quality Control Reports

Total Petroleum Hydrocarbons

Method Blank Analysis 10
Laboratory Control Sample 11
Precision and Accuracy 12

Notes

Notes and Definitions 13

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Chain of Custody and Cooler Receipt Form for 1903685 Page 1 of 2

Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

Page 1 of 1

SUBCONTRACT CHAIN OF CUSTODY

PROJECT ID / PO NUMBER - U020085

PM Review: GM

Sending Laboratory
Caltest Analytical Laboratory
1885 N. Kelly Rd.
Napa, CA 94558
Phone: (707) 258-4000
Fax: (707) 226-1001
Report To: Client Services
Email: pmgr@caltestlabs.com

Receiving Laboratory
BC Laboratories, Inc.
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 800-878-4911
Fax: 661-327-1918

RUSH!

Due Date: **7 DAY TAT** (contact if due date cannot be met)

19-0368 5

Sampled By: _____

Caltest Lab ID (ref. only)	Client Sample ID	Matrix	Sample Date	Container Type	Preservative	Requested Analyses	Comments
U020085006	WW65-UR2S	AQ	02/02/2019 08:13	AL	None	DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U020085007	WW65-UR7	AQ	02/02/2019 08:24			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U020085008	WW65-UR3	AQ	02/02/2019 03:10			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U020085009	WW65-UR5	AQ	02/02/2019 04:27			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT

CHK'BY

DISTRIBUTION

SUB-OUT ☐

Relinquished By	Date / Time	Received By	Date / Time
	02/04/19 12:30	ONTRAC	
			2.5.19 09:55
Relinquished By	Date / Time	Received By	Date / Time

Monday, February 04 2019 12:34PM Matrix: AQ - Aqueous DW - Drinking Water SL - Solid

Chain of Custody and Cooler Receipt Form for 1903685 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 19-03685

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ Ontrac ☑ Hand Delivery ☐
BC Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☑ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☐
W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 98 Container: Amber Thermometer ID: 274

Temperature: (A) 0.0 °C / (C) 0.0 °C

Date/Time 2.5.19

Analyst/Init MD 09:55

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.3/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER	A	A	A	A						
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: Date/Time: 2-5-19 1738

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20)

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1903685-01	**COC Number:**	---	**Receive Date:**	02/05/2019 09:55
	Project Number:	---	**Sampling Date:**	02/02/2019 08:13
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U020085006 WW65-UR2S	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water
1903685-02	**COC Number:**	---	**Receive Date:**	02/05/2019 09:55
	Project Number:	---	**Sampling Date:**	02/02/2019 08:24
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U020085007 WW65-UR7	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water
1903685-03	**COC Number:**	---	**Receive Date:**	02/05/2019 09:55
	Project Number:	---	**Sampling Date:**	02/02/2019 15:10
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U020085008 WW65-UR3	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water
1903685-04	**COC Number:**	---	**Receive Date:**	02/05/2019 09:55
	Project Number:	---	**Sampling Date:**	02/02/2019 04:27
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U020085009 WW65-UR5	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1903685-01 | **Client Sample Name:** U020085006 WW65-UR2S, 2/2/2019 8:13:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	84.2	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	02/06/19 16:50	02/07/19 17:31	RSM	GC-2	1.099	B037160

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1903685-02 | **Client Sample Name:** U020085007 WW65-UR7, 2/2/2019 8:24:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	47.2	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	02/06/19 16:50	02/07/19 17:54	RSM	GC-2	1.064	B037160

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1903685-03 | **Client Sample Name:** U020085008 WW65-UR3, 2/2/2019 3:10:00PM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	57.3	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	02/06/19 16:50	02/07/19 18:17	RSM	GC-2	1.087	B037160

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1903685-04 | **Client Sample Name:** U020085009 WW65-UR5, 2/2/2019 4:27:00AM

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	81.6	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	02/06/19 16:50	02/07/19 18:40	RSM	GC-2	1	B037160

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B037160						
TPH - Diesel (C10 - C22)	B037160-BLK1	ND	ug/L	200	34	
TPH - Motor Oil (C23 - C36)	B037160-BLK1	ND	ug/L	500	66	
Tetracosane (Surrogate)	**B037160-BLK1**	**85.4**	%	**37 - 134 (LCL - UCL)**		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B037160										
TPH - Diesel (C10 - C22)	B037160-BS1	LCS	2038.9	2500.0	ug/L	81.6		57 - 106		
Tetracosane (Surrogate)	B037160-BS1	LCS	71.790	100.00	ug/L	71.8		37 - 134		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B037160	Used client sample: N										
TPH - Diesel (C10 - C22)	MS	1902131-05	ND	1966.0	2500.0	ug/L		78.6		46 - 131	
	MSD	1902131-05	ND	2373.5	2500.0	ug/L	18.8	94.9	30	46 - 131	
Tetracosane (Surrogate)	MS	1902131-05	ND	73.950	100.00	ug/L		74.0		37 - 134	
	MSD	1902131-05	ND	85.050	100.00	ug/L	14.0	85.0		37 - 134	

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 02/11/2019 14:58
Project: Water Analysis
Project Number: U020085
Project Manager: Carol Battaglia

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 2/2/19 Lab ID: 1102085

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: CD + DP + KMA

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW65-UR2S	Hg_Meth	2/2/19	7:22	Water	1	500mL AG	HCl	X						
WW65-UR2S	Hg_T		7:26	Water	1	500mL CG	HCl		X					
WW65-UR2S	TOC		7:42	Water	1	3x40ml, VOA A	HCl				X			
WW65-UR2S	TPH_DM		8:13	Water	2	1L AG	none					X		
WW65-UR2S	TPH_GAS		7:46	Water	1	3x40ml, VOA	HCl						X	
WW65-UR7	DOC		7:58	Water	1	125 mL AG	none			X				
WW65-UR7	Hg_Meth		7:18	Water	1	500mL AG	HCl	X						
WW65-UR7	Hg_T		7:31	Water	1	500mL CG	HCl		X					
WW65-UR7	TOC		7:42	Water	1	3x40ml, VOA A	HCl				X			
WW65-UR7	TPH_DM		8:24	Water	2	1L AG	none					X		
WW65-UR7	TPH_GAS		7:54	Water	1	3x40ml, VOA	HCl						X	

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:
TEMP. (°C): .6
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature:
Print: Brian McLaughlin
Organization: LWA
Date: 2/2/19 Time: 1240

Received By (2):
Alex Hartwig
Caltest
Date: 2-2-19 Time: 1240

Relinquished By (1):
Signature:
Print: Alex Hartwig
Organization: Caltest
Date: 2-2-19 Time: 1330

Received By (2):
Caltest
Date: 2/2/19 Time: 1330

Crew: TME

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 2/2/19 Lab ID: 11020085

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: CD + DP + KMA

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW65-UR3	DOC	2/2/19	3:07	Water	1	125 mL AG	none			X				
WW65-UR3	Hg_Meth		2:28	Water	1	500mL AG	HCl	X						
WW65-UR3	Hg_T		2:33	Water	1	500mL CG	HCl		X					
WW65-UR3	TOC		3:01	Water	1	3x40ml, VOA A	HCl				X			
WW65-UR3	TPH_DM		3:10	Water	2	1L AG	none					X		
WW65-UR3	TPH_GAS		2:57	Water	1	3x40ml, VOA	HCl						X	
WW65-UR6	DOC		2:50	Water	1	125 mL AG	none			X				
WW65-UR6	Hg_Meth		2:18	Water	1	500mL AG	HCl	X						
WW65-UR6	Hg_T		2:21	Water	1	500mL CG	HCl		X					
WW65-UR6	TOC	↓	2:47	Water	1	3x40ml, VOA A	HCl				X			
WW65-UR2S	DOC	2/2/19	7:58	Water	1	125 mL AG	none			X				

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: BRIAN LAWRENCE
Organization: LWA
Date: 2/2/19 Time: 1247

Received By (2):
Alex Hartwig
Caltest
Date: 2-2-19 Time: 1247

Laboratory Comments:
TEMP. (°C): .6
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature:
Print: Alex Hartwig
Organization: Caltest
Date: 2-2-19 Time: 1330

Received By (2):
Date: Time:

Crew: TME

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 2/2/19 Lab ID: 1107085

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: CD + DP + KMA
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
WW65-UR5	DOC	2/2/19	4:23	Water	1	125 mL AG	none			X				
WW65-UR5	Hg_Meth	"	4:01	Water	1	500mL AG	HCl	X						
WW65-UR5	Hg_T	"	4:03	Water	1	500mL CG	HCl		X					
WW65-UR5	TOC	"	4:28	Water	1	3x40ml, VOA A	HCl				X			
WW65-UR5	TPH_DM	"	4:27	Water	2	1L AG	none					X		
WW65-UR5	TPH_GAS	"	4:17	Water	1	3x40ml, VOA	HCl						X	

14

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: [illegible] LAURENSEN
Organization: LWA
Date: 2/4/19 Time: 1242

Received By (2):
Signature:
Print: Alex Hartwig
Organization: Caltest
Date: 2-2-19 Time: 1242

Laboratory Comments:
TEMP. (°C): 6
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature:
Print: Alex Hartwig
Organization: Caltest
Date: 2-2-19 Time: 1330

Received By (2):
Signature:
Date: Time:

Crew: TME

Thursday, February 21, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U020097 Collected By: D.PFUHLER/K.McNEIL
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, February 04, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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without the written consent of CALTEST ANALYTICAL LABORATORY

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

SAMPLE SUMMARY

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U020097001	**UR2S**	Water	02/03/2019 08:03	02/04/2019 08:55
U020097002	**UR5**	Water	02/03/2019 08:50	02/04/2019 08:55
U020097003	**UR3**	Water	02/03/2019 10:20	02/04/2019 08:55
U020097004	**UR6**	Water	02/03/2019 14:30	02/04/2019 08:55
U020097005	**UR2S LAB DUPLICATE**	Water	02/03/2019 08:03	02/04/2019 08:55

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NARRATIVE

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

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ANALYTICAL RESULTS

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020097001** Date Collected 2/3/2019 08:03 Matrix Water
Sample ID **UR2S** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	3.7	ug/L	0.50	0.15	1	02/13/19 16:14	MPR 16473	02/16/19 00:02	MMS 9406	
Iron	0.08	mg/L	0.05	0.0050	1	02/13/19 16:14	MPR 16473	02/16/19 00:02	MMS 9406	
Lead	0.35	ug/L	0.25	0.060	1	02/13/19 16:14	MPR 16473	02/16/19 00:02	MMS 9406	
Zinc	22	ug/L	1.0	0.70	1	02/13/19 16:14	MPR 16473	02/16/19 00:02	MMS 9406	

Lab ID **U020097002** Date Collected 2/3/2019 08:50 Matrix Water
Sample ID **UR5** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	2.1	ug/L	0.50	0.15	1	02/13/19 16:14	MPR 16473	02/16/19 00:11	MMS 9406	
Iron	0.05	mg/L	0.05	0.0050	1	02/13/19 16:14	MPR 16473	02/16/19 00:11	MMS 9406	
Lead	ND	ug/L	0.25	0.060	1	02/13/19 16:14	MPR 16473	02/16/19 00:11	MMS 9406	
Zinc	12	ug/L	1.0	0.70	1	02/13/19 16:14	MPR 16473	02/16/19 00:11	MMS 9406	

Lab ID **U020097003** Date Collected 2/3/2019 10:20 Matrix Water
Sample ID **UR3** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	3.4	ug/L	0.50	0.15	1	02/13/19 16:14	MPR 16473	02/16/19 00:20	MMS 9406	
Iron	J0.03	mg/L	0.05	0.0050	1	02/13/19 16:14	MPR 16473	02/16/19 00:20	MMS 9406	
Lead	J0.21	ug/L	0.25	0.060	1	02/13/19 16:14	MPR 16473	02/16/19 00:20	MMS 9406	
Zinc	31	ug/L	1.0	0.70	1	02/13/19 16:14	MPR 16473	02/16/19 00:20	MMS 9406	

Lab ID **U020097004** Date Collected 2/3/2019 14:30 Matrix Water
Sample ID **UR6** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	ND	ug/L	0.50	0.15	1	02/13/19 16:14	MPR 16473	02/16/19 01:03	MMS 9406	
Iron	J0.008	mg/L	0.05	0.0050	1	02/13/19 16:14	MPR 16473	02/16/19 01:03	MMS 9406	
Lead	ND	ug/L	0.25	0.060	1	02/13/19 16:14	MPR 16473	02/16/19 01:03	MMS 9406	
Zinc	ND	ug/L	1.0	0.70	1	02/13/19 16:14	MPR 16473	02/16/19 01:03	MMS 9406	

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ANALYTICAL RESULTS

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020097004** Date Collected 2/3/2019 14:30 Matrix Water
Sample ID **UR6** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual

Lab ID **U020097005** Date Collected 2/3/2019 08:03 Matrix Water
Sample ID **UR2S LAB DUPLICATE** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	LM	
Copper	3.7	ug/L	0.50	0.15	1	02/13/19 16:14	MPR 16473	02/16/19 01:12	MMS 9406	
Iron	0.07	mg/L	0.05	0.0050	1	02/13/19 16:14	MPR 16473	02/16/19 01:12	MMS 9406	
Lead	0.35	ug/L	0.25	0.060	1	02/13/19 16:14	MPR 16473	02/16/19 01:12	MMS 9406	
Zinc	21	ug/L	1.0	0.70	1	02/13/19 16:14	MPR 16473	02/16/19 01:12	MMS 9406	

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QUALITY CONTROL DATA

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode,Dissolved	**QC Batch:**	MPR/16473
Analysis Method:	EPA 200.8 (filtrate)	**QC Batch Method:**	EPA 200.8 (filtrate)

METHOD BLANK: 870846

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 870847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	18.4	92	85-115	
Iron	mg/L	10	9.16	92	85-115	
Lead	ug/L	20	18.8	94	85-115	
Zinc	ug/L	20	18.1	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 870849 870850

Parameter	Units	U020334020 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	12	20	31.2	31.6	96	98	70-130	1.3	20	
Iron	mg/L	0.25	10	9.6	9.68	94	94	70-130	0.8	20	
Lead	ug/L	0.16	20	18.3	18.4	91	91	70-130	0.5	20	
Zinc	ug/L	4.7	20	23.7	23.5	95	94	70-130	0.8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 870852 870853

Parameter	Units	U020453005 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	3.1	20	21.9	21.5	94	92	70-130	1.8	20	
Iron	mg/L	0.04	10	9.48	9.22	94	92	70-130	2.8	20	
Lead	ug/L	0.39	20	19	18.4	93	90	70-130	3.2	20	
Zinc	ug/L	4	20	22.3	21.9	92	90	70-130	1.8	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U020097
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U020097001	**UR2S**	EPA 200.8 (filtrate)	MPR/16473	EPA 200.8 (filtrate)	MMS/9406
U020097002	**UR5**	EPA 200.8 (filtrate)	MPR/16473	EPA 200.8 (filtrate)	MMS/9406
U020097003	**UR3**	EPA 200.8 (filtrate)	MPR/16473	EPA 200.8 (filtrate)	MMS/9406
U020097004	**UR6**	EPA 200.8 (filtrate)	MPR/16473	EPA 200.8 (filtrate)	MMS/9406
U020097005	**UR2S LAB DUPLICATE**	EPA 200.8 (filtrate)	MPR/16473	EPA 200.8 (filtrate)	MMS/9406

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LARRY WALKER ASSOCIATES 1480 Drew Ave Suite 100, DAVIS, CA 95618 TEL: 530.753.6400 FAX: 530.753.7030

CHAIN-OF-CUSTODY RECORD

DATE: 2/3/19 Lab ID: 4020097

DESTINATION LAB: Caltest
Attn: Greg Martindale
ADDRESS: 1885 North Kelly Road
Napa CA 94558

PHONE: (707) 258-4000
FAX:

SAMPLED BY: TME - David Pfuhler
LWA - Kelsey McNeil

LWA TASK MANAGER: Steve Maricle

LWA PROJECT MANAGER: Steve Maricle

LARRY WALKER ASSOCIATES

REQUESTED ANALYSIS: Metals, Dissolved (Cu, Pb, Fe, Zn)

	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Metals, Dissolved (Cu, Pb, Fe, Zn)	NOTES
-1 1	UR2S	2/3/19	8:03	W	1	500 mL PE	-	X	
-2 2	UR5	2/3/19	8:50	W	2	500 mL PE	-	X	[1] Bottle 1: 59% 2: 41%
-3 3	UR3	2/2/19	(*) 10:20	W	2	500 mL PE	-	X	[1] Bottle 1: 67% 2: 33%
-4 4	UR6	2/2/19	14:30	W	1	500 mL PE	-	X	
-5 5	UR2S - Lab duplicate	2/3/19	8:03	W	0	500 mL PE	-	X	Perform lab dup on UR2S
6									
7									
8									
9									
10									
11									
12									

(*) Time on Bottle says 1130

SENDER COMMENTS:
[1] field filtered w/in 15 min
Report to <labdata@lwa.com> Bill to <ap@lwa.com>
Combine multiple bottles as noted in percentage by volume
UR5 (second bottle) and UR2S filtered after 15 minute hold

LABORATORY COMMENTS:
TEMP. (°C): 2.0
SEALED: Y
INTACT: Y

RELIQUINSHED BY	RECEIVED BY
Signature:	Signature:
Print: ~~Brian~~ M Laurenson	Print: Thomas Perkins
Company: LWA	Company: PER
Date: 2/3/19 Time: 1054	Date: 2/3/19 Time: 1054
RELIQUINSHED BY [2]	**RECEIVED BY [2]**
Signature:	Signature:
Print:	Print: LARSON
Company:	Company: CalTest
Date: Time:	Date: 2-4-19 Time: 0825

2-4-19/0855 2/4/19 0855

Tuesday, March 05, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U020098 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, February 04, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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SAMPLE SUMMARY

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U020098001	**WW65-UR3**	Water	02/02/2019 10:56	02/04/2019 08:55
U020098002	**WW65-UR2S**	Water	02/02/2019 17:47	02/04/2019 08:55
U020098003	**WW65-UR7**	Water	02/02/2019 17:47	02/04/2019 08:55
U020098004	**WW65-UR5**	Water	02/02/2019 18:51	02/04/2019 08:55
U020098005	**WW65-UR6**	Water	02/02/2019 14:30	02/04/2019 08:55

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NARRATIVE

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1	This sample was selected for the batch matrix spike/matrix spike duplicate quality control sample. The percent recovery(ies) of the matrix spike(s) for this analyte was outside established control limits, possibly due to matrix interferences. Please refer to QC section for more information.
2	This analysis is not covered under Caltest's NELAP/CAL-ELAP Accreditations.
3	This sample was selected for the batch matrix spike/matrix spike duplicate quality control sample. The percent relative percent difference (RPD) of the matrix spikes for this analyte was outside established control limits, possibly due to matrix interferences. Please refer to QC section for more information.
4	Result is estimated, potentially biased high, for this compound as Fipronil Sulfone was observed in a blank analyzed prior to this sample. A re-run of this sample with a fresh blank resulted in a similar recovery of Fipronil Sulfone in both the blank and the sample.

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098001** Date Collected 2/2/2019 10:56 Matrix Water
Sample ID **WW65-UR3** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	34	mg/L	3	2	1			02/08/19 10:02	BIO 20342	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	DJC	
Chemical Oxygen Demand	56	mg/L	50	20	1			02/05/19 10:34	BIO 20328	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	ACS	
Sediment Concentration	37	mg/L	3	2	1			02/05/19 11:16	BIO 20325	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	RJD	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	DJC	
Biochemical Oxygen Demand	13	mg/L	5	5	1	02/04/19 10:48	BOD 11594	02/09/19 11:43	BOD 11596	
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	UKS	
	Analytical Method:	EPA 200.8						**Analyzed by:**	LM	
Copper	10	ug/L	0.50	0.15	1	02/12/19 13:38	MPR 16465	02/15/19 03:50	MMS 9404	
Iron	0.72	mg/L	0.05	0.0050	1	02/12/19 13:38	MPR 16465	02/15/19 03:50	MMS 9404	
Lead	4.8	ug/L	0.25	0.060	1	02/12/19 13:38	MPR 16465	02/15/19 03:50	MMS 9404	
Zinc	85	ug/L	1.0	0.70	1	02/12/19 13:38	MPR 16465	02/15/19 03:50	MMS 9404	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	MDW	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Bifenthrin	5.6	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Chlorpyrifos	2.1	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Cyfluthrin	2.6	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Lambda-Cyhalothrin	J0.4	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Cypermethrin	1.7	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Diazinon	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Deltamethrin:Tralomethrin	J0.9	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Esfenvalerate:Fenvalerate	1.6	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Fenpropathrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Fipronil	2.6	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Fipronil Desulfinyl	J0.7	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Fipronil Sulfone	1.9	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Permethrin	J3.6	ng/L	10	2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Tetramethrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Esfenvalerate-d6 (SS)	66	%	26-130		1	02/04/19 15:00	SPR 8342	02/10/19 03:50	SMS 4746	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**	SM 4500-Norg C/NH3 B,C-11						**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.6	mg/L	0.1	0.070	1			02/27/19 00:00	WAT 4915	
Phosphorus Analysis, Low Level	**Analytical Method:**	SM 4500-P B/F-11 (LL)						**Analyzed by:**	DR	
Total Phosphorus as P	0.19	mg/L	0.01	0.0070	1			02/14/19 13:28	WCO 14413	

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098001** Date Collected 2/2/2019 10:56 Matrix Water
Sample ID **WW65-UR3** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.25	mg/L	0.1	0.070	1			02/14/19 19:23	WCO 14421	1
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	MYS	
Turbidity	21	NTU	0.070	0.070	1			02/04/19 10:01	WET 9908	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	36	umhos/cm	10	10	1			02/06/19 14:27	WET 9888	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	J4.0	mg/L	10	4.0	1			02/09/19 17:14	WGR 7073	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	11	mg/L	5	1.7	1			02/25/19 00:00	WTI 3142	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	10	mg/L	10	1.2	1			02/06/19 16:08	WTI 3135	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:08	WTI 3135	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:08	WTI 3135	
Alkalinity, Total (as CACO3)	10	mg/L	10	1.2	1			02/06/19 16:08	WTI 3135	

Lab ID **U020098002** Date Collected 2/2/2019 17:47 Matrix Water
Sample ID **WW65-UR2S** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	52	mg/L	3	2	1			02/08/19 10:02	BIO 20342	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	J30	mg/L	50	20	1			02/05/19 10:34	BIO 20328	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	ACS	
Sediment Concentration	131	mg/L	3	2	1			02/05/19 11:16	BIO 20325	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	RJD	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	02/04/19 14:09	BOD 11594	02/09/19 11:46	BOD 11596	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	8.7	ug/L	0.50	0.15	1	02/12/19 13:38	MPR 16465	02/15/19 03:59	MMS 9404	
Iron	1.1	mg/L	0.05	0.0050	1	02/12/19 13:38	MPR 16465	02/15/19 03:59	MMS 9404	
Lead	5.4	ug/L	0.25	0.060	1	02/12/19 13:38	MPR 16465	02/15/19 03:59	MMS 9404	
Zinc	59	ug/L	1.0	0.70	1	02/12/19 13:38	MPR 16465	02/15/19 03:59	MMS 9404	

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098002** Date Collected 2/2/2019 17:47 Matrix Water
Sample ID **WW65-UR2S** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Bifenthrin	16	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Cyfluthrin	0.9	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Lambda-Cyhalothrin	0.7	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Cypermethrin	1.2	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Diazinon	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Deltamethrin:Tralomethrin	3.5	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Esfenvalerate:Fenvalerate	1.3	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Fenpropathrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Fipronil	13	ng/L	5.0	2	5	02/04/19 15:00	SPR 8342	02/10/19 02:03	SMS 4746	
Fipronil Desulfinyl	1.8	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Fipronil Sulfide	1.2	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Fipronil Sulfone	14	ng/L	5.0	2	5	02/04/19 15:00	SPR 8342	02/10/19 02:03	SMS 4746	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Permethrin	J2.8	ng/L	10	2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Tetramethrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Esfenvalerate-d6 (SS)	60	%	26-130		1	02/04/19 15:00	SPR 8342	02/10/19 07:06	SMS 4746	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**		SM 4500-Norg C/NH3 B,C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	0.55	mg/L	0.1	0.070	1			02/27/19 00:00	WAT 4915	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.22	mg/L	0.01	0.0070	1			02/14/19 13:29	WCO 14413	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.33	mg/L	0.1	0.070	1			02/14/19 19:30	WCO 14421	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	MYS	
Turbidity	32	NTU	0.070	0.070	1			02/04/19 10:02	WET 9908	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	69	umhos/cm	10	10	1			02/06/19 14:28	WET 9888	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	32	mg/L	10	4.0	1			02/09/19 17:14	WGR 7073	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	24	mg/L	5	1.7	1			02/25/19 00:00	WTI 3142	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	23	mg/L	10	1.2	1			02/06/19 16:15	WTI 3135	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:15	WTI 3135	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:15	WTI 3135	
Alkalinity, Total (as CACO3)	23	mg/L	10	1.2	1			02/06/19 16:15	WTI 3135	

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098003** Date Collected 2/2/2019 17:47 Matrix Water
Sample ID **WW65-UR7** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	52	mg/L	3	2	1			02/08/19 10:02	BIO 20342	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	DJC	
Chemical Oxygen Demand	ND	mg/L	50	20	1			02/05/19 10:34	BIO 20328	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	ACS	
Sediment Concentration	723	mg/L	3	2	1			02/05/19 11:16	BIO 20325	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	RJD	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	DJC	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	02/04/19 14:10	BOD 11594	02/09/19 11:48	BOD 11596	
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	UKS	
	Analytical Method:	EPA 200.8						**Analyzed by:**	LM	
Copper	8.8	ug/L	0.50	0.15	1	02/12/19 13:38	MPR 16465	02/15/19 04:08	MMS 9404	
Iron	1.2	mg/L	0.05	0.0050	1	02/12/19 13:38	MPR 16465	02/15/19 04:08	MMS 9404	
Lead	5.7	ug/L	0.25	0.060	1	02/12/19 13:38	MPR 16465	02/15/19 04:08	MMS 9404	
Zinc	61	ug/L	1.0	0.70	1	02/12/19 13:38	MPR 16465	02/15/19 04:08	MMS 9404	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	MDW	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Bifenthrin	8.8	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Cyfluthrin	1.2	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Lambda-Cyhalothrin	J0.4	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Cypermethrin	0.6	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Diazinon	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Deltamethrin:Tralomethrin	1.1	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Esfenvalerate:Fenvalerate	J0.8	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Fenpropathrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Fipronil	5.0	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Fipronil Desulfinyl	J0.9	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Fipronil Sulfide	J0.5	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Fipronil Sulfone	4.5	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Permethrin	ND	ng/L	10	2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Tetramethrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Esfenvalerate-d6 (SS)	39	%	26-130		1	02/04/19 15:00	SPR 8342	02/09/19 14:48	SMS 4746	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**	SM 4500-Norg C/NH3 B,C-11						**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.4	mg/L	0.1	0.070	1			02/27/19 00:00	WAT 4915	
Phosphorus Analysis, Low Level	**Analytical Method:**	SM 4500-P B/F-11 (LL)						**Analyzed by:**	DR	
Total Phosphorus as P	0.22	mg/L	0.01	0.0070	1			02/14/19 13:31	WCO 14413	

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098003** Date Collected 2/2/2019 17:47 Matrix Water
Sample ID **WW65-UR7** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.34	mg/L	0.1	0.070	1			02/14/19 19:32	WCO 14421	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	MYS	
Turbidity	31	NTU	0.070	0.070	1			02/04/19 10:04	WET 9908	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	69	umhos/cm	10	10	1			02/06/19 14:30	WET 9888	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	28	mg/L	10	4.0	1			02/09/19 17:14	WGR 7073	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	24	mg/L	5	1.7	1			02/25/19 00:00	WTI 3142	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	23	mg/L	10	1.2	1			02/06/19 16:23	WTI 3135	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:23	WTI 3135	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:23	WTI 3135	
Alkalinity, Total (as CACO3)	23	mg/L	10	1.2	1			02/06/19 16:23	WTI 3135	

Lab ID **U020098004** Date Collected 2/2/2019 18:51 Matrix Water
Sample ID **WW65-UR5** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	12	mg/L	3	2	1			02/08/19 10:02	BIO 20342	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	ND	mg/L	50	20	1			02/05/19 10:34	BIO 20328	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	ACS	
Sediment Concentration	15	mg/L	3	2	1			02/05/19 11:16	BIO 20325	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	RJD	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	6	mg/L	5	5	1	02/04/19 10:49	BOD 11594	02/09/19 11:50	BOD 11596	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	UKS	
	Analytical Method:		EPA 200.8					**Analyzed by:**	LM	
Copper	4.0	ug/L	0.50	0.15	1	02/12/19 13:38	MPR 16465	02/15/19 04:16	MMS 9404	
Iron	0.40	mg/L	0.05	0.0050	1	02/12/19 13:38	MPR 16465	02/15/19 04:16	MMS 9404	
Lead	0.33	ug/L	0.25	0.060	1	02/12/19 13:38	MPR 16465	02/15/19 04:16	MMS 9404	
Zinc	25	ug/L	1.0	0.70	1	02/12/19 13:38	MPR 16465	02/19/19 17:43	MMS 9404	

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098004** Date Collected 2/2/2019 18:51 Matrix Water
Sample ID **WW65-UR5** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Bifenthrin	10	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Cyfluthrin	1.1	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Lambda-Cyhalothrin	J0.4	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Cypermethrin	0.6	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Diazinon	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Deltamethrin:Tralomethrin	5.4	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Esfenvalerate:Fenvalerate	1.3	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Fenpropathrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Fipronil	10	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Fipronil Desulfinyl	3.8	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Fipronil Sulfide	1.5	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Fipronil Sulfone	12	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	3
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Permethrin	J3.3	ng/L	10	2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Tetramethrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Esfenvalerate-d6 (SS)	65	%	26-130		1	02/04/19 15:00	SPR 8342	02/09/19 16:35	SMS 4746	
Nitrogen,Total Kjeldahl Analysis	**Analytical Method:**		SM 4500-Norg C/NH3 B,C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.5	mg/L	0.1	0.070	1			02/27/19 00:00	WAT 4915	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.26	mg/L	0.01	0.0070	1			02/14/19 13:32	WCO 14413	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	0.29	mg/L	0.1	0.070	1			02/14/19 19:34	WCO 14421	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	MYS	
Turbidity	9.2	NTU	0.070	0.070	1			02/04/19 10:05	WET 9908	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	130	umhos/cm	10	10	1			02/06/19 14:31	WET 9888	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	57	mg/L	10	4.0	1			02/09/19 17:14	WGR 7073	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	42	mg/L	5	1.7	1			02/25/19 00:00	WTI 3142	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	45	mg/L	10	1.2	1			02/06/19 16:31	WTI 3135	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:31	WTI 3135	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			02/06/19 16:31	WTI 3135	
Alkalinity, Total (as CACO3)	45	mg/L	10	1.2	1			02/06/19 16:31	WTI 3135	

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ANALYTICAL RESULTS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U020098005** Date Collected 2/2/2019 14:30 Matrix Water
Sample ID **WW65-UR6** Date Received 2/4/2019 08:55

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	TPH	
	Analytical Method:		EPA 200.8					**Analyzed by:**	TPH	
Copper	J0.19	ug/L	0.50	0.15	1	02/21/19 11:52	MPR 16491	02/25/19 15:57	MMS 9417	
Iron	J0.01	mg/L	0.05	0.0050	1	02/12/19 13:38	MPR 16465	02/15/19 05:17	MMS 9404	
Lead	ND	ug/L	0.25	0.060	1	02/12/19 13:38	MPR 16465	02/15/19 05:17	MMS 9404	
Zinc	ND	ug/L	1.0	0.70	1	02/12/19 13:38	MPR 16465	02/15/19 05:17	MMS 9404	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	MDW	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Bifenthrin	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Cyfluthrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Lambda-Cyhalothrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Cypermethrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Diazinon	ND	ng/L	0.5	0.1	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Fenpropathrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Fipronil	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Fipronil Desulfinyl	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Fipronil Sulfone	E0.7	ng/L	1.0	0.5	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	4
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Permethrin	ND	ng/L	10	2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Tetramethrin	ND	ng/L	0.5	0.2	1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Esfenvalerate-d6 (SS)	83	%	26-130		1	02/04/19 15:00	SPR 8342	02/09/19 22:30	SMS 4746	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	ND	mg/L	5	1.7	1			02/25/19 00:00	WTI 3142	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Suspended Sediment Concentration	**QC Batch:**	BIO/20325
Analysis Method:	ASTM D 3977-97 B-Filtration	**QC Batch Method:**	ASTM D 3977-97 B-Filtration

METHOD BLANK: 868876

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Sediment Concentration	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 868877 868918

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Sediment Concentration	mg/L	500	500	494	100	99	80-120	1.2	20	

Analysis Description:	Chemical Oxygen Demand Analysis	**QC Batch:**	BIO/20328
Analysis Method:	EPA 410.4-93 / SM 5220 D-11	**QC Batch Method:**	EPA 410.4-93 / SM 5220 D-11

METHOD BLANK: 869040

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chemical Oxygen Demand	ND	50	20	mg/L	

LABORATORY CONTROL SAMPLE: 869041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Chemical Oxygen Demand	mg/L	300	326	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 869042 869043

Parameter	Units	U010014013 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	0	300	323	308	108	103	90-110	4.8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 869044 869045

Parameter	Units	U010014014 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	0	300	322	326	107	109	90-110	1.2	20	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20342
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

METHOD BLANK: 869830

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Suspended Solids	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE: 869831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Suspended Solids	mg/L	500	478	96	80-120	

SAMPLE DUPLICATE: 869861

Parameter	Units	U010025013 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	434	474	8.8	20	6	4	

SAMPLE DUPLICATE: 869862

Parameter	Units	U010025015 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	368	376	2.2	20	6	4	

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11594
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

METHOD BLANK: 868753

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Biochemical Oxygen Demand	ND	5	5	mg/L	

LABORATORY CONTROL SAMPLE: 868754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Biochemical Oxygen Demand	mg/L	198	182	92	85-115	7

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11594
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

SAMPLE DUPLICATE: 868755

Parameter	Units	U020001003 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Biochemical Oxygen Demand	mg/L	379	340	11	30	50	50	

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16465
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 870504

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

METHOD BLANK: 870504

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	J0.21	0.50	0.15	ug/L	8

LABORATORY CONTROL SAMPLE: 870505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	19.2	96	85-115	
Iron	mg/L	10	9.59	96	85-115	
Lead	ug/L	20	19.8	99	85-115	
Zinc	ug/L	20	19.7	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 870507 870508

Parameter	Units	U020081001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	4.3	20	22.8	23	93	94	70-130	0.9	20	
Iron	mg/L	0.29	10	9.71	9.82	94	95	70-130	1.1	20	
Lead	ug/L	0.44	20	20.1	19.9	98	97	70-130	1	20	
Zinc	ug/L	43	20	61.2	62.5	91	98	70-130	2.1	20	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16465
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 870509 870510

Parameter	Units	U020098004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	4	20	21.8	22.1	89	91	70-130	1.4	20	
Iron	mg/L	0.4	10	9.95	10.1	96	97	70-130	1.5	20	
Lead	ug/L	0.33	20	19.1	19	94	93	70-130	0.5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 870509 870510

Parameter	Units	U020098004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Zinc	ug/L	25	20	43.3	42.8	92	89	70-130	1.2	20	

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16491
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 872407

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	

LABORATORY CONTROL SAMPLE: 872408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	19.5	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 872410 872411

Parameter	Units	U020453005 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	4.8	20	23.9	24	96	96	70-130	0.4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 872412 872413

Parameter	Units	U020518001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	7.3	20	25.7	26.4	92	96	70-130	2.7	20	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8342
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 868742

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Allethrin	ND	0.5	0.1	ng/L	
Bifenthrin	ND	0.5	0.1	ng/L	
Chlorpyrifos	ND	1.0	0.5	ng/L	
Cyfluthrin	ND	0.5	0.2	ng/L	
Lambda-Cyhalothrin	ND	0.5	0.2	ng/L	
Cypermethrin	ND	0.5	0.2	ng/L	
Diazinon	ND	0.5	0.1	ng/L	
Deltamethrin:Tralomethrin	ND	1.0	0.2	ng/L	
Esfenvalerate:Fenvalerate	ND	1.0	0.2	ng/L	
Fenpropathrin	ND	0.5	0.2	ng/L	
Fipronil	ND	1.0	0.5	ng/L	
Fipronil Desulfinyl	ND	1.0	0.5	ng/L	
Fipronil Sulfide	ND	1.0	0.5	ng/L	
Fipronil Sulfone	ND	1.0	0.5	ng/L	
Tau-Fluvalinate	ND	0.5	0.2	ng/L	
Permethrin	ND	10	2	ng/L	
Tetramethrin	ND	0.5	0.2	ng/L	
Esfenvalerate-d6 (SS)	84	34-130		%	

LABORATORY CONTROL SAMPLE & LCSD: 868743 868744

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Allethrin	ng/L	20	10.8	15.5	54	78	30-130	36	35	5
Bifenthrin	ng/L	20	12.9	19.7	65	99	44-130	42	35	5
Chlorpyrifos	ng/L	20	12	18.8	60	94	25-130	44	35	5
Cyfluthrin	ng/L	20	12.7	18.4	64	92	43-141	37	30	5
Lambda-Cyhalothrin	ng/L	20	13.1	19.8	66	99	24-130	41	38	5
Cypermethrin	ng/L	20	13.4	19.8	67	99	42-130	39	30	5
Diazinon	ng/L	20	13.8	17.4	69	87	24-130	23	35	
Deltamethrin:Tralomethrin	ng/L	40	23.8	38.9	60	97	3-150	48	30	5
Esfenvalerate:Fenvalerate	ng/L	40	26.5	39.6	66	99	32-130	40	30	5
Fenpropathrin	ng/L	20	13.2	19.5	66	98	27-185	39	57	
Fipronil	ng/L	20	12.2	19.1	61	96	27-130	44	32	5
Fipronil Desulfinyl	ng/L	20	11	17	55	85	25-130	43	35	5
Fipronil Sulfide	ng/L	20	11.9	18.4	60	92	22-130	43	41	5
Fipronil Sulfone	ng/L	20	14.8	21.2	74	106	14-130	36	32	5
Tau-Fluvalinate	ng/L	20	12.9	20	65	100	18-130	43	30	5
Permethrin	ng/L	100	63.1	94.8	63	95	40-135	40	30	5
Tetramethrin	ng/L	20	11.7	17.4	59	87	29-130	39	30	5
Esfenvalerate-d6 (SS)	%				68	96	34-130	35	30	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8342
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 868751 868752

Parameter	Units	U020098004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	12	11.4	60	57	21-130	5.1	30	
Bifenthrin	ng/L	10	20	25.8	25.6	79	78	29-139	0.8	30	
Chlorpyrifos	ng/L	0	20	15.1	15.8	76	79	10-130	4.5	30	
Cyfluthrin	ng/L	1.1	20	17.4	17.7	82	83	44-130	1.7	30	
Lambda-Cyhalothrin	ng/L	0.4	20	14.5	15.5	71	76	12-141	6.7	30	
Cypermethrin	ng/L	0.6	20	16.8	17.3	81	84	39-130	2.9	30	
Diazinon	ng/L	0	20	15.4	14	77	70	3-151	9.5	46	
Deltamethrin:Tralomethrin	ng/L	5.4	40	36.2	37.2	77	80	11-130	2.7	30	
Esfenvalerate:Fenvalerate	ng/L	1.3	40	32.3	33.2	78	80	32-130	2.7	30	
Fenpropathrin	ng/L	0	20	14	14.5	70	73	20-168	3.5	31	
Fipronil	ng/L	10	20	27.4	28.8	87	94	7-142	5	30	
Fipronil Desulfinyl	ng/L	3.8	20	16.9	18.6	66	74	17-130	9.6	35	
Fipronil Sulfide	ng/L	1.5	20	13.9	15.1	62	68	3-130	8.3	32	
Fipronil Sulfone	ng/L	12	20	21	29.1	45	86	4-142	32	31	6
Tau-Fluvalinate	ng/L	0	20	15.2	15.8	76	79	13-130	3.9	32	
Permethrin	ng/L	3.3	100	75.4	76.2	72	73	40-130	1.1	30	
Tetramethrin	ng/L	0	20	13.1	12.3	66	62	28-130	6.3	30	
Esfenvalerate-d6 (SS)	%					75	77	30-130	2.6	30	

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WAT/4915
Analysis Method:	SM 4500-Norg C/NH3 B,C-11	**QC Batch Method:**	SM 4500-Norg C/NH3 B,C-11

METHOD BLANK: 873198

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Kjeldahl Nitrogen	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 873199 873429

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Kjeldahl Nitrogen	mg/L	5	5.17	5.09	103	102	90-110	1.6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 873509 873510

Parameter	Units	U020222001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Kjeldahl Nitrogen	mg/L	3.5	5	7.82	8.06	86	91	54-154	3	20	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14413
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

METHOD BLANK: 870822

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Phosphorus as P	ND	0.01	0.007	mg/L	

LABORATORY CONTROL SAMPLE: 870823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Phosphorus as P	mg/L	1	1.07	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 870824 870825

Parameter	Units	U020392001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Phosphorus as P	mg/L	0.059	1	1.07	1.11	101	105	90-110	3.7	20	

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14421
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

METHOD BLANK: 871221

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Nitrogen, Nitrate-Nitrite	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE: 871222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Nitrogen, Nitrate-Nitrite	mg/L	1	0.945	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871223 871224

Parameter	Units	U020098001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.25	1	1.16	1.13	91	88	90-110	2.6	20	9

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14421
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 871225 871226

Parameter	Units	U020115003 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.32	1	1.11	1.24	79	92	90-110	11	20	9

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/9888
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

METHOD BLANK: 869259

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Conductivity	ND	10	10	umhos/c	

LABORATORY CONTROL SAMPLE: 869260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Conductivity	umhos/c	1400	1430	101	80-120	

SAMPLE DUPLICATE: 869261

Parameter	Units	U011280002 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Conductivity	umhos/c	600	599	0.2	20	10	10	

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9908
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

METHOD BLANK: 873045

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Turbidity	ND	0.070	0.07	NTU	

LABORATORY CONTROL SAMPLE: 873046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Turbidity	NTU	4	4.39	110	90-110	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/9908
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

SAMPLE DUPLICATE: 873048

Parameter	Units	U020093001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	23900	26800	11	20	70	70	

SAMPLE DUPLICATE: 873047

Parameter	Units	U020098001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	21	20.6	1.9	20	0.070	.07	

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/7073
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

METHOD BLANK: 870076

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Dissolved Solids	ND	10	4	mg/L	

LABORATORY CONTROL SAMPLE: 870077

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Dissolved Solids	mg/L	500	466	93	80-120	

SAMPLE DUPLICATE: 870084

Parameter	Units	U020089001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	69	72	4.3	20	10	4	

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3135
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

METHOD BLANK: 869267

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3135
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Bicarbonate (as CACO3)	ND	10	1.2	mg/L	
Carbonate (as CACO3)	ND	10	1.2	mg/L	
Hydroxide (as CACO3)	ND	10	1.2	mg/L	
Alkalinity, Total (as CACO3)	ND	10	1.2	mg/L	

LABORATORY CONTROL SAMPLE: 869268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Bicarbonate (as CACO3)	mg/L	100	95	95	80-120	
Alkalinity, Total (as CACO3)	mg/L	100	95	95	80-120	

SAMPLE DUPLICATE: 869270

Parameter	Units	U011304003 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	316	313	1	20	10	1.2	
Carbonate (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	316	313	1	20	10	1.2	

SAMPLE DUPLICATE: 869269

Parameter	Units	U011280002 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	242	240	0.8	20	10	1.2	
Carbonate (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	242	240	0.8	20	10	1.2	

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3142
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

METHOD BLANK: 873037

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Hardness (as CACO3)	ND	5	1.7	mg/L	

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QUALITY CONTROL DATA

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3142
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

LABORATORY CONTROL SAMPLE & LCSD: 873038 873039

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Hardness (as CACO3)	mg/L	100	100	98	100	98	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 873040 873041

Parameter	Units	U020098004 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	42	90	130	129	98	97	80-120	0.8	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

5	LCS/LCSD RPD above control limits. LCS and LCSD recoveries are in control. Difference confirmed by re-run.
6	Matrix spike RPD outside control limit. Sample result accepted based on MS/MSD recoveries and Method Blank.
7	One of the three seed control dilutions set does not meet method depletion criteria; however, analysis meets all pertinent method criteria.
8	Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.
9	Low Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U020098001	**WW65-UR3**	ASTM D 3977-97	BIO/20325		
U020098002	**WW65-UR2S**	ASTM D 3977-97	BIO/20325		
U020098003	**WW65-UR7**	ASTM D 3977-97	BIO/20325		
U020098004	**WW65-UR5**	ASTM D 3977-97	BIO/20325		
U020098001	**WW65-UR3**	EPA 410.4-93 / SM 5220	BIO/20328		
U020098002	**WW65-UR2S**	EPA 410.4-93 / SM 5220	BIO/20328		
U020098003	**WW65-UR7**	EPA 410.4-93 / SM 5220	BIO/20328		
U020098004	**WW65-UR5**	EPA 410.4-93 / SM 5220	BIO/20328		
U020098001	**WW65-UR3**	SM 2540 D-11	BIO/20342		
U020098002	**WW65-UR2S**	SM 2540 D-11	BIO/20342		
U020098003	**WW65-UR7**	SM 2540 D-11	BIO/20342		
U020098004	**WW65-UR5**	SM 2540 D-11	BIO/20342		
U020098001	**WW65-UR3**	SM 5210 B-11	BOD/11594	SM 5210 B-11	BOD/11596
U020098002	**WW65-UR2S**	SM 5210 B-11	BOD/11594	SM 5210 B-11	BOD/11596
U020098003	**WW65-UR7**	SM 5210 B-11	BOD/11594	SM 5210 B-11	BOD/11596
U020098004	**WW65-UR5**	SM 5210 B-11	BOD/11594	SM 5210 B-11	BOD/11596
U020098001	**WW65-UR3**	EPA 200.8	MPR/16465	EPA 200.8	MMS/9404
U020098002	**WW65-UR2S**	EPA 200.8	MPR/16465	EPA 200.8	MMS/9404
U020098003	**WW65-UR7**	EPA 200.8	MPR/16465	EPA 200.8	MMS/9404
U020098004	**WW65-UR5**	EPA 200.8	MPR/16465	EPA 200.8	MMS/9404
U020098005	**WW65-UR6**	EPA 200.8	MPR/16465	EPA 200.8	MMS/9404
U020098005	**WW65-UR6**	EPA 200.8	MPR/16491	EPA 200.8	MMS/9417
U020098001	**WW65-UR3**	SW846 3510C	SPR/8342	EPA 8270M_NCI	SMS/4746
U020098002	**WW65-UR2S**	SW846 3510C	SPR/8342	EPA 8270M_NCI	SMS/4746
U020098003	**WW65-UR7**	SW846 3510C	SPR/8342	EPA 8270M_NCI	SMS/4746
U020098004	**WW65-UR5**	SW846 3510C	SPR/8342	EPA 8270M_NCI	SMS/4746
U020098005	**WW65-UR6**	SW846 3510C	SPR/8342	EPA 8270M_NCI	SMS/4746
U020098001	**WW65-UR3**	SM 4500-Norg C/NH3	WAT/4915		
U020098002	**WW65-UR2S**	SM 4500-Norg C/NH3	WAT/4915		
U020098003	**WW65-UR7**	SM 4500-Norg C/NH3	WAT/4915		
U020098004	**WW65-UR5**	SM 4500-Norg C/NH3	WAT/4915		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U020098
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U020098001	**WW65-UR3**	SM 4500-P B/F-11 (LL)	WCO/14413		
U020098002	**WW65-UR2S**	SM 4500-P B/F-11 (LL)	WCO/14413		
U020098003	**WW65-UR7**	SM 4500-P B/F-11 (LL)	WCO/14413		
U020098004	**WW65-UR5**	SM 4500-P B/F-11 (LL)	WCO/14413		
U020098001	**WW65-UR3**	EPA353.2-93/SM4500-N	WCO/14421		
U020098002	**WW65-UR2S**	EPA353.2-93/SM4500-N	WCO/14421		
U020098003	**WW65-UR7**	EPA353.2-93/SM4500-N	WCO/14421		
U020098004	**WW65-UR5**	EPA353.2-93/SM4500-N	WCO/14421		
U020098001	**WW65-UR3**	SM 2510 B-97/-11	WET/9888		
U020098002	**WW65-UR2S**	SM 2510 B-97/-11	WET/9888		
U020098003	**WW65-UR7**	SM 2510 B-97/-11	WET/9888		
U020098004	**WW65-UR5**	SM 2510 B-97/-11	WET/9888		
U020098001	**WW65-UR3**	EPA 180.1-93	WET/9908		
U020098002	**WW65-UR2S**	EPA 180.1-93	WET/9908		
U020098003	**WW65-UR7**	EPA 180.1-93	WET/9908		
U020098004	**WW65-UR5**	EPA 180.1-93	WET/9908		
U020098001	**WW65-UR3**	SM 2540 C-97/-11	WGR/7073		
U020098002	**WW65-UR2S**	SM 2540 C-97/-11	WGR/7073		
U020098003	**WW65-UR7**	SM 2540 C-97/-11	WGR/7073		
U020098004	**WW65-UR5**	SM 2540 C-97/-11	WGR/7073		
U020098001	**WW65-UR3**	SM 2320 B-97/-11	WTI/3135		
U020098002	**WW65-UR2S**	SM 2320 B-97/-11	WTI/3135		
U020098003	**WW65-UR7**	SM 2320 B-97/-11	WTI/3135		
U020098004	**WW65-UR5**	SM 2320 B-97/-11	WTI/3135		
U020098001	**WW65-UR3**	SM 2340 C-97/-11	WTI/3142		
U020098002	**WW65-UR2S**	SM 2340 C-97/-11	WTI/3142		
U020098003	**WW65-UR7**	SM 2340 C-97/-11	WTI/3142		
U020098004	**WW65-UR5**	SM 2340 C-97/-11	WTI/3142		
U020098005	**WW65-UR6**	SM 2340 C-97/-11	WTI/3142		

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID: U020098

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
WW65-UR3	CONV	2-2-19	10:56	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW65-UR3	MTL_T	2-2-19	10:56	Water	1	500 mL PE	HNO3												X	X				
WW65-UR3	NUTR_01	2-2-19	10:56	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW65-UR3	PYRETH	2-2-19	10:56	Water	2	1L AG	none														X			
WW65-UR3	SSC	2-2-19	10:56	Water	1	250 mL PE	none											X						
WW65-UR6	MTL_T	2-2-19	14:30	Water	1	500 mL PE	HNO3												X	X				
WW65-UR6	PYRETH	2-2-19	14:30	Water	2	1L AG	none														X			
WW65-UR2S	CONV	2-2-19	17:47	Water	1	1000 mL PE	none	X	X	X	X	X	X											
WW65-UR2S	MTL_T	2-2-19	17:47	Water	1	500 mL PE	HNO3												X	X				
WW65-UR2S	NUTR_01	2-2-19	17:47	Water	2	500 mL PE	H2SO4							X	X	X	X							
WW65-UR2S	PYRETH	2-2-19	17:47	Water	2	1L AG	none														X			

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:
TEMP. (°C): 2.0
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature:
Print: Trevor Kelly
Organization: PER
Date: 2/4/19 Time: 0825

Received By (2):
Signature:
Print: LARRY
Organization: Cal Test
Date: 2-4-19 Time: 0825

Relinquished By (1):
Signature:
Print: LARRY
Organization: Cal Test
Date: 2-4-19 Time: 0855

Received By (2):
Signature:
Print: L. Gaeta
Organization: Caltest
Date: 2/4/19 Time: 0855

Crew: PER

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID: U020098

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

	Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
-2	WW65-UR2S	SSC	2-2-19	17:47	Water	1	250 mL PE	none											X						
-3	WW65-UR7	CONV	2-2-19	17:47	Water	1	1000 mL PE	none	X	X	X	X	X	X											
	WW65-UR7	MTL_T	2-2-19	17:47	Water	1	500 mL PE	HNO3												X	X				
	WW65-UR7	NUTR_01	2-2-19	17:47	Water	2	500 mL PE	H2SO4							X	X	X	X							
	WW65-UR7	PYRETH	2-2-19	17:47	Water	2	1L AG	none														X			
	WW65-UR7	SSC	2-2-19	17:47	Water	1	250 mL PE	none											X						
-4	WW65-UR5	CONV	2-2-19	18:51	Water	1	1000 mL PE	none	X	X	X	X	X	X											
	WW65-UR5	MTL_T	2-2-19	18:51	Water	1	500 mL PE	HNO3												X	X				MSD
	WW65-UR5	NUTR_01	2-2-19	18:51	Water	2	500 mL PE	H2SO4							X	X	X	X							
	WW65-UR5	PYRETH	2-2-19	18:51	Water	~~23~~ 3	1L AG	none														X			MSD
	WW65-UR5	SSC	2-2-19	18:51	Water	1	250 mL PE	none											X						

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Trevor Kelly
Organization: PER
Date: 2/4/19 Time: 0823

Received By (2):
Print: LARRY
Organization: Cal Tpst
Date: 2-4-19 Time: 0825

Laboratory Comments:
TEMP. (°C): 20
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature:
Print: LARRY
Organization: Cal Tpst
Date: 2-4-19 Time: 0855

Received By (2):
Print: L. Greta
Organization: Caltest
Date: 2/4/19 Time: 0855

Crew: PER

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PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

April 05, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave
Suite 100
Davis, CA 95618

Project Name: SSQP Urban Runoff Discharge Monitoring
Physis Project ID: 1204008-038

Dear Steve,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 2/5/2019. A total of 5 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Organophosphorus Pesticides by EPA 625

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PROJECT SAMPLE LIST

Larry Walker Associates — PHYSIS Project ID: 1204008-038

SSQP Urban Runoff Discharge Monitoring — Total Samples: 5

PHYSIS ID	Sample ID	Description	Date	Time	Matrix
61696	WW65-UR3		2/2/2019	10:56	Liquid
61697	WW65-UR6		2/2/2019	14:30	Liquid
61698	WW65-UR2S		2/2/2019	17:47	Liquid
61699	WW65-UR7		2/2/2019	17:47	Liquid
61700	WW65-UR5		2/2/2019	18:51	Liquid

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

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QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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ANALYTICAL REPORT

PHYSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61696-R1	**WW65-UR3**			**Matrix: Liquid**		**Sampled: 02-Feb-19**		**10:56**	**Received: 05-Feb-19**	
(PCB030)	EPA 625	% Recovery	97			Total		O-22106	05-Feb-19	10-Mar-19
(PCB112)	EPA 625	% Recovery	119			Total		O-22106	05-Feb-19	10-Mar-19
(PCB198)	EPA 625	% Recovery	75			Total		O-22106	05-Feb-19	10-Mar-19
(TCMX)	EPA 625	% Recovery	100			Total		O-22106	05-Feb-19	10-Mar-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Chlorpyrifos	EPA 625	ng/L	2.9	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22106	05-Feb-19	10-Mar-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61697-R1	**WW65-UR6**			**Matrix: Liquid**		**Sampled: 02-Feb-19**		**14:30**	**Received: 05-Feb-19**	
(PCB030)	EPA 625	% Recovery	86			Total		O-22106	05-Feb-19	10-Mar-19
(PCB112)	EPA 625	% Recovery	107			Total		O-22106	05-Feb-19	10-Mar-19
(PCB198)	EPA 625	% Recovery	80			Total		O-22106	05-Feb-19	10-Mar-19
(TCMX)	EPA 625	% Recovery	81			Total		O-22106	05-Feb-19	10-Mar-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22106	05-Feb-19	10-Mar-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61698-R1	**WW65-UR2S**			**Matrix: Liquid**		**Sampled: 02-Feb-19**	**17:47**	**Received: 05-Feb-19**		
(PCB030)	EPA 625	% Recovery	93			Total		O-22106	05-Feb-19	10-Mar-19
(PCB112)	EPA 625	% Recovery	118			Total		O-22106	05-Feb-19	10-Mar-19
(PCB198)	EPA 625	% Recovery	67			Total		O-22106	05-Feb-19	10-Mar-19
(TCMX)	EPA 625	% Recovery	94			Total		O-22106	05-Feb-19	10-Mar-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22106	05-Feb-19	10-Mar-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61699-R1	**WW65-UR7**			**Matrix: Liquid**		**Sampled: 02-Feb-19**	**17:47**	**Received: 05-Feb-19**		
(PCB030)	EPA 625	% Recovery	92			Total		O-22106	05-Feb-19	10-Mar-19
(PCB112)	EPA 625	% Recovery	117			Total		O-22106	05-Feb-19	10-Mar-19
(PCB198)	EPA 625	% Recovery	73			Total		O-22106	05-Feb-19	10-Mar-19
(TCMX)	EPA 625	% Recovery	90			Total		O-22106	05-Feb-19	10-Mar-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22106	05-Feb-19	10-Mar-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61700-R1	**WW65-UR5**			**Matrix: Liquid**		**Sampled: 02-Feb-19 18:51**			**Received: 05-Feb-19**	
(PCB030)	EPA 625	% Recovery	89			Total		O-22106	05-Feb-19	10-Mar-19
(PCB112)	EPA 625	% Recovery	104			Total		O-22106	05-Feb-19	10-Mar-19
(PCB198)	EPA 625	% Recovery	88			Total		O-22106	05-Feb-19	10-Mar-19
(TCMX)	EPA 625	% Recovery	86			Total		O-22106	05-Feb-19	10-Mar-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-22106	05-Feb-19	10-Mar-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-22106	05-Feb-19	10-Mar-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-22106	05-Feb-19	10-Mar-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-22106	05-Feb-19	10-Mar-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-22106	05-Feb-19	10-Mar-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61696-R1	**WW65-UR3**		**Matrix: Liquid**			**Sampled: 02-Feb-19**	**10:56**	**Received: 05-Feb-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	88			Total		O-22106	05-Feb-19	10-Mar-19
(d10-Phenanthrene)	EPA 625	% Recovery	109			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Chrysene)	EPA 625	% Recovery	56			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Perylene)	EPA 625	% Recovery	98			Total		O-22106	05-Feb-19	10-Mar-19
(d8-Naphthalene)	EPA 625	% Recovery	68			Total		O-22106	05-Feb-19	10-Mar-19
1-Methylnaphthalene	EPA 625	ng/L	4.36	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
1-Methylphenanthrene	EPA 625	ng/L	8.48	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2-Methylnaphthalene	EPA 625	ng/L	9.05	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthene	EPA 625	ng/L	4.61	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Anthracene	EPA 625	ng/L	3.13	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Benz[a]anthracene	EPA 625	ng/L	6.49	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[a]pyrene	EPA 625	ng/L	13.7	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[b]fluoranthene	EPA 625	ng/L	29.5	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[e]pyrene	EPA 625	ng/L	31.1	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[g,h,i]perylene	EPA 625	ng/L	51.2	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[k]fluoranthene	EPA 625	ng/L	20	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Biphenyl	EPA 625	ng/L	4.31	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Chrysene	EPA 625	ng/L	20	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenzothiophene	EPA 625	ng/L	9.49	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Fluoranthene	EPA 625	ng/L	40.8	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Naphthalene	EPA 625	ng/L	20.4	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Phenanthrene	EPA 625	ng/L	31.8	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Pyrene	EPA 625	ng/L	56.1	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61697-R1	**WW65-UR6**		**Matrix: Liquid**			**Sampled: 02-Feb-19**	**14:30**	**Received: 05-Feb-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	82			Total		O-22106	05-Feb-19	10-Mar-19
(d10-Phenanthrene)	EPA 625	% Recovery	98			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Chrysene)	EPA 625	% Recovery	76			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Perylene)	EPA 625	% Recovery	98			Total		O-22106	05-Feb-19	10-Mar-19
(d8-Naphthalene)	EPA 625	% Recovery	70			Total		O-22106	05-Feb-19	10-Mar-19
1-Methylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2-Methylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthene	EPA 625	ng/L	4.88	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[b]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Biphenyl	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Naphthalene	EPA 625	ng/L	1.04	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Phenanthrene	EPA 625	ng/L	1.55	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61698-R1	**WW65-UR2S**		**Matrix: Liquid**			**Sampled: 02-Feb-19**	**17:47**	**Received: 05-Feb-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	90			Total		O-22106	05-Feb-19	10-Mar-19
(d10-Phenanthrene)	EPA 625	% Recovery	114			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Chrysene)	EPA 625	% Recovery	57			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Perylene)	EPA 625	% Recovery	104			Total		O-22106	05-Feb-19	10-Mar-19
(d8-Naphthalene)	EPA 625	% Recovery	67			Total		O-22106	05-Feb-19	10-Mar-19
1-Methylnaphthalene	EPA 625	ng/L	3.03	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
1-Methylphenanthrene	EPA 625	ng/L	4.25	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2-Methylnaphthalene	EPA 625	ng/L	8.01	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthene	EPA 625	ng/L	3.47	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Anthracene	EPA 625	ng/L	2.21	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Benz[a]anthracene	EPA 625	ng/L	6.51	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[a]pyrene	EPA 625	ng/L	12.1	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[b]fluoranthene	EPA 625	ng/L	33.9	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[e]pyrene	EPA 625	ng/L	26.5	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[g,h,i]perylene	EPA 625	ng/L	34.4	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[k]fluoranthene	EPA 625	ng/L	24.3	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Biphenyl	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Chrysene	EPA 625	ng/L	16.5	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Fluoranthene	EPA 625	ng/L	38.5	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	35.2	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Naphthalene	EPA 625	ng/L	6.51	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Phenanthrene	EPA 625	ng/L	22.1	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Pyrene	EPA 625	ng/L	42.8	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61699-R1	**WW65-UR7**		**Matrix: Liquid**			**Sampled: 02-Feb-19**	**17:47**	**Received: 05-Feb-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	81			Total		O-22106	05-Feb-19	10-Mar-19
(d10-Phenanthrene)	EPA 625	% Recovery	106			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Chrysene)	EPA 625	% Recovery	59			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Perylene)	EPA 625	% Recovery	101			Total		O-22106	05-Feb-19	10-Mar-19
(d8-Naphthalene)	EPA 625	% Recovery	60			Total		O-22106	05-Feb-19	10-Mar-19
1-Methylnaphthalene	EPA 625	ng/L	3.12	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
1-Methylphenanthrene	EPA 625	ng/L	4.18	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2-Methylnaphthalene	EPA 625	ng/L	6.79	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Anthracene	EPA 625	ng/L	1.95	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Benz[a]anthracene	EPA 625	ng/L	5.1	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[a]pyrene	EPA 625	ng/L	9.75	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[b]fluoranthene	EPA 625	ng/L	20.5	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[e]pyrene	EPA 625	ng/L	19.4	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[g,h,i]perylene	EPA 625	ng/L	22.9	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[k]fluoranthene	EPA 625	ng/L	11.1	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Biphenyl	EPA 625	ng/L	2.57	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Chrysene	EPA 625	ng/L	10.3	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenzothiophene	EPA 625	ng/L	4.38	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Fluoranthene	EPA 625	ng/L	26	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Naphthalene	EPA 625	ng/L	5.18	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Phenanthrene	EPA 625	ng/L	15.7	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Pyrene	EPA 625	ng/L	32.8	1	5	Total		O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 61700-R1	**WW65-UR5**		**Matrix: Liquid**			**Sampled: 02-Feb-19**	**18:51**	**Received: 05-Feb-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	90			Total		O-22106	05-Feb-19	10-Mar-19
(d10-Phenanthrene)	EPA 625	% Recovery	112			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Chrysene)	EPA 625	% Recovery	111			Total		O-22106	05-Feb-19	10-Mar-19
(d12-Perylene)	EPA 625	% Recovery	105			Total		O-22106	05-Feb-19	10-Mar-19
(d8-Naphthalene)	EPA 625	% Recovery	69			Total		O-22106	05-Feb-19	10-Mar-19
1-Methylnaphthalene	EPA 625	ng/L	3.14	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
2-Methylnaphthalene	EPA 625	ng/L	6.19	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[b]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Biphenyl	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Fluoranthene	EPA 625	ng/L	2.99	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Naphthalene	EPA 625	ng/L	2.99	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-22106	05-Feb-19	10-Mar-19
Phenanthrene	EPA 625	ng/L	4.48	1	5	Total	J	O-22106	05-Feb-19	10-Mar-19
Pyrene	EPA 625	ng/L	5.67	1	5	Total		O-22106	05-Feb-19	10-Mar-19

QUALITY CONTROL REPORT

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61695-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19				Analyzed: 09-Mar-19	
(PCB030)	Total	95			% Recovery	100	95	57 - 133%	PASS			
(PCB112)	Total	97			% Recovery	100	97	65 - 133%	PASS			
(PCB198)	Total	105			% Recovery	100	105	69 - 133%	PASS			
(TCMX)	Total	87			% Recovery	100	87	39 - 135%	PASS			
Bolstar (Sulprofos)	Total	ND	2	4	ng/L							
Chlorpyrifos	Total	ND	0.5	1	ng/L							
Demeton	Total	ND	1	2	ng/L							
Diazinon	Total	ND	0.5	1	ng/L							
Dichlorvos	Total	ND	3	6	ng/L							
Dimethoate	Total	ND	5	10	ng/L							
Disulfoton	Total	ND	1	2	ng/L							
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L							
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L							
Fensulfothion	Total	ND	1	2	ng/L							
Fenthion	Total	ND	2	4	ng/L							
Malathion	Total	ND	2.5	5	ng/L							
Methidathion	Total	ND	5	10	ng/L							
Methyl Parathion	Total	ND	1	2	ng/L							
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L							
Phorate	Total	ND	5	10	ng/L							
Phosmet	Total	ND	5	10	ng/L							
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L							
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L							
Trichloronate	Total	ND	1	2	ng/L							

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61695-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19				Analyzed: 09-Mar-19	
(PCB030)	Total	107			% Recovery	100	0	107	57 - 133%	PASS		
(PCB112)	Total	99			% Recovery	100	0	99	65 - 133%	PASS		
(PCB198)	Total	97			% Recovery	100	0	97	69 - 133%	PASS		
(TCMX)	Total	98			% Recovery	100	0	98	39 - 135%	PASS		
Bolstar (Sulprofos)	Total	537	2	4	ng/L	500	0	107	46 - 147%	PASS		
Chlorpyrifos	Total	400	0.5	1	ng/L	500	0	80	75 - 120%	PASS		
Demeton	Total	512	1	2	ng/L	500	0	102	0 - 140%	PASS		
Diazinon	Total	552	0.5	1	ng/L	500	0	110	65 - 125%	PASS		
Dichlorvos	Total	390	3	6	ng/L	500	0	78	58 - 131%	PASS		
Dimethoate	Total	472	5	10	ng/L	500	0	94	17 - 146%	PASS		
Disulfoton	Total	518	1	2	ng/L	500	0	104	23 - 136%	PASS		
Ethoprop (Ethoprofos)	Total	477	1	2	ng/L	500	0	95	63 - 125%	PASS		
Fenchlorphos (Ronnel)	Total	473	2	4	ng/L	500	0	95	75 - 128%	PASS		
Fensulfothion	Total	487	1	2	ng/L	500	0	97	0 - 173%	PASS		
Fenthion	Total	501	2	4	ng/L	500	0	100	57 - 133%	PASS		
Malathion	Total	534	2.5	5	ng/L	500	0	107	41 - 150%	PASS		
Methidathion	Total	554	5	10	ng/L	500	0	111	34 - 155%	PASS		
Methyl Parathion	Total	555	1	2	ng/L	500	0	111	37 - 147%	PASS		
Mevinphos (Phosdrin)	Total	492	5	10	ng/L	500	0	98	28 - 132%	PASS		
Phorate	Total	485	5	10	ng/L	500	0	97	29 - 149%	PASS		
Phosmet	Total	617	5	10	ng/L	500	0	123	47 - 141%	PASS		
Tetrachlorvinphos (Stirofos)	Total	525	2	4	ng/L	500	0	105	57 - 138%	PASS		
Tokuthion (Prothiofos)	Total	497	3	6	ng/L	500	0	99	74 - 136%	PASS		
Trichloronate	Total	392	1	2	ng/L	500	0	78	75 - 122%	PASS		

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61695-BS2	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**					**Received:**	
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19					Analyzed: 09-Mar-19	
(PCB030)	Total	101			% Recovery	100	0	101	57 - 133%	PASS	6	30 PASS	
(PCB112)	Total	92			% Recovery	100	0	92	65 - 133%	PASS	7	30 PASS	
(PCB198)	Total	95			% Recovery	100	0	95	69 - 133%	PASS	2	30 PASS	
(TCMX)	Total	89			% Recovery	100	0	89	39 - 135%	PASS	10	30 PASS	
Bolstar (Sulprofos)	Total	532	2	4	ng/L	500	0	106	46 - 147%	PASS	1	30 PASS	
Chlorpyrifos	Total	392	0.5	1	ng/L	500	0	78	75 - 120%	PASS	3	30 PASS	
Demeton	Total	461	1	2	ng/L	500	0	92	0 - 140%	PASS	10	30 PASS	
Diazinon	Total	524	0.5	1	ng/L	500	0	105	65 - 125%	PASS	5	30 PASS	
Dichlorvos	Total	377	3	6	ng/L	500	0	75	58 - 131%	PASS	4	30 PASS	
Dimethoate	Total	443	5	10	ng/L	500	0	89	17 - 146%	PASS	5	30 PASS	
Disulfoton	Total	496	1	2	ng/L	500	0	99	23 - 136%	PASS	5	30 PASS	
Ethoprop (Ethoprofos)	Total	451	1	2	ng/L	500	0	90	63 - 125%	PASS	5	30 PASS	
Fenchlorphos (Ronnel)	Total	432	2	4	ng/L	500	0	86	75 - 128%	PASS	10	30 PASS	
Fensulfothion	Total	519	1	2	ng/L	500	0	104	0 - 173%	PASS	7	30 PASS	
Fenthion	Total	478	2	4	ng/L	500	0	96	57 - 133%	PASS	4	30 PASS	
Malathion	Total	533	2.5	5	ng/L	500	0	107	41 - 150%	PASS	0	30 PASS	
Methidathion	Total	544	5	10	ng/L	500	0	109	34 - 155%	PASS	2	30 PASS	
Methyl Parathion	Total	573	1	2	ng/L	500	0	115	37 - 147%	PASS	4	30 PASS	
Mevinphos (Phosdrin)	Total	483	5	10	ng/L	500	0	97	28 - 132%	PASS	1	30 PASS	
Phorate	Total	457	5	10	ng/L	500	0	91	29 - 149%	PASS	6	30 PASS	
Phosmet	Total	601	5	10	ng/L	500	0	120	47 - 141%	PASS	2	30 PASS	
Tetrachlorvinphos (Stirofos)	Total	508	2	4	ng/L	500	0	102	57 - 138%	PASS	3	30 PASS	
Tokuthion (Prothiofos)	Total	492	3	6	ng/L	500	0	98	74 - 136%	PASS	1	30 PASS	
Trichloronate	Total	403	1	2	ng/L	500	0	81	75 - 122%	PASS	4	30 PASS	

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61700-MS1	**WW65-UR5**				**Matrix: Liquid**		**Sampled: 02-Feb-19 18:51**			**Received: 05-Feb-19**		
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19			Analyzed: 09-Mar-19		
(PCB030)	Total	80			% Recovery	100	0	80	25 - 130% PASS			
(PCB112)	Total	91			% Recovery	100	0	91	34 - 132% PASS			
(PCB198)	Total	90			% Recovery	100	0	90	30 - 136% PASS			
(TCMX)	Total	70			% Recovery	100	0	70	6 - 124% PASS			
Bolstar (Sulprofos)	Total	723	2	4	ng/L	544	0	133	36 - 173% PASS			
Chlorpyrifos	Total	505	0.5	1	ng/L	544	0	93	36 - 150% PASS			
Demeton	Total	709	1	2	ng/L	544	0	130	0 - 156% PASS			
Diazinon	Total	638	0.5	1	ng/L	544	0	117	41 - 145% PASS			
Dichlorvos	Total	406	3	6	ng/L	544	0	75	31 - 143% PASS			
Dimethoate	Total	693	5	10	ng/L	544	0	127	25 - 150% PASS			
Disulfoton	Total	545	1	2	ng/L	544	0	100	20 - 143% PASS			
Ethoprop (Ethoprofos)	Total	638	1	2	ng/L	544	0	117	34 - 147% PASS			
Fenchlorphos (Ronnel)	Total	532	2	4	ng/L	544	0	98	39 - 153% PASS			
Fensulfothion	Total	1100	1	2	ng/L	544	0	202	46 - 182% FAIL			M
Fenthion	Total	657	2	4	ng/L	544	0	121	44 - 150% PASS			
Malathion	Total	805	2.5	5	ng/L	544	0	148	33 - 179% PASS			
Methidathion	Total	820	5	10	ng/L	544	0	151	28 - 175% PASS			
Methyl Parathion	Total	954	1	2	ng/L	544	0	175	18 - 190% PASS			
Mevinphos (Phosdrin)	Total	661	5	10	ng/L	544	0	122	19 - 160% PASS			
Phorate	Total	566	5	10	ng/L	544	0	104	21 - 151% PASS			
Phosmet	Total	860	5	10	ng/L	544	0	158	34 - 180% PASS			
Tetrachlorvinphos (Stirofos)	Total	910	2	4	ng/L	544	0	167	42 - 196% PASS			
Tokuthion (Prothiofos)	Total	686	3	6	ng/L	544	0	126	44 - 163% PASS			
Trichloronate	Total	525	1	2	ng/L	544	0	97	37 - 158% PASS			

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Sample ID: 61700-MS2	**WW65-UR5**				**Matrix: Liquid**		**Sampled: 02-Feb-19 18:51**				**Received: 05-Feb-19**			
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19				Analyzed: 10-Mar-19			
(PCB030)	Total	82			% Recovery	100	0	82	25 - 130%	PASS	2	30	PASS	
(PCB112)	Total	93			% Recovery	100	0	93	34 - 132%	PASS	2	30	PASS	
(PCB198)	Total	87			% Recovery	100	0	87	30 - 136%	PASS	3	30	PASS	
(TCMX)	Total	74			% Recovery	100	0	74	6 - 124%	PASS	6	30	PASS	
Bolstar (Sulprofos)	Total	741	2	4	ng/L	544	0	136	36 - 173%	PASS	2	30	PASS	
Chlorpyrifos	Total	520	0.5	1	ng/L	544	0	96	36 - 150%	PASS	3	30	PASS	
Demeton	Total	759	1	2	ng/L	544	0	140	0 - 156%	PASS	7	30	PASS	
Diazinon	Total	665	0.5	1	ng/L	544	0	122	41 - 145%	PASS	4	30	PASS	
Dichlorvos	Total	506	3	6	ng/L	544	0	93	31 - 143%	PASS	21	30	PASS	
Dimethoate	Total	742	5	10	ng/L	544	0	136	25 - 150%	PASS	7	30	PASS	
Disulfoton	Total	549	1	2	ng/L	544	0	101	20 - 143%	PASS	1	30	PASS	
Ethoprop (Ethoprofos)	Total	650	1	2	ng/L	544	0	119	34 - 147%	PASS	2	30	PASS	
Fenchlorphos (Ronnel)	Total	543	2	4	ng/L	544	0	100	39 - 153%	PASS	2	30	PASS	
Fensulfothion	Total	1140	1	2	ng/L	544	0	210	46 - 182%	FAIL	4	30	PASS	M
Fenthion	Total	660	2	4	ng/L	544	0	121	44 - 150%	PASS	0	30	PASS	
Malathion	Total	818	2.5	5	ng/L	544	0	150	33 - 179%	PASS	1	30	PASS	
Methidathion	Total	828	5	10	ng/L	544	0	152	28 - 175%	PASS	1	30	PASS	
Methyl Parathion	Total	1020	1	2	ng/L	544	0	188	18 - 190%	PASS	7	30	PASS	
Mevinphos (Phosdrin)	Total	720	5	10	ng/L	544	0	132	19 - 160%	PASS	8	30	PASS	
Phorate	Total	603	5	10	ng/L	544	0	111	21 - 151%	PASS	7	30	PASS	
Phosmet	Total	858	5	10	ng/L	544	0	158	34 - 180%	PASS	0	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	904	2	4	ng/L	544	0	166	42 - 196%	PASS	1	30	PASS	
Tokuthion (Prothiofos)	Total	697	3	6	ng/L	544	0	128	44 - 163%	PASS	2	30	PASS	
Trichloronate	Total	528	1	2	ng/L	544	0	97	37 - 158%	PASS	0	30	PASS	

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61700-R2	**WW65-UR5**				**Matrix: Liquid**		**Sampled: 02-Feb-19 18:51**				**Received: 05-Feb-19**		
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19				Analyzed: 10-Mar-19		
(PCB030)	Total	81			% Recovery	100	81	25 - 130%	PASS	9	30	PASS	
(PCB112)	Total	94			% Recovery	100	94	34 - 132%	PASS	10	30	PASS	
(PCB198)	Total	98			% Recovery	100	98	30 - 136%	PASS	11	30	PASS	
(TCMX)	Total	74			% Recovery	100	74	6 - 124%	PASS	15	30	PASS	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L					0	30	PASS	
Chlorpyrifos	Total	ND	0.5	1	ng/L					0	30	PASS	
Demeton	Total	ND	1	2	ng/L					0	30	PASS	
Diazinon	Total	ND	0.5	1	ng/L					0	30	PASS	
Dichlorvos	Total	ND	3	6	ng/L					0	30	PASS	
Dimethoate	Total	ND	5	10	ng/L					0	30	PASS	
Disulfoton	Total	ND	1	2	ng/L					0	30	PASS	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L					0	30	PASS	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L					0	30	PASS	
Fensulfothion	Total	ND	1	2	ng/L					0	30	PASS	
Fenthion	Total	ND	2	4	ng/L					0	30	PASS	
Malathion	Total	ND	2.5	5	ng/L					0	30	PASS	
Methidathion	Total	ND	5	10	ng/L					0	30	PASS	
Methyl Parathion	Total	ND	1	2	ng/L					0	30	PASS	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L					0	30	PASS	
Phorate	Total	ND	5	10	ng/L					0	30	PASS	
Phosmet	Total	ND	5	10	ng/L					0	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L					0	30	PASS	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L					0	30	PASS	
Trichloronate	Total	ND	1	2	ng/L					0	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61695-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19				Analyzed: 09-Mar-19	
(d10-Acenaphthene)	Total	81			% Recovery	100	81	65 - 113%	PASS			
(d10-Phenanthrene)	Total	99			% Recovery	100	99	80 - 111%	PASS			
(d12-Chrysene)	Total	119			% Recovery	100	119	60 - 139%	PASS			
(d12-Perylene)	Total	108			% Recovery	100	108	36 - 161%	PASS			
(d8-Naphthalene)	Total	62			% Recovery	100	62	44 - 119%	PASS			
1-Methylnaphthalene	Total	ND	1	5	ng/L							
1-Methylphenanthrene	Total	ND	1	5	ng/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L							
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L							
2-Methylnaphthalene	Total	ND	1	5	ng/L							
Acenaphthene	Total	ND	1	5	ng/L							
Acenaphthylene	Total	ND	1	5	ng/L							
Anthracene	Total	ND	1	5	ng/L							
Benz[a]anthracene	Total	ND	1	5	ng/L							
Benzo[a]pyrene	Total	ND	1	5	ng/L							
Benzo[b]fluoranthene	Total	ND	1	5	ng/L							
Benzo[e]pyrene	Total	ND	1	5	ng/L							
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L							
Benzo[k]fluoranthene	Total	ND	1	5	ng/L							
Biphenyl	Total	ND	1	5	ng/L							
Chrysene	Total	ND	1	5	ng/L							
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L							
Dibenzothiophene	Total	ND	1	5	ng/L							
Fluoranthene	Total	ND	1	5	ng/L							
Fluorene	Total	ND	1	5	ng/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L							
Naphthalene	Total	ND	1	5	ng/L							
Perylene	Total	ND	1	5	ng/L							
Phenanthrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	ND	1	5	ng/L							

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ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61695-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**			**Received:**		
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19			Analyzed: 09-Mar-19		
(d10-Acenaphthene)	Total	106			% Recovery	100	0	106	65 - 113%	PASS		
(d10-Phenanthrene)	Total	109			% Recovery	100	0	109	80 - 111%	PASS		
(d12-Chrysene)	Total	128			% Recovery	100	0	128	60 - 139%	PASS		
(d12-Perylene)	Total	106			% Recovery	100	0	106	36 - 161%	PASS		
(d8-Naphthalene)	Total	94			% Recovery	100	0	94	44 - 119%	PASS		
1-Methylnaphthalene	Total	485	1	5	ng/L	500	0	97	49 - 117%	PASS		
1-Methylphenanthrene	Total	585	1	5	ng/L	500	0	117	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	497	1	5	ng/L	500	0	99	57 - 120%	PASS		
2,6-Dimethylnaphthalene	Total	472	1	5	ng/L	500	0	94	54 - 117%	PASS		
2-Methylnaphthalene	Total	476	1	5	ng/L	500	0	95	47 - 130%	PASS		
Acenaphthene	Total	516	1	5	ng/L	500	0	103	53 - 131%	PASS		
Acenaphthylene	Total	471	1	5	ng/L	500	0	94	43 - 140%	PASS		
Anthracene	Total	502	1	5	ng/L	500	0	100	58 - 135%	PASS		
Benz[a]anthracene	Total	614	1	5	ng/L	500	0	123	55 - 145%	PASS		
Benzo[a]pyrene	Total	510	1	5	ng/L	500	0	102	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	512	1	5	ng/L	500	0	102	46 - 165%	PASS		
Benzo[e]pyrene	Total	480	1	5	ng/L	500	0	96	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	503	1	5	ng/L	500	0	101	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	499	1	5	ng/L	500	0	100	56 - 145%	PASS		
Biphenyl	Total	498	1	5	ng/L	500	0	100	56 - 119%	PASS		
Chrysene	Total	614	1	5	ng/L	500	0	123	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	449	1	5	ng/L	500	0	90	55 - 150%	PASS		
Dibenzothiophene	Total	525	1	5	ng/L	500	0	105	75 - 113%	PASS		
Fluoranthene	Total	560	1	5	ng/L	500	0	112	60 - 146%	PASS		
Fluorene	Total	497	1	5	ng/L	500	0	99	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	445	1	5	ng/L	500	0	89	50 - 151%	PASS		
Naphthalene	Total	472	1	5	ng/L	500	0	94	41 - 126%	PASS		
Perylene	Total	520	1	5	ng/L	500	0	104	48 - 141%	PASS		
Phenanthrene	Total	521	1	5	ng/L	500	0	104	67 - 127%	PASS		

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	578	1	5	ng/L	500	0	116	54 - 156%	PASS			

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61695-BS2	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**					**Received:**	
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19					Analyzed: 09-Mar-19	
(d10-Acenaphthene)	Total	98			% Recovery	100	0	98	65 - 113%	PASS	8	30	PASS
(d10-Phenanthrene)	Total	103			% Recovery	100	0	103	80 - 111%	PASS	6	30	PASS
(d12-Chrysene)	Total	128			% Recovery	100	0	128	60 - 139%	PASS	0	30	PASS
(d12-Perylene)	Total	108			% Recovery	100	0	108	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	94			% Recovery	100	0	94	44 - 119%	PASS	0	30	PASS
1-Methylnaphthalene	Total	465	1	5	ng/L	500	0	93	49 - 117%	PASS	4	30	PASS
1-Methylphenanthrene	Total	581	1	5	ng/L	500	0	116	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	469	1	5	ng/L	500	0	94	57 - 120%	PASS	5	30	PASS
2,6-Dimethylnaphthalene	Total	451	1	5	ng/L	500	0	90	54 - 117%	PASS	4	30	PASS
2-Methylnaphthalene	Total	461	1	5	ng/L	500	0	92	47 - 130%	PASS	3	30	PASS
Acenaphthene	Total	476	1	5	ng/L	500	0	95	53 - 131%	PASS	8	30	PASS
Acenaphthylene	Total	450	1	5	ng/L	500	0	90	43 - 140%	PASS	4	30	PASS
Anthracene	Total	513	1	5	ng/L	500	0	103	58 - 135%	PASS	3	30	PASS
Benz[a]anthracene	Total	604	1	5	ng/L	500	0	121	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	503	1	5	ng/L	500	0	101	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	515	1	5	ng/L	500	0	103	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	498	1	5	ng/L	500	0	100	42 - 152%	PASS	4	30	PASS
Benzo[g,h,i]perylene	Total	508	1	5	ng/L	500	0	102	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	520	1	5	ng/L	500	0	104	56 - 145%	PASS	4	30	PASS
Biphenyl	Total	474	1	5	ng/L	500	0	95	56 - 119%	PASS	5	30	PASS
Chrysene	Total	599	1	5	ng/L	500	0	120	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	495	1	5	ng/L	500	0	99	55 - 150%	PASS	10	30	PASS
Dibenzothiophene	Total	530	1	5	ng/L	500	0	106	75 - 113%	PASS	1	30	PASS
Fluoranthene	Total	547	1	5	ng/L	500	0	109	60 - 146%	PASS	3	30	PASS
Fluorene	Total	460	1	5	ng/L	500	0	92	58 - 131%	PASS	7	30	PASS
Indeno[1,2,3-cd]pyrene	Total	474	1	5	ng/L	500	0	95	50 - 151%	PASS	7	30	PASS
Naphthalene	Total	474	1	5	ng/L	500	0	95	41 - 126%	PASS	1	30	PASS
Perylene	Total	509	1	5	ng/L	500	0	102	48 - 141%	PASS	2	30	PASS
Phenanthrene	Total	540	1	5	ng/L	500	0	108	67 - 127%	PASS	4	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	572	1	5	ng/L	500	0	114	54 - 156%	PASS	2	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61700-MS1	**WW65-UR5**				**Matrix: Liquid**		**Sampled: 02-Feb-19 18:51**			**Received: 05-Feb-19**		
	Method: EPA 625				Batch ID: O-22106		Prepared: 05-Feb-19			Analyzed: 09-Mar-19		
(d10-Acenaphthene)	Total	82			% Recovery	100	0	82	45 - 118%		PASS	
(d10-Phenanthrene)	Total	105			% Recovery	100	0	105	56 - 123%		PASS	
(d12-Chrysene)	Total	129			% Recovery	100	0	129	36 - 142%		PASS	
(d12-Perylene)	Total	101			% Recovery	100	0	101	36 - 161%		PASS	
(d8-Naphthalene)	Total	61			% Recovery	100	0	61	20 - 112%		PASS	
1-Methylnaphthalene	Total	373	1	5	ng/L	544	2.93	68	39 - 104%		PASS	
1-Methylphenanthrene	Total	670	1	5	ng/L	544	0	123	62 - 136%		PASS	
2,3,5-Trimethylnaphthalene	Total	475	1	5	ng/L	544	0	87	47 - 132%		PASS	
2,6-Dimethylnaphthalene	Total	411	1	5	ng/L	544	0	76	37 - 118%		PASS	
2-Methylnaphthalene	Total	377	1	5	ng/L	544	5.21	68	33 - 113%		PASS	
Acenaphthene	Total	437	1	5	ng/L	544	0	80	51 - 116%		PASS	
Acenaphthylene	Total	422	1	5	ng/L	544	0	78	53 - 127%		PASS	
Anthracene	Total	541	1	5	ng/L	544	0	99	60 - 126%		PASS	
Benz[a]anthracene	Total	760	1	5	ng/L	544	0	140	51 - 165%		PASS	
Benzo[a]pyrene	Total	599	1	5	ng/L	544	0	110	24 - 170%		PASS	
Benzo[b]fluoranthene	Total	716	1	5	ng/L	544	0	132	38 - 158%		PASS	
Benzo[e]pyrene	Total	640	1	5	ng/L	544	0	118	26 - 157%		PASS	
Benzo[g,h,i]perylene	Total	543	1	5	ng/L	544	0	100	57 - 133%		PASS	
Benzo[k]fluoranthene	Total	660	1	5	ng/L	544	0	121	27 - 167%		PASS	
Biphenyl	Total	404	1	5	ng/L	544	0	74	41 - 111%		PASS	
Chrysene	Total	679	1	5	ng/L	544	0	125	58 - 136%		PASS	
Dibenz[a,h]anthracene	Total	702	1	5	ng/L	544	0	129	53 - 156%		PASS	
Dibenzothiophene	Total	557	1	5	ng/L	544	0	102	69 - 112%		PASS	
Fluoranthene	Total	702	1	5	ng/L	544	2.93	129	61 - 147%		PASS	
Fluorene	Total	471	1	5	ng/L	544	0	87	62 - 120%		PASS	
Indeno[1,2,3-cd]pyrene	Total	693	1	5	ng/L	544	0	127	58 - 147%		PASS	
Naphthalene	Total	334	1	5	ng/L	544	2.72	61	22 - 110%		PASS	
Perylene	Total	558	1	5	ng/L	544	0	103	34 - 147%		PASS	
Phenanthrene	Total	550	1	5	ng/L	544	4.76	100	64 - 121%		PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	729	1	5	ng/L	544	5.68	133	65 - 146%	PASS			

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 61700-MS2	**WW65-UR5**				**Matrix: Liquid**			**Sampled: 02-Feb-19 18:51**			**Received: 05-Feb-19**		
	Method: EPA 625				Batch ID: O-22106			Prepared: 05-Feb-19			Analyzed: 10-Mar-19		
(d10-Acenaphthene)	Total	87			% Recovery	100	0	87	45 - 118%	PASS	6	30	PASS
(d10-Phenanthrene)	Total	107			% Recovery	100	0	107	56 - 123%	PASS	2	30	PASS
(d12-Chrysene)	Total	130			% Recovery	100	0	130	36 - 142%	PASS	1	30	PASS
(d12-Perylene)	Total	103			% Recovery	100	0	103	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	65			% Recovery	100	0	65	20 - 112%	PASS	6	30	PASS
1-Methylnaphthalene	Total	413	1	5	ng/L	544	2.93	75	39 - 104%	PASS	10	30	PASS
1-Methylphenanthrene	Total	673	1	5	ng/L	544	0	124	62 - 136%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	515	1	5	ng/L	544	0	95	47 - 132%	PASS	9	30	PASS
2,6-Dimethylnaphthalene	Total	447	1	5	ng/L	544	0	82	37 - 118%	PASS	8	30	PASS
2-Methylnaphthalene	Total	412	1	5	ng/L	544	5.21	75	33 - 113%	PASS	10	30	PASS
Acenaphthene	Total	471	1	5	ng/L	544	0	87	51 - 116%	PASS	8	30	PASS
Acenaphthylene	Total	462	1	5	ng/L	544	0	85	53 - 127%	PASS	9	30	PASS
Anthracene	Total	538	1	5	ng/L	544	0	99	60 - 126%	PASS	0	30	PASS
Benz[a]anthracene	Total	771	1	5	ng/L	544	0	142	51 - 165%	PASS	1	30	PASS
Benzo[a]pyrene	Total	567	1	5	ng/L	544	0	104	24 - 170%	PASS	6	30	PASS
Benzo[b]fluoranthene	Total	710	1	5	ng/L	544	0	131	38 - 158%	PASS	1	30	PASS
Benzo[e]pyrene	Total	613	1	5	ng/L	544	0	113	26 - 157%	PASS	4	30	PASS
Benzo[g,h,i]perylene	Total	563	1	5	ng/L	544	0	103	57 - 133%	PASS	3	30	PASS
Benzo[k]fluoranthene	Total	635	1	5	ng/L	544	0	117	27 - 167%	PASS	3	30	PASS
Biphenyl	Total	436	1	5	ng/L	544	0	80	41 - 111%	PASS	8	30	PASS
Chrysene	Total	680	1	5	ng/L	544	0	125	58 - 136%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	698	1	5	ng/L	544	0	128	53 - 156%	PASS	1	30	PASS
Dibenzothiophene	Total	566	1	5	ng/L	544	0	104	69 - 112%	PASS	2	30	PASS
Fluoranthene	Total	670	1	5	ng/L	544	2.93	123	61 - 147%	PASS	5	30	PASS
Fluorene	Total	505	1	5	ng/L	544	0	93	62 - 120%	PASS	7	30	PASS
Indeno[1,2,3-cd]pyrene	Total	707	1	5	ng/L	544	0	130	58 - 147%	PASS	2	30	PASS
Naphthalene	Total	358	1	5	ng/L	544	2.72	65	22 - 110%	PASS	6	30	PASS
Perylene	Total	562	1	5	ng/L	544	0	103	34 - 147%	PASS	0	30	PASS
Phenanthrene	Total	555	1	5	ng/L	544	4.76	101	64 - 121%	PASS	1	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	694	1	5	ng/L	544	5.68	127	65 - 146%	PASS	5	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Sample ID: 61700-R2	**WW65-UR5**				**Matrix: Liquid**			**Sampled: 02-Feb-19 18:51**				**Received: 05-Feb-19**		
	Method: EPA 625				Batch ID: O-22106			Prepared: 05-Feb-19				Analyzed: 10-Mar-19		
(d10-Acenaphthene)	Total	90			% Recovery	100	90	45 - 118%	PASS	0	30	PASS	
(d10-Phenanthrene)	Total	112			% Recovery	100	112	56 - 123%	PASS	0	30	PASS	
(d12-Chrysene)	Total	130			% Recovery	100	130	36 - 142%	PASS	16	30	PASS	
(d12-Perylene)	Total	112			% Recovery	100	112	36 - 161%	PASS	6	30	PASS	
(d8-Naphthalene)	Total	64			% Recovery	100	64	20 - 112%	PASS	8	30	PASS	
1-Methylnaphthalene	Total	2.71	1	5	ng/L					15	30	PASS	J
1-Methylphenanthrene	Total	ND	1	5	ng/L					0	30	PASS	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L					0	30	PASS	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L					0	30	PASS	
2-Methylnaphthalene	Total	4.23	1	5	ng/L					38	30	FAIL	J,SL
Acenaphthene	Total	ND	1	5	ng/L					0	30	PASS	
Acenaphthylene	Total	ND	1	5	ng/L					0	30	PASS	
Anthracene	Total	ND	1	5	ng/L					0	30	PASS	
Benz[a]anthracene	Total	ND	1	5	ng/L					0	30	PASS	
Benzo[a]pyrene	Total	ND	1	5	ng/L					0	30	PASS	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L					0	30	PASS	
Benzo[e]pyrene	Total	ND	1	5	ng/L					0	30	PASS	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L					0	30	PASS	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L					0	30	PASS	
Biphenyl	Total	ND	1	5	ng/L					0	30	PASS	
Chrysene	Total	ND	1	5	ng/L					0	30	PASS	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L					0	30	PASS	
Dibenzothiophene	Total	ND	1	5	ng/L					0	30	PASS	
Fluoranthene	Total	2.88	1	5	ng/L					4	30	PASS	J
Fluorene	Total	ND	1	5	ng/L					0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L					0	30	PASS	
Naphthalene	Total	2.45	1	5	ng/L					20	30	PASS	J
Perylene	Total	ND	1	5	ng/L					0	30	PASS	
Phenanthrene	Total	5.04	1	5	ng/L					12	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	5.7	1	5	ng/L					1	30 PASS	

CHAIN OF CUSTODY

PHTSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

1204008-038

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: PHYSIS
Misty Mercier
Address: 1904 East Wright Circle
Anaheim, CA 92806
Phone: 714-602-5320
Fax:
Sampled By:
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	OP Pesticides and LL PAHs																Notes
WW65-UR3	'_PEST_P/	2-2-19	10:56	Water	2	1L AG	none	X																
WW65-UR6	'_PEST_P/	2-2-19	14:30	Water	2	1L AG	none	X																
WW65-UR2S	'_PEST_P/	2-2-19	17:47	Water	2	1L AG	none	X																
WW65-UR7	'_PEST_P/	2-2-19	17:47	Water	2	1L AG	none	X																
WW65-UR5	'_PEST_P/	2-2-19	18:51	Water	2	1L AG	none	X																MSD

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Trevor Kelly
Organization: PER
Date: 2/4/19 Time: 0930

Received By (2):
Richard Harker
Physis
Date: 2/5/19 Time: 1026

Laboratory Comments:
1 of 3 coolers

Relinquished By (1):
Signature:
Print:
Organization:
Date: Time:

Received By (2):
Date: Time:

Crew: PER

PHYSIS
TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Physis Project ID
1204008-038

Sample Receipt Summary

Client: Larry Walker Associates | Date Received: 2/5/2019 | Received By: RGH | Inspected By: RGH

Courier:	Cooler:	Temperature:
☐ Physis ☐ FEDEX ☑ UPS ☐ Client	☑ Cooler ☐ Box Total #: 3	☐ BLUE ☑ WET ☐ DRY
Start End ☐ Other:	☐ Other :	☐ None 3.8 °C

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out.....Yes
2. All sample containers arrived intact.....Yes
3. All samples listed on COC(s) are present.....Yes
4. Information on containers consistent with information on COC(s).....No; see notes below
5. Correct containers and volume for all analyses indicated.....Yes
6. All samples received within method holding time.....Yes
7. Correct preservation used for all analyses indicated.....Yes
8. Name of sampler included on COC(s).....Yes

Notes:

Sample ID(s) WW65-UR2S, WW65-UR7 on the COC the sampled time is 17:47 but on the bottles it is 8:03. We logged it in per the COC.

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Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

February 06, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

RE: Work Order No: 70648
Project ID: Sac Stormwater 02/02/19
SSQP Urban Runoff Discharge Monitoring

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Saturday, February 02, 2019. Results reported herein conform to the most current ELAP standards, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeste Patena
Program Coordinator
patenac@sacsewer.com

Justin Nordin
QA Officer

Srividhya Ramamoorthy
Lab Manager

REPORT OF LABORATORY ANALYSIS

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Regional San Environmental Laboratory
8521 Laguna Station Road
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Phone: (916) 875-9000 Fax: (916) 875-9069

SAMPLE SUMMARY

Work Order No: 70648
Project ID: Sac Stormwater 02/02/19

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1902020023	**WW65-UR3**	Surface Water	02/02/2019 03:13	02/02/2019 06:37
1902020024	**WW65-UR6**	Surface Water	02/02/2019 02:49	02/02/2019 06:37
1902020025	**WW65-UR5**	Surface Water	02/02/2019 04:30	02/02/2019 06:37

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ANALYTICAL RESULTS

Work Order No: 70648
Project ID: Sac Stormwater 02/02/19

Lab ID: **1902020023** Date Collected: 2/2/2019 03:13 Matrix: Surface Water
Sample ID: **WW65-UR3** Date Received: 2/2/2019 06:37

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	2,200	MPN/100mL	1	18	NA	02/02/2019	MAP
E.COLI	SM 9221 F	2,200	MPN/100mL	1	18	NA	02/02/2019	MAP

Lab ID: **1902020024** Date Collected: 2/2/2019 02:49 Matrix: Surface Water
Sample ID: **WW65-UR6** Date Received: 2/2/2019 06:37

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	<18	MPN/100mL	1	18	NA	02/02/2019	MAP
E.COLI	SM 9221 F	<18	MPN/100mL	1	18	NA	02/02/2019	MAP

Lab ID: **1902020025** Date Collected: 2/2/2019 04:30 Matrix: Surface Water
Sample ID: **WW65-UR5** Date Received: 2/2/2019 06:37

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	13,000	MPN/100mL	1	18	NA	02/02/2019	MAP
E.COLI	SM 9221 F	13,000	MPN/100mL	1	18	NA	02/02/2019	MAP

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Regional San Environmental Laboratory
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Phone: (916) 875-9000 Fax: (916) 875-9069

ANALYTICAL RESULTS QUALIFIERS

Work Order No: 70648
Project ID: Sac Stormwater 02/02/19

PARAMETER QUALIFIERS

J - The analytical result is below RL but above MDL.

MDL - Method Detection Limit defined in 40 CFR, Sect. 136, Appendix B.

ND - Non Detect - Analyte not detected above the MDL or, in the absence of a MDL, above the RL

RL - Reporting limit is the quantitation limit at which the laboratory is able to detect an analyte with a certain degree of confidence. Generally, this represents the parameter's lowest calibration point. This can also define the customer's requirement.

(S) - Surrogates.

DF - Dilution Factor.

NA - Not Applicable.

VS and VSS results reported as percentages of TS and TSS.

MBAS, calculated as LAS, mol wt 340.

Total Alkalinity is titrated to pH 4.5 per the method. This may not correspond to an inflection point where the slope changes rapidly.

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QUALITY CONTROL DATA QUALIFIERS

Work Order No: 70648
Project ID: Sac Stormwater 02/02/19

QUALITY CONTROL PARAMETER QUALIFIERS

Result Qualifiers:These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank.

LCS - Laboratory Control Standard.

DUP - Duplicate of Original Sample Matrix.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

RPD -Relative Percent Difference.

% Rec - Spike Recovery stated as a percentage.

QC - Total QC applies to total recoverable.

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 2/2/19 Lab ID:

FEB 2 AM 6:00

Destination Lab: SRCSD
Celeste Patena
Address: 8521 Laguna Station Road
Elk Grove, CA 95758
Phone: 916-875-9000
Fax: 916-875-9069

Sampled By: KMA + JP + CD

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Fecal Coliform	E. coli	LIMS ID / Notes
WW65-UR3	BACTI	2/2/19	3:13	SURFACE Water	1	100 mL PE	Na2S2O3	X	X	19020200 23
WW65-UR6	BACTI	↓	2:49	SURFACE Water	1	100 mL PE	Na2S2O3	X	X	19020200 24
KMA ~~WW65-UR2S~~	~~BACTI~~			~~Water~~	~~1~~	~~100 mL PE~~	~~Na2S2O3~~	~~X~~	~~X~~	
KMA ~~WW65-UR7~~	~~BACTI~~			Water	1	100 mL PE	Na2S2O3	X	X	
WW65-UR5	BACTI	2/2/19	4:30	SURFACE Water	1	100 mL PE	Na2S2O3	X	X	19020200 25

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature: [signature]
Print: Katrina Arredondo
Organization: Larry Walker Associates
Date: 2/02/19 Time: 5:55

Received By (2):
[signature] MP
MICHELLE PATE
REGIONAL SAN ENV. LAB
Date: 2-2-19 Time: 0637

Laboratory Comments:
SAMPLES RETRIEVED FROM AFTER-HOURS FRIDGE. DEBRIS OBSERVED IN UR6. MP

Relinquished By (1):
Signature:
Print:
Organization:
Date: Time:

Received By (2):
Date: Time:

Crew: TME

Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

February 08, 2019

Sherill Huun
City of Sacramento Department of Utilities
1395 35th Avenue
Sacramento, CA 95822

RE: Work Order No: 70647
Project ID: City of Sacramento Stormwater 02/02/19 - Revised

Dear Sherill Huun:

Enclosed are the analytical results for sample(s) received by the laboratory on Saturday, February 02, 2019. Results reported herein conform to the most current ELAP standards, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeste Patena
Program Coordinator
patenac@sacsewer.com

Justin Nordin
QA Officer

Srividhya Ramamoorthy
Lab Manager

cc: Hope McCaslin Taylor, Lisa Moretti

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Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

SAMPLE SUMMARY

Work Order No: 70647
Project ID: City of Sacramento SW 02/02/19

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1902020021	**WW 65-UR 7**	Surface Water	02/02/2019 08:34	02/02/2019 12:28
1902020022	**WW 65-UR2S**	Surface Water	02/02/2019 08:34	02/02/2019 12:28

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Phone: (916) 875-9000 Fax: (916) 875-9069

ANALYTICAL RESULTS

Work Order No: 70647
Project ID: City of Sacramento SW 02/02/19

Lab ID: **1902020021** Date Collected: 2/2/2019 08:34 Matrix: Surface Water
Sample ID: **WW 65-UR 7** Date Received: 2/2/2019 12:28

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	11,000	MPN/100mL	1	18	NA	02/02/2019	MAP
E.COLI	SM 9221 F	11,000	MPN/100mL	1	18	NA	02/02/2019	MAP

Lab ID: **1902020022** Date Collected: 2/2/2019 08:34 Matrix: Surface Water
Sample ID: **WW 65-UR2S** Date Received: 2/2/2019 12:28

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	7,900	MPN/100mL	1	18	NA	02/02/2019	MAP
E.COLI	SM 9221 F	2,700	MPN/100mL	1	18	NA	02/02/2019	MAP

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Regional San Environmental Laboratory
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Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

ANALYTICAL RESULTS QUALIFIERS

Work Order No: 70647
Project ID: City of Sacramento SW 02/02/19

PARAMETER QUALIFIERS

J - The analytical result is below RL but above MDL.

MDL - Method Detection Limit defined in 40 CFR, Sect. 136, Appendix B.

ND - Non Detect - Analyte not detected above the MDL or, in the absence of a MDL, above the RL

RL - Reporting limit is the quantitation limit at which the laboratory is able to detect an analyte with a certain degree of confidence. Generally, this represents the parameter's lowest calibration point. This can also define the customer's requirement.

(S) - Surrogates.

DF - Dilution Factor.

NA - Not Applicable.

VS and VSS results reported as percentages of TS and TSS.

MBAS, calculated as LAS, mol wt 340.

Total Alkalinity is titrated to pH 4.5 per the method. This may not correspond to an inflection point where the slope changes rapidly.

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Regional San Environmental Laboratory
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Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

QUALITY CONTROL DATA QUALIFIERS

Work Order No: 70647
Project ID: City of Sacramento SW 02/02/19

QUALITY CONTROL PARAMETER QUALIFIERS

Result Qualifiers:These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank.

LCS - Laboratory Control Standard.

DUP - Duplicate of Original Sample Matrix.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

RPD -Relative Percent Difference.

% Rec - Spike Recovery stated as a percentage.

QC - Total QC applies to total recoverable.

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Sacramento Regional County Sanitation District (Regional San) Environmental Laboratory

8521 Laguna Station Road, Elk Grove, CA 95758
(916) 875-9000
ELAP #1100

CHAIN-OF-CUSTODY

(Lab Issued)
Profile # 29394
Work order 70647

Customer Name	City of Sacramento Department of Utilities	**Mail code**	
Customer Address	1395 35th Ave., Sacramento, CA 95822	**Phone #**	916-808-1458
Program Name	Sacramento Combined Sewer System		
Lab Program Coord.	Celeste Patena	**Phone #**	916-875-9032
Sampled By	DB+CD	**Phone #**	

☐ Non-Hazardous ☐ Hazardous ☐ Unknown Material

Turnaround Time
☒ 21 working days
☐ Rush: ____
☐ Other: ____

QA/QC Requirements
☒ Lab Standard
☐ Special: ____

Analyses Requested | **Remarks/Notes**

SAMPLE COLLECTION SUMMARY

LIMS ID (Lab Issued)	Date	Time	Type: Composite	Type: Grab	Sample Location(s)	Field pH	Field Temp °C	Field Temp °F	# of Containers	Container Type*	Preservative*	Matrix* (2.2.19 MP)	Fecal Coliform	E. Coli							Remarks/Notes
1902020021	02/02/19	08:34	☐	☒	WW65-UR7				1	Bacti	Na_2SO_3	~~O~~ SW	☒	☒	☐	☐	☐	☐	☐	☐	
~~1902040066~~	↓	08:34	☐	☒	WW65-UR25				1	Bacti	↓	~~O~~ SW	☒	☒	☐	☐	☐	☐	☐	☐	
(1902020022)			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
CP 2/5/19			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	
			☐	☐									☐	☐	☐	☐	☐	☐	☐	☐	

*Bottle Type: AL=Amber Liter, VOA= 40 mL VOA, 1LP=1 Liter Polyethylene, 2LP=2 Liter Polyethylene, Bacti= 120mL Sterile, 250LP= 250 mL Polyethylene, 500LP=500 mL Polyethylene, 25GC=2.5 Gallon Cubitainer, Other: ____

*Preservative: AA=Ascorbic Acid, HCl= Hydrochloric Acid, H_2SO_4=Sulfuric Acid, HNO_3=Nitric Acid, STS=Sodium Thiosulfate, NaOH=Sodium Hydroxide, ZnAc=Zinc Acetate

*Matrix: DW=Drinking Water, WW=Wastewater, SW=Surface/Ambient Water, S=Solids, B=Biosolids, GW=Groundwater, LE=Leachate, LC=Liquid Chemical, O=Other: ~~STORM WATER~~ 2.2.19 MP

Relinquished By	Date	Time	Relinquished to	Date	Time	Relinquished By	Date	Time	Relinquished to	Date	Time
Kelsey Mokell	02/02/19	12:28	Rachel Logate	2.2.19	1228						

Laboratory Use Only

Temperature °C 4.8 **Thermometer ID** ECC-95

	Y	N		Y	N		Y	N
Received on ice	☒	☐	Field preserved STS	☒	☐	pH < 2	☐	☐
Container intact	☒	☐	Preserved at receipt	☐	☐	pH > 10	☐	☐
Correct container	☒	☐	Field Filtered N/A	☐	☐	Cl_2 present N/A	☐	☐
Within hold time	☒	☐	VOA bubble(s) > 6mm	☐	☐	Contract Lab	☐	☐

Comments:

Sample Distribution ☒ Lab Bench ☐ Walk-in Cooler ☐ Other ____

Revised 3/21/2018

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field clamp

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR3** Site: **Sump 111** 38.601237 -121.492729

Sample Crew: **TME** Personnel: CD + DP + KMA

Date: 2/2/19 Time of arrival 2:10

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.05	158.2	10.24	13.43	16.9
Instrument(s)	SmarTROLL — 789				Hach 2100P
Calibration Date(s)	2/1/19				1/31/2019

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW65-UR3	NA	none	0	Field Measurements		
☐ WW65-UR3	500mL CG	HCl	1	Mercury, Total ✓		
☐ WW65-UR3	500mL AG	HCl	1	Methylmercury ✓		
☐ WW65-UR3	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ WW65-UR3	125 mL AG	none	1	DOC		
☐ WW65-UR3	3x40ml, VOA A	HCl	1	TOC ✓		
☐ WW65-UR3	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		
☐ WW65-UR3	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW65-UR3	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ WW65-UR6	500mL CG	HCl	1	Mercury, Total ✓		FB
☐ WW65-UR6	500mL AG	HCl	1	Methylmercury ✓		FB
☐ WW65-UR6	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		FB
☐ WW65-UR6	3x40ml, VOA A	HCl	1	TOC ✓		FB
☐ WW65-UR6	125 mL AG	none	1	DOC ✓		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 2:15 Grab Resume Time: 2:34 Comp ID: 1 of ? Level: 10 L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure 3:24

Additional Notes or Comments

FB = used DOC bottle as intermediate

grabs = used MST cup intermediate

Bucket - 2:49 + 3:13

wasps onsite → door of monitoring shed

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR5** Site: **North Natomas Detention Basin No. 4** 38.667779 -121.506603

Sample Crew: **TME** Personnel: KMA + BP + CD

Date: 2/2/19 Time of arrival 3:50

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences (vascular) nonvascular algae oily sheen foam (trash) other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) (cloudy (>4" vis.)) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation none foggy drizzle (rain) snow

Prec (last 24 hours) (unknown) <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.44	143.4	8.10	12.61	9.1
Instrument(s)	SmarTROLL — 789				Hach 2100 Q
Calibration Date(s)	2/1/19				1/31/19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW65-UR5	NA	none	0	Field Measurements		
☐ WW65-UR5	500mL CG	HCl	1	Mercury, Total ✓		
☐ WW65-UR5	500mL AG	HCl	1	Methylmercury ✓		
☐ WW65-UR5	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		
☐ WW65-UR5	125 mL AG	none	1	DOC ✓		
☐ WW65-UR5	3x40ml, VOA A	HCl	1	TOC ✓		
☐ WW65-UR5	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		
☐ WW65-UR5	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil) ✓		
☐ WW65-UR5	500 mL PE	none	1	Microbial Source Tracking (Weston) ✓		
☐ WW65-UR5	500 mL PE	none	1	Microbial Source Tracking (Source) ✓		

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 3:58 Grab Resume Time: 4:05 Comp ID: 1 of ? Level: 1 in L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure 4:40

Additional Notes or Comments

1 L Amber glass used as intermediate (~~500 mL PE~~) KMA

field clamp

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

38.601237 | -121.492729

Site Id: **UR3** Site: **Sump 111**

Sample Crew: **TME** Personnel: CD + DP + KMA

Date: 2/2/19 Time of arrival 2:10

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	6.5 - 8.5	≤700	≥7	NA	NA
	6.05	158.2	10.24	13.43	16.9
Instrument(s)	SmarTROLL — 789				Hach 2100P 1/31/2019
Calibration Date(s)	2/1/19				

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW65-UR3	NA	none	0	Field Measurements		
☐ WW65-UR3	500mL CG	HCl	1	Mercury, Total ✓		
☐ WW65-UR3	500mL AG	HCl	1	Methylmercury ✓		
☐ WW65-UR3	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ WW65-UR3	125 mL AG	none	1	DOC		
☐ WW65-UR3	3x40ml, VOA A	HCl	1	TOC ✓		
☐ WW65-UR3	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		
☐ WW65-UR3	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ WW65-UR3	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ WW65-UR6	500mL CG	HCl	1	Mercury, Total ✓		FB
☐ WW65-UR6	500mL AG	HCl	1	Methylmercury ✓		FB
☐ WW65-UR6	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		FB
☐ WW65-UR6	3x40ml, VOA A	HCl	1	TOC ✓		FB
☐ WW65-UR6	125 mL AG	none	1	DOC ✓		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 2:15 Grab Resume Time: 2:34 Comp ID: 1 of 2 Level: 10 L Bottle Change? yes (no)

Composite Sampler Program Running? (yes) / no Time of departure 3:24

Additional Notes or Comments

FB → mixed DOC bottle as intermediate

gals → mixed MST ast intermediate

Bacti - 2:49 + 3:13

wasps onsite → door of monitoring shed

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR2S** Site: **Strong Ranch Slough** 38.584985 -121.417627

Sample Crew: **TME** Personnel: DP + CD + KMA

Date: 2/2/19 Time of arrival 7:07

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

(none) **Other presences** vascular nonvascular algae oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) (cloudy (>4" vis.)) murky (<4" vis.)

Water color clear brown green (grey) yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation (none) foggy drizzle (rain) snow

Prec (last 24 hours) (unknown) <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	7.34	52.7	9.73	13.70	40.1
Instrument(s)	SmartRae	— 789			Hach 2100Q
Calibration Date(s)	2/1/19				1/31/19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW65-UR2S	NA	none	0	Field Measurements		
☐ WW65-UR2S	500mL CG	HCl	1	Mercury, Total ✓		
☐ WW65-UR2S	500mL AG	HCl	1	Methylmercury ✓		
☐ WW65-UR2S	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		
☐ WW65-UR2S	125 mL AG	none	1	DOC ✓		
☐ WW65-UR2S	3x40ml, VOA A	HCl	1	TOC ✓		
☐ WW65-UR2S	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		
☐ WW65-UR2S	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil) ✓		
☐ WW65-UR2S	500 mL PE	none	1	Microbial Source Tracking (Weston) ✓		
☐ WW65-UR7	500mL CG	HCl	1	Mercury, Total ✓		FD
☐ WW65-UR7	500mL AG	HCl	1	Methylmercury ✓		FD
☐ WW65-UR7	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		FD
☐ WW65-UR7	125 mL AG	none	1	DOC ✓		FD
☐ WW65-UR7	3x40ml, VOA A	HCl	1	TOC ✓		FD
☐ WW65-UR7	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		FD
☐ WW65-UR7	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil) ✓		FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 7:15 Grab Resume Time: 9:05 Comp ID: 1 of 2 Level: 1 in L Bottle Change? yes (no)

Composite Sampler Program Running? (yes) no Time of departure 9:30

Additional Notes or Comments

Test field filter → MST

use 1 ruler Liter as inkrediable

tested sample size with graduated cylinder → ok

take ~~8~~ 7 manual samples into carboy → ~~HHT~~ ||

9 L after taking 7 manual samples into carboy

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: UR5 Site: North Natomas Detention Basin No. 4 | 38.667779 | -121.506603

Sample Crew: TME Personnel: KMA + DP + CD

Date: 2/2/19 Time of arrival 3:50

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences (vascular) nonvascular algae oily sheen foam (trash) other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) (cloudy (>4" vis.)) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation none foggy drizzle (rain) snow

Prec (last 24 hours) (unknown) <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.44	143.4	8.10	12.61	19.1
Instrument(s)	SmarTROLL — 789				Hach 2100 Q
Calibration Date(s)	2/1/19				1/31/19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WW65-UR5	NA	none	0	Field Measurements		
☐ WW65-UR5	500mL CG	HCl	1	Mercury, Total ✓		
☐ WW65-UR5	500mL AG	HCl	1	Methylmercury ✓		
☐ WW65-UR5	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform ✓		
☐ WW65-UR5	125 mL AG	none	1	DOC ✓		
☐ WW65-UR5	3x40ml, VOA A	HCl	1	TOC ✓		
☐ WW65-UR5	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline) ✓		
☐ WW65-UR5	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil) ✓		
☐ WW65-UR5	500 mL PE	none	1	Microbial Source Tracking (Weston) ✓		
☐ WW65-UR5	500 mL PE	none	1	Microbial Source Tracking (Source) ✓		

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 3:58 Grab Resume Time: 4:05 Comp ID: 1 of ? Level: 1 in L Bottle Change? yes / (no)

Composite Sampler Program Running? (yes) / no Time of departure 4:40

Additional Notes or Comments

1 L amber glass used as intermediate (500 mL PE) KMA

Field Sampling Data Log Sheet

SSQP Urban Tributary Monitoring

Site Id: LC02 Site: Laguna Creek 38.653665 -121.18353

Sample Crew: TME Personnel: Beth Smiley

Date: 2-2-19 Time of arrival 8:45 am

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand (mud) unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear (can see bottom)) (cloudy (>4" vis.)) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code clear (partly cloudy) overcast fog hazy

Precipitation none foggy (drizzle) rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream ✓

downstream ✓

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	6.5 - 8.5	≤700	≥7	NA	NA
	7.0	121.9	8.88	55.2°F	101

Instrument(s) Hach pH TME#6 Hach Turbidity TME#6 2100P

Calibration Date(s) 2-2-19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WWCRK44-LC02	NA	none	0	Field Measurements		

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ___of___ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

Field Sampling Data Log Sheet

SSQP Urban Tributary Monitoring

Site Id: **WC01** Site: **Willow Creek** 38.429853 -121.400426

Sample Crew: **TME** Personnel: Beth Smiley

Date: 2-2-19 Time of arrival 7:15 am

Habitat Observations: Circle your observations

Dominant substrate concrete (cobble) gravel sand mud unknown other

Site odor (none) musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear (can see bottom)) cloudy (>4" vis.) murky (<4" vis.)

Water color (clear) brown green (grey) yellow other

Sky code clear partly cloudy (overcast) fog hazy

Precipitation none foggy drizzle (rain) snow 52°

Prec (last 24 hours) unknown (<1") >1" none

Photo Numbers	
upstream	✓
downstream	✓

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	6.5 - 8.5	≤700	≥7 7.1	NA	NA
	7.2	103.8	~~77.9~~	55° F	75.3

Instrument(s): Hach pH Hach Turbidity TME #6

Calibration Date(s): 2-2-19

* Preform calibration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ WWCRK44-WC0	NA	none	0	Field Measurements		

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 7:15 Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

Dry Weather Event (DW29)

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Thursday, May 23, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

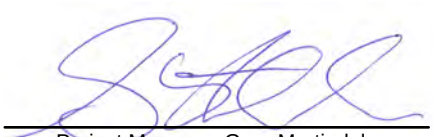
Re Lab Order: U050327 Collected By: CLIENT
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, May 07, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures



Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U050327001	**DW29-UR3**	Water	05/07/2019 10:15	05/07/2019 15:19
U050327002	**DW29-UR2S**	Water	05/07/2019 08:54	05/07/2019 15:19
U050327003	**DW29-UR5**	Water	05/07/2019 11:35	05/07/2019 15:19
U050327004	**DW29-UR6**	Water	05/07/2019 11:00	05/07/2019 15:19
U050327005	**DW29-UR3 LD**	Water	05/07/2019 10:15	05/07/2019 15:19

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NARRATIVE

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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ANALYTICAL RESULTS

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050327001** Date Collected 5/7/2019 10:15 Matrix Water
Sample ID **DW29-UR3** Date Received 5/7/2019 15:19

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0011	ug/L	0.00050	0.00020	1	05/16/19 00:00	MPR 16661	05/17/19 00:00	MHG 6176	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	JW	
	Analytical Method:		EPA 1630					**Analyzed by:**	JW	
Methyl Mercury (as Hg)	0.07	ng/L	0.05	0.020	1	05/10/19 00:00	MPR 16646	05/10/19 15:07	MHG 6171	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	225	38	1.124	05/14/19 20:08	REFD 3180	05/15/19 07:10	REFD 3181	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	562	74	1.124	05/14/19 20:08	REFD 3180	05/15/19 07:10	REFD 3181	
Tetracosane (SS)	67	%	44-127		1.124	05/14/19 20:08	REFD 3180	05/15/19 07:10	REFD 3181	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			05/15/19 00:42	VMS 4300	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			05/15/19 00:42	VMS 4300	
4-Bromofluorobenzene (SS)	85	%	70-130		1			05/15/19 00:42	VMS 4300	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	4.2	mg/L	0.5	0.30	1			05/15/19 23:47	WET 10023	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	4.0	mg/L	0.5	0.30	1			05/15/19 20:06	WET 10022	

Lab ID **U050327002** Date Collected 5/7/2019 08:54 Matrix Water
Sample ID **DW29-UR2S** Date Received 5/7/2019 15:19

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0041	ug/L	0.00050	0.00020	1	05/16/19 00:00	MPR 16661	05/17/19 00:00	MHG 6176	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	JW	
	Analytical Method:		EPA 1630					**Analyzed by:**	JW	
Methyl Mercury (as Hg)	0.48	ng/L	0.05	0.020	1	05/10/19 00:00	MPR 16646	05/10/19 15:07	MHG 6171	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	208	35	1.042	05/14/19 20:08	REFD 3180	05/15/19 07:32	REFD 3181	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	521	69	1.042	05/14/19 20:08	REFD 3180	05/15/19 07:32	REFD 3181	
Tetracosane (SS)	52	%	44-127		1.042	05/14/19 20:08	REFD 3180	05/15/19 07:32	REFD 3181	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050327002** Date Collected 5/7/2019 08:54 Matrix Water
Sample ID **DW29-UR2S** Date Received 5/7/2019 15:19

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			05/15/19 02:29	VMS 4300	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			05/15/19 02:29	VMS 4300	
4-Bromofluorobenzene (SS)	78	%	70-130		1			05/15/19 02:29	VMS 4300	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	15	mg/L	0.5	0.30	1			05/16/19 00:53	WET 10023	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	16	mg/L	0.5	0.30	1			05/15/19 21:12	WET 10022	

Lab ID **U050327003** Date Collected 5/7/2019 11:35 Matrix Water
Sample ID **DW29-UR5** Date Received 5/7/2019 15:19

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level		**Prep Method:**	EPA 1631E					**Prep by:**	UKS	
		Analytical Method:	EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0012	ug/L	0.00050	0.00020	1	05/16/19 00:00	MPR 16661	05/17/19 00:00	MHG 6176	
Methyl Mercury Analysis		**Prep Method:**	EPA 1630					**Prep by:**	JW	
		Analytical Method:	EPA 1630					**Analyzed by:**	JW	
Methyl Mercury (as Hg)	0.70	ng/L	0.05	0.020	1	05/10/19 00:00	MPR 16646	05/10/19 15:07	MHG 6171	
Total Extractable Petroleum Hydrocarbon		**Prep Method:**	SW846 3510C					**Prep by:**	PJB	
		Analytical Method:	SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	208	35	1.042	05/14/19 20:08	REFD 3180	05/15/19 07:55	REFD 3181	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	521	69	1.042	05/14/19 20:08	REFD 3180	05/15/19 07:55	REFD 3181	
Tetracosane (SS)	51	%	44-127		1.042	05/14/19 20:08	REFD 3180	05/15/19 07:55	REFD 3181	
Total Purgeable Petroleum Hydrocarbons		**Analytical Method:**	SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			05/15/19 01:09	VMS 4300	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			05/15/19 01:09	VMS 4300	
4-Bromofluorobenzene (SS)	85	%	70-130		1			05/15/19 01:09	VMS 4300	
Dissolved Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	6.6	mg/L	0.5	0.30	1			05/16/19 01:05	WET 10023	
Total Organic Carbon Analysis		**Analytical Method:**	SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	8.2	mg/L	0.5	0.30	1			05/15/19 21:23	WET 10022	

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ANALYTICAL RESULTS

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050327004** Date Collected 5/7/2019 11:00 Matrix Water
Sample ID **DW29-UR6** Date Received 5/7/2019 15:19

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	ND	ug/L	0.00050	0.00020	1	05/16/19 00:00	MPR 16661	05/17/19 00:00	MHG 6176	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	JW	
	Analytical Method:		EPA 1630					**Analyzed by:**	JW	
Methyl Mercury (as Hg)	ND	ng/L	0.05	0.020	1	05/10/19 00:00	MPR 16646	05/10/19 15:07	MHG 6171	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	0.58	mg/L	0.5	0.30	1			05/16/19 01:14	WET 10023	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	0.84	mg/L	0.5	0.30	1			05/15/19 21:34	WET 10022	

Lab ID **U050327005** Date Collected 5/7/2019 10:15 Matrix Water
Sample ID **DW29-UR3 LD** Date Received 5/7/2019 15:19

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Mercury Analysis, Trace Level	**Prep Method:**		EPA 1631E					**Prep by:**	UKS	
	Analytical Method:		EPA 1631E					**Analyzed by:**	UKS	
Mercury	0.0012	ug/L	0.00050	0.00020	1	05/16/19 00:00	MPR 16661	05/17/19 00:00	MHG 6176	
Methyl Mercury Analysis	**Prep Method:**		EPA 1630					**Prep by:**	JW	
	Analytical Method:		EPA 1630					**Analyzed by:**	JW	
Methyl Mercury (as Hg)	0.06	ng/L	0.05	0.020	1	05/10/19 00:00	MPR 16646	05/10/19 15:07	MHG 6171	
Total Extractable Petroleum Hydrocarbon	**Prep Method:**		SW846 3510C					**Prep by:**	PJB	
	Analytical Method:		SW846 8015(MOD)					**Analyzed by:**	CW	
TPH - Diesel (C10 - C22)	ND	ug/L	211	36	1.053	05/14/19 20:08	REFD 3180	05/15/19 08:18	REFD 3181	1
TPH - Motor Oil (C23 - C36)	ND	ug/L	526	69	1.053	05/14/19 20:08	REFD 3180	05/15/19 08:18	REFD 3181	
Tetracosane (SS)	68	%	44-127		1.053	05/14/19 20:08	REFD 3180	05/15/19 08:18	REFD 3181	
Total Purgeable Petroleum Hydrocarbons	**Analytical Method:**		SW846 5030B/8260B					**Analyzed by:**	AN	
TPPH - Gasoline Fuel	ND	ug/L	50	20	1			05/15/19 01:36	VMS 4300	
TPPH quantitated as Gasoline	ND	ug/L	50	20	1			05/15/19 01:36	VMS 4300	
4-Bromofluorobenzene (SS)	80	%	70-130		1			05/15/19 01:36	VMS 4300	
Dissolved Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Dissolved Organic Carbon	3.7	mg/L	0.5	0.30	1			05/16/19 01:26	WET 10023	
Total Organic Carbon Analysis	**Analytical Method:**		SM 5310 B-00/-11					**Analyzed by:**	MYS	
Total Organic Carbon	4.2	mg/L	0.5	0.30	1			05/15/19 21:45	WET 10022	

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QUALITY CONTROL DATA

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Methyl Mercury Analysis	**QC Batch:**	MPR/16646
Analysis Method:	EPA 1630	**QC Batch Method:**	EPA 1630

METHOD BLANK: 885659

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury (as Hg)	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 885660

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Methyl Mercury (as Hg)	ng/L	1.1	0.995	90	67-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885663 885664

Parameter	Units	U050327002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0.48	1.1	1.47	1.45	89	87	65-135	1.4	35	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885665 885666

Parameter	Units	U050344002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury (as Hg)	ng/L	0	1.1	0.979	1.1	88	99	65-135	12	35	

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16661
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

METHOD BLANK: 886837

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Mercury	ND	0.00050	0.0002	ug/L	

LABORATORY CONTROL SAMPLE: 886838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Mercury	ug/L	0.02	0.018	90	79-121	

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QUALITY CONTROL DATA

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Mercury Analysis, Trace Level	**QC Batch:**	MPR/16661
Analysis Method:	EPA 1631E	**QC Batch Method:**	EPA 1631E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886840 886841

Parameter	Units	U050327002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.0041	0.02	0.0226	0.0228	93	94	71-125	0.9	24	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886842 886843

Parameter	Units	U050344002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.00032	0.02	0.0191	0.019	94	93	71-125	0.5	24	

Analysis Description:	Total Extractable Petroleum Hydrocarbon	**QC Batch:**	REFD/3180
Analysis Method:	SW846 8015(MOD)	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 887568

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ND	200	34	ug/L	1
TPH - Motor Oil (C23 - C36)	ND	500	66	ug/L	
Tetracosane (SS)	61	44-127		%	

LABORATORY CONTROL SAMPLE: 887569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	2500	1662.8	67	57-106	1
Tetracosane (SS)	%			64	44-127	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887570 887571

Parameter	Units	1914843 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TPH Quantitated as Diesel Fuel (C10-C22)	ug/L	0	2500	2059.4	1638.7	82	66	46-131	23	30	1
Tetracosane (SS)	%					81	59	44-127	32		

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4300
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

METHOD BLANK: 886217

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QUALITY CONTROL DATA

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Purgeable Petroleum Hydrocarbons	**QC Batch:**	VMS/4300
Analysis Method:	SW846 5030B/8260B	**QC Batch Method:**	SW846 5030B/8260B

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
TPPH - Gasoline Fuel	ND	50	20	ug/L	
TPPH quantitated as Gasoline	ND	50	20	ug/L	
4-Bromofluorobenzene (SS)	81	70-130		%	

LABORATORY CONTROL SAMPLE & LCSD: 886218 886219

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
TPPH - Gasoline Fuel	ug/L	550	661	636	120	116	65-130	3.9	30	
4-Bromofluorobenzene (SS)	%				94	91	70-130	2.4	30	

Analysis Description:	Total Organic Carbon Analysis	**QC Batch:**	WET/10022
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

METHOD BLANK: 886369

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 886370 886371

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Organic Carbon	mg/L	10	10.2	10.2	102	102	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886372 886373

Parameter	Units	U050236001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	4.7	10	15.2	15.1	105	104	80-120	0.7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886374 886375

Parameter	Units	U050327001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	4	10	14.1	14.3	101	103	80-120	1.4	20	

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1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

QUALITY CONTROL DATA

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Dissolved Organic Carbon Analysis	**QC Batch:**	WET/10023
Analysis Method:	SM 5310 B-00/-11	**QC Batch Method:**	SM 5310 B-00/-11

FILTER BLANK: 886382

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

METHOD BLANK: 886378

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Dissolved Organic Carbon	ND	0.5	0.3	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 886379 886380

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Dissolved Organic Carbon	mg/L	10	9.98	10	100	100	80-120	0.2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886383 886384

Parameter	Units	U050327001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Dissolved Organic Carbon	mg/L	4.2	10	14.1	14.4	99	102	80-120	2.1	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

1 Analysis Performed by BC Laboratories, Inc.; CA ELAP #1186

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U050327
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U050327001	**DW29-UR3**	EPA 1630	MPR/16646	EPA 1630	MHG/6171
U050327002	**DW29-UR2S**	EPA 1630	MPR/16646	EPA 1630	MHG/6171
U050327003	**DW29-UR5**	EPA 1630	MPR/16646	EPA 1630	MHG/6171
U050327004	**DW29-UR6**	EPA 1630	MPR/16646	EPA 1630	MHG/6171
U050327005	**DW29-UR3 LD**	EPA 1630	MPR/16646	EPA 1630	MHG/6171
U050327001	**DW29-UR3**	EPA 1631E	MPR/16661	EPA 1631E	MHG/6176
U050327002	**DW29-UR2S**	EPA 1631E	MPR/16661	EPA 1631E	MHG/6176
U050327003	**DW29-UR5**	EPA 1631E	MPR/16661	EPA 1631E	MHG/6176
U050327004	**DW29-UR6**	EPA 1631E	MPR/16661	EPA 1631E	MHG/6176
U050327005	**DW29-UR3 LD**	EPA 1631E	MPR/16661	EPA 1631E	MHG/6176
U050327001	**DW29-UR3**	SW846 3510C	REFD/3180	SW846 8015(MOD)	REFD/3181
U050327002	**DW29-UR2S**	SW846 3510C	REFD/3180	SW846 8015(MOD)	REFD/3181
U050327003	**DW29-UR5**	SW846 3510C	REFD/3180	SW846 8015(MOD)	REFD/3181
U050327005	**DW29-UR3 LD**	SW846 3510C	REFD/3180	SW846 8015(MOD)	REFD/3181
U050327001	**DW29-UR3**	SW846 5030B/8260B	VMS/4300		
U050327002	**DW29-UR2S**	SW846 5030B/8260B	VMS/4300		
U050327003	**DW29-UR5**	SW846 5030B/8260B	VMS/4300		
U050327005	**DW29-UR3 LD**	SW846 5030B/8260B	VMS/4300		
U050327001	**DW29-UR3**	SM 5310 B-00/-11	WET/10022		
U050327002	**DW29-UR2S**	SM 5310 B-00/-11	WET/10022		
U050327003	**DW29-UR5**	SM 5310 B-00/-11	WET/10022		
U050327004	**DW29-UR6**	SM 5310 B-00/-11	WET/10022		
U050327005	**DW29-UR3 LD**	SM 5310 B-00/-11	WET/10022		
U050327001	**DW29-UR3**	SM 5310 B-00/-11	WET/10023		
U050327002	**DW29-UR2S**	SM 5310 B-00/-11	WET/10023		
U050327003	**DW29-UR5**	SM 5310 B-00/-11	WET/10023		
U050327004	**DW29-UR6**	SM 5310 B-00/-11	WET/10023		
U050327005	**DW29-UR3 LD**	SM 5310 B-00/-11	WET/10023		

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1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax (707) 226-1001 • e-mail: info@caltestlabs.com

Date of Report: 05/15/2019

Carol Battaglia

Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Client Project:	U050327
BCL Project:	Water Analysis
BCL Work Order:	1914843
Invoice ID:	B340286

Enclosed are the results of analyses for samples received by the laboratory on 5/9/2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

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Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form 3
Laboratory / Client Sample Cross Reference 5

Sample Results

1914843-01 - U050327001 DW29-UR3

Total Petroleum Hydrocarbons 6

1914843-02 - U050327002 DW29-UR2S

Total Petroleum Hydrocarbons 7

1914843-03 - U050327003 DW29-UR5

Total Petroleum Hydrocarbons 8

1914843-04 - U050327005 DW29-UR3 LD

Total Petroleum Hydrocarbons 9

Quality Control Reports

Total Petroleum Hydrocarbons

Method Blank Analysis 10
Laboratory Control Sample 11
Precision and Accuracy 12

Notes

Notes and Definitions 13

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Chain of Custody and Cooler Receipt Form for 1914843 Page 1 of 2

Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SUBCONTRACT CHAIN OF CUSTODY
PROJECT ID / PO NUMBER - U050327

Page 1 of 1

Sending Laboratory
Caltest Analytical Laboratory
1885 N. Kelly Rd.
Napa, CA 94558
Phone: (707) 258-4000
Fax: (707) 226-1001
Report To: Client Services
Email: pmgr@caltestlabs.com

Receiving Laboratory
BC Laboratories, Inc.
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 800-878-4911
Fax: 661-327-1918

PM Review: GM

Sampled By: CLIENT 19-14843

Due Date: **7 DAY TAT** (contact if due date cannot be met)

Caltest Lab ID (ref. only)	Client Sample ID	Matrix	Sample Date	Container Type	Preservative	Requested Analyses	Comments
U050327001	DW29-UR3 -1	AQ	05/07/2019 10:15	AL	NONE	DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U050327002	DW29-UR2S -2	AQ	05/07/2019 08:54			DIESEL+MOTOROIL Analysis by 8015	*** J-Flag ***; NEED CUSTOM CALTEST EDD FORMAT
U050327003	DW29-UR5 -3	AQ	05/07/2019 11:35			DIESEL+MOTOROIL Analysis by 8015	NEED CUSTOM CALTEST EDD FORMAT
U050327005	DW29-UR3 LD -4	AQ	05/07/2019 10:15			DIESEL+MOTOROIL Analysis by 8015	*** J-Flag ***; NEED CUSTOM CALTEST EDD FORMAT

CHK BY DISTRIBUTION SUB OUT ☐

RUSH!

Relinquished by	Date / Time	Received By	Date / Time
[signature]	05/08/19 09:40	GSO	
		[signature] 5.9.19	08:40
Relinquished By	Date / Time	Received By	Date / Time

Wednesday, May 08 2019 9:57AM Matrix: AQ - Aqueous DW - Drinking Water SL - Solid

Chain of Custody and Cooler Receipt Form for 1914843 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 9-14843

SHIPPING INFORMATION: Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☐ Other ☐ (Specify) GSO

SHIPPING CONTAINER: Ice Chest ☑ None ☐ Box ☐ Other ☐ (Specify)

FREE LIQUID: YES ☐ NO ☐ W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: .98 Container: Amber Thermometer ID: 274

Temperature: (A) 1.8 °C / (C) 1.3 °C

Date/Time 5.9.19 Analyst Init JM 18:40

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER	B2	A	A	A	A	A HMS 9/14				
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: JTM Date/Time: 5.9.19 B:30

A = Actual / C = Corrected

Rev 21 05/23/2016

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1914843-01	**COC Number:**	---	**Receive Date:**	05/09/2019 08:40
	Project Number:	---	**Sampling Date:**	05/07/2019 10:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U050327001 DW29-UR3	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Water
1914843-02	**COC Number:**	---	**Receive Date:**	05/09/2019 08:40
	Project Number:	---	**Sampling Date:**	05/07/2019 08:54
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U050327002 DW29-UR2S	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Water
1914843-03	**COC Number:**	---	**Receive Date:**	05/09/2019 08:40
	Project Number:	---	**Sampling Date:**	05/07/2019 11:35
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U050327003 DW29-UR5	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Water
1914843-04	**COC Number:**	---	**Receive Date:**	05/09/2019 08:40
	Project Number:	---	**Sampling Date:**	05/07/2019 10:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	U050327005 DW29-UR3 LD	**Lab Matrix:**	Water
	Sampled By:	Client	**Sample Type:**	Water

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1914843-01 | **Client Sample Name:** U050327001 DW29-UR3, 5/7/2019 10:15:00AM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	220	38	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	560	74	EPA-8015CC	ND		1
Tetracosane (Surrogate)	66.9	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	05/14/19 20:08	05/15/19 07:10	BUP	GC-2	1.124	B046324

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1914843-02 | **Client Sample Name:** U050327002 DW29-UR2S, 5/7/2019 8:54:00AM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	51.7	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	05/14/19 20:08	05/15/19 07:32	BUP	GC-2	1.042	B046324

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1914843-03 | **Client Sample Name:** U050327003 DW29-UR5, 5/7/2019 11:35:00AM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	50.7	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	05/14/19 20:08	05/15/19 07:55	BUP	GC-2	1.042	B046324

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

BCL Sample ID: 1914843-04 | **Client Sample Name:** U050327005 DW29-UR3 LD, 5/7/2019 10:15:00AM, Client

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Diesel (C10 - C22)	ND	ug/L	200	34	EPA-8015CC	ND		1
TPH - Motor Oil (C23 - C36)	ND	ug/L	500	66	EPA-8015CC	ND		1
Tetracosane (Surrogate)	68.5	%	37 - 134 (LCL - UCL)		EPA-8015CC			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015CC	05/14/19 20:08	05/15/19 08:18	BUP	GC-2	1.053	B046324

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B046324						
TPH - Diesel (C10 - C22)	B046324-BLK1	ND	ug/L	200	34	
TPH - Motor Oil (C23 - C36)	B046324-BLK1	ND	ug/L	500	66	
Tetracosane (Surrogate)	**B046324-BLK1**	**60.9**	%	**37 - 134 (LCL - UCL)**		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B046324										
TPH - Diesel (C10 - C22)	B046324-BS1	LCS	1662.8	2500.0	ug/L	66.5		57 - 106		
Tetracosane (Surrogate)	B046324-BS1	LCS	63.930	100.00	ug/L	63.9		37 - 134		

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B046324	Used client sample: N										
TPH - Diesel (C10 - C22)	MS	1912665-45	ND	2059.4	2500.0	ug/L		82.4		46 - 131	
	MSD	1912665-45	ND	1638.7	2500.0	ug/L	22.8	65.5	30	46 - 131	
Tetracosane (Surrogate)	MS	1912665-45	ND	81.425	100.00	ug/L		81.4		37 - 134	
	MSD	1912665-45	ND	58.915	100.00	ug/L	32.1	58.9		37 - 134	

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Caltest Analytical
1885 North Kelly Road
Napa, CA 94558

Reported: 05/15/2019 15:58
Project: Water Analysis
Project Number: U050327
Project Manager: Carol Battaglia

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 5/7/19 Lab ID: W050327

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
DW29-UR3	DOC	5/7/19	1015	Water	2	125 mL AG	none			X				LD
DW29-UR3	Hg_Meth		1010	Water	1	500mL AG	HCl	X						LD
DW29-UR3	Hg_T		1013	Water	1	500mL CG	HCl		X					LD
DW29-UR3	TOC		1015	Water	2	3x40ml, VOA A	HCl				X			LD
DW29-UR3	TPH_DM		1015	Water	2	1L AG	none					X		LD
DW29-UR3	TPH_GAS		1015	Water	2	3x40ml, VOA	HCl						X	LD
DW29-UR2S	DOC		852	Water	1	125 mL AG	none			X				
DW29-UR2S	Hg_Meth		839	Water	1	500mL AG	HCl	X						MSD
DW29-UR2S	Hg_T		842	Water	1	500mL CG	HCl		X					MSD
DW29-UR2S	TOC		844	Water	1	3x40ml, VOA A	HCl				X			
DW29-UR2S	TPH_DM		854	Water	2	1L AG	none					X		

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Katrina Arredondo
Organization: LWA
Date: 5/7/19 Time: 14:20

Received By (2):
Matthew Kerr
Caltest
Date: 5-7-19 Time: 1423

Laboratory Comments:

Relinquished By (1):
Signature:
Print: Matthew Kerr
Organization: Caltest
Date: 5-7-19 Time: 1519

Received By (2):
COLBY CAMPBELL
CALTEST
Date: 05/07/19 Time: 15:19

Crew: TME

2 of 2

U050327 dc

~~U050328~~ 05/07/19

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: 5/7/19

Lab ID: ~~U050328~~ 05/07/19

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By:

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Methylmercury	Mercury, Total	DOC	TOC	TPH (Diesel and Motor Oil)	TPH (Gasoline)	Notes
-2 DW29-UR2S	TPH_GAS	5/7/19	~~8:49~~	Water	1	3x40ml, VOA	HCl						X	
-3 DW29-UR5	DOC		11:35	Water	1	125 mL AG	none			X				
DW29-UR5	Hg_Meth		11:10	Water	1	500mL AG	HCl	X						
DW29-UR5	Hg_T		↓	Water	1	500mL CG	HCl		X					
DW29-UR5	TOC		11:35	Water	1	3x40ml, VOA A	HCl				X			
DW29-UR5	TPH_DM			Water	2	1L AG	none					X		
DW29-UR5	TPH_GAS			Water	1	3x40ml, VOA	HCl						X	
-4 DW29-UR6	DOC		11:00	Water	1	125 mL AG	none			X				
DW29-UR6	Hg_Meth		10:55	Water	1	500mL AG	HCl	X						
DW29-UR6	Hg_T		↓	Water	1	500mL CG	HCl		X					
DW29-UR6	TOC		11:00	Water	1	3x40ml, VOA A	HCl				X			

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:

Relinquished By (1):	Received By (2):
Signature: Katrina Arredondo	Matthew Kerr
Print: Katrina Arredondo	Caltest
Organization: LWA	5-7-19 Time: 1423
Date: 5/7/19 Time: 14:20	
Relinquished By (1):	Received By (2):
Signature: Matthew Kerr	Colby
Print: Matthew Kerr	COLBY CAMPBELL
Organization: Caltest	CALTEST
Date: 5-7-19 Time: 1519	05/07/19 Time: 15:14

Crew: TME

Friday, May 24, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U050420 Collected By: LWA/TME
Project ID: DISSOLVED METALS PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, May 09, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: U050420
Project ID: DISSOLVED METALS

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U050420001	**UR2S**	Water	05/08/2019 09:30	05/09/2019 08:30
U050420002	**UR5**	Water	05/08/2019 11:00	05/09/2019 08:30
U050420003	**UR3**	Water	05/08/2019 10:12	05/09/2019 08:30
U050420004	**UR6**	Water	05/08/2019 10:20	05/09/2019 08:30
U050420005	**UR3 LAB DUP**	Water	05/08/2019 10:12	05/09/2019 08:30

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NARRATIVE

Lab Order: U050420
Project ID: DISSOLVED METALS

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

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ANALYTICAL RESULTS

Lab Order: U050420
Project ID: DISSOLVED METALS

Lab ID **U050420001** Date Collected 5/8/2019 09:30 Matrix Water
Sample ID **UR2S** Date Received 5/9/2019 08:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	JW	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	TPH	
Copper	11	ug/L	0.50	0.15	1	05/17/19 00:00	MPR 16662	05/22/19 08:03	MMS 9528	
Iron	0.07	mg/L	0.05	0.0050	1	05/17/19 00:00	MPR 16662	05/22/19 08:03	MMS 9528	
Lead	J0.24	ug/L	0.25	0.060	1	05/17/19 00:00	MPR 16662	05/22/19 08:03	MMS 9528	
Zinc	J7.5	ug/L	10	0.70	1	05/17/19 00:00	MPR 16662	05/22/19 08:03	MMS 9528	

Lab ID **U050420002** Date Collected 5/8/2019 11:00 Matrix Water
Sample ID **UR5** Date Received 5/9/2019 08:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	JW	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	TPH	
Copper	J0.27	ug/L	0.50	0.15	1	05/17/19 00:00	MPR 16662	05/22/19 08:11	MMS 9528	
Iron	0.07	mg/L	0.05	0.0050	1	05/17/19 00:00	MPR 16662	05/22/19 08:11	MMS 9528	
Lead	ND	ug/L	0.25	0.060	1	05/17/19 00:00	MPR 16662	05/22/19 08:11	MMS 9528	
Zinc	J1.0	ug/L	10	0.70	1	05/17/19 00:00	MPR 16662	05/22/19 08:11	MMS 9528	

Lab ID **U050420003** Date Collected 5/8/2019 10:12 Matrix Water
Sample ID **UR3** Date Received 5/9/2019 08:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	JW	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	TPH	
Copper	3.6	ug/L	0.50	0.15	1	05/17/19 00:00	MPR 16662	05/22/19 08:20	MMS 9528	
Iron	0.05	mg/L	0.05	0.0050	1	05/17/19 00:00	MPR 16662	05/22/19 08:20	MMS 9528	
Lead	ND	ug/L	0.25	0.060	1	05/17/19 00:00	MPR 16662	05/22/19 08:20	MMS 9528	
Zinc	10	ug/L	10	0.70	1	05/17/19 00:00	MPR 16662	05/22/19 08:20	MMS 9528	

Lab ID **U050420004** Date Collected 5/8/2019 10:20 Matrix Water
Sample ID **UR6** Date Received 5/9/2019 08:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	JW	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	TPH	
Copper	ND	ug/L	0.50	0.15	1	05/17/19 00:00	MPR 16662	05/22/19 08:29	MMS 9528	
Iron	ND	mg/L	0.05	0.0050	1	05/17/19 00:00	MPR 16662	05/22/19 08:29	MMS 9528	
Lead	ND	ug/L	0.25	0.060	1	05/17/19 00:00	MPR 16662	05/22/19 08:29	MMS 9528	
Zinc	ND	ug/L	10	0.70	1	05/17/19 00:00	MPR 16662	05/22/19 08:29	MMS 9528	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U050420
Project ID: DISSOLVED METALS

Lab ID **U050420004** Date Collected 5/8/2019 10:20 Matrix Water
Sample ID **UR6** Date Received 5/9/2019 08:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual

Lab ID **U050420005** Date Collected 5/8/2019 10:12 Matrix Water
Sample ID **UR3 LAB DUP** Date Received 5/9/2019 08:30

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode,Dissolved	**Prep Method:**		EPA 200.8 (filtrate)					**Prep by:**	JW	
	Analytical Method:		EPA 200.8 (filtrate)					**Analyzed by:**	TPH	
Copper	3.7	ug/L	0.50	0.15	1	05/17/19 00:00	MPR 16662	05/22/19 08:37	MMS 9528	
Iron	0.05	mg/L	0.05	0.0050	1	05/17/19 00:00	MPR 16662	05/22/19 08:37	MMS 9528	
Lead	ND	ug/L	0.25	0.060	1	05/17/19 00:00	MPR 16662	05/22/19 08:37	MMS 9528	
Zinc	11	ug/L	10	0.70	1	05/17/19 00:00	MPR 16662	05/22/19 08:37	MMS 9528	

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QUALITY CONTROL DATA

Lab Order: U050420
Project ID: DISSOLVED METALS

Analysis Description:	Metals by ICPMS Collision Mode,Dissolved	**QC Batch:**	MPR/16662
Analysis Method:	EPA 200.8 (filtrate)	**QC Batch Method:**	EPA 200.8 (filtrate)

FILTER BLANK: 887097

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	10	0.7	ug/L	

METHOD BLANK: 887094

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	10	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 887095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	19	95	85-115	
Iron	mg/L	10	9.28	93	85-115	
Lead	ug/L	20	18.8	94	85-115	
Zinc	ug/L	20	19	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887099 887100

Parameter	Units	U050653003 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	10	20	31.3	30.8	107	104	70-130	1.6	20	
Iron	mg/L	0.05	10	10	9.89	100	98	70-130	1.1	20	
Lead	ug/L	0.32	20	20.9	20.8	103	102	70-130	0.5	20	
Zinc	ug/L	16	20	36.5	35.8	103	99	70-130	1.9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887101 887102

Parameter	Units	U050690002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	4.2	20	24.1	23.9	100	99	70-130	0.8	20	
Iron	mg/L	0.04	10	9.71	9.67	97	96	70-130	0.4	20	
Lead	ug/L	18	20	37.1	37.5	96	98	70-130	1.1	20	
Zinc	ug/L	11	20	30.1	30	96	95	70-130	0.3	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U050420
Project ID: DISSOLVED METALS

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U050420
Project ID: DISSOLVED METALS

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U050420001	**UR2S**	EPA 200.8 (filtrate)	MPR/16662	EPA 200.8 (filtrate)	MMS/9528
U050420002	**UR5**	EPA 200.8 (filtrate)	MPR/16662	EPA 200.8 (filtrate)	MMS/9528
U050420003	**UR3**	EPA 200.8 (filtrate)	MPR/16662	EPA 200.8 (filtrate)	MMS/9528
U050420004	**UR6**	EPA 200.8 (filtrate)	MPR/16662	EPA 200.8 (filtrate)	MMS/9528
U050420005	**UR3 LAB DUP**	EPA 200.8 (filtrate)	MPR/16662	EPA 200.8 (filtrate)	MMS/9528

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LARRY WALKER ASSOCIATES 1480 Drew Ave Suite 100, DAVIS, CA 95618 TEL: 530.753.6400 FAX: 530.753.7030

CHAIN-OF-CUSTODY RECORD

DATE: 5/8/2019 **Lab ID:** 4050420

DESTINATION LAB: Caltest
Attn: Greg Martindale
ADDRESS: 1885 North Kelly Road
Napa CA 94558

PHONE: (707) 258-4000
FAX:

SAMPLED BY: TME - David Pfuhler
LWA - Steve Maricle

LWA TASK MANAGER: Steve Maricle

LWA PROJECT MANAGER: Steve Maricle

LARRY WALKER ASSOCIATES

	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	REQUESTED ANALYSIS: Metals, Dissolved (Cu, Pb, Fe, Zn)	NOTES
1	UR2S	5/8/2019	9:30	W	1	500 mL PE	-	X	
2	UR5	5/8/2019	11:00	W	1	500 mL PE	-	X	5
3	UR3	5/8/2019	10:12	W	1	500 mL PE	-	X	Perform lab dup on UR3
4	UR6	5/8/2019	10:20	W	1	500 mL PE	-	X	
5									
6									
7									
8									
9									
10									
11									
12									

SENDER COMMENTS:
[1] field filtered w/in 15 min
Report to <labdata@lwa.com> Bill to <ap@lwa.com>

UR5 filtered after 15 minute hold

LABORATORY COMMENTS:
TEMP. (°C): 1
SEALED: Y
INTACT: Y

RELIQUINSHED BY	RECEIVED BY
Signature:	Signature:
Print: Dave Pfuhler	Print: Steve Maricle
Company: Thunder Mtn. Ent.	Company: LWA
Date: 5/8/2019 Time: 12:21	Date: 5/8/19 Time: 1221
RELIQUINSHED BY [2]	**RECEIVED BY [2]**
Signature:	Signature:
Print: Steve Maricle	Print: David Hand
Company: LWA	Company: PER
Date: 5/8/19 Time: 1228	Date: 5/8/19 Time: 1228

Alex Hartwig 5-9-19 0935

Relinquished by Y. Khadrigeva 5-9-19 0830

Alex Hartwig Caltest 5-9-19 0830

TECHNICAL MEMORANDUM

405 0419
~~405 0420~~

Date: May 8, 2019

Prepared for: Steve Maricle, LWA

Prepared by: Alison Briden, Pacific EcoRisk

Subject: Filtration of SSQP DW29 UR-5 composite sample

As requested by Larry Walker Associates, the UR-5 sample was filtered upon receipt to remove duckweed from the water. Upon receipt at Pacific EcoRisk (PER), the entire UR-5 composite sample was passed through a 400 µm screen and was collected in a 20-L glass carboy that was cleaned in accordance with the SSQP study-specific cleaning procedure. The screen was made of nylon mesh and was cleaned following the same procedure prior to use. Once filtered, PER staff proceeded with sample disposition using sample bottles provided by the analytical laboratories in accordance with the splitting summary provided by LWA.

Thursday, June 06, 2019

Steve Maricle
Larry Walker and Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

Re Lab Order: U050419 Collected By: LWA, TME
Project ID: SSQP URBAN RUNOFF DISCHARGE PO/Contract #:

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, May 09, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Greg Martindale

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SAMPLE SUMMARY

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	Matrix	Date Collected	Date Received
U050419001	**DW29-UR3**	Water	05/08/2019 10:10	05/09/2019 09:35
U050419002	**DW29-UR2S**	Water	05/08/2019 09:25	05/09/2019 09:35
U050419003	**DW29-UR5**	Water	05/08/2019 10:55	05/09/2019 09:35
U050419004	**DW29-UR6**	Water	05/08/2019 10:15	05/09/2019 09:35
U050419005	**DW29-UR3 LAB DUP**	Water	05/08/2019 10:10	05/09/2019 09:35

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NARRATIVE

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Filtrations performed at Caltest for dissolved metals (excluding mercury) and/or pH analysis are not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - indicates analytical result has not been detected at or above the Reporting Limit (RL), or at above the Method Detection Limit (MDL) when it is included on the report and is not otherwise noted.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

MDL - The Method Detection Limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

B - indicates the analyte has been detected in the blank associated with the sample.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.

Qualifiers and Compound Notes

1	Fenpropathrin was not spiked into the LCS/LCSD or MS/MSD at time of extraction. Surrogate(s) and internal standard(s) associated with this compound meet criteria; however, analytical results for this compound should be considered estimated.
2	This analysis is not covered under Caltest's NELAP/CAL-ELAP Accreditations.

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419001** Date Collected 5/8/2019 10:10 Matrix Water
Sample ID **DW29-UR3** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**	SM 2540 D-11						**Analyzed by:**	ACS	
Total Suspended Solids	ND	mg/L	3	2	1			05/10/19 11:21	BIO 20695	
Chemical Oxygen Demand Analysis	**Analytical Method:**	EPA 410.4-93 / SM 5220 D-11						**Analyzed by:**	DJC	
Chemical Oxygen Demand	ND	mg/L	50	20	1			05/09/19 11:12	BIO 20693	
Suspended Sediment Concentration	**Analytical Method:**	ASTM D 3977-97 B-Filtration						**Analyzed by:**	RJD	
Sediment Concentration	ND	mg/L	3.0	2.0	1			05/14/19 10:41	BIO 20704	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**	SM 5210 B-11						**Prep by:**	DJC	
	Analytical Method:	SM 5210 B-11						**Analyzed by:**	DJC	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	05/09/19 14:17	BOD 11782	05/14/19 12:19	BOD 11783	
Metals by ICPMS Collision Mode, Total	**Prep Method:**	EPA 200.8						**Prep by:**	JW	
	Analytical Method:	EPA 200.8						**Analyzed by:**	TPH	
Copper	5.2	ug/L	0.50	0.15	1	05/15/19 00:00	MPR 16654	05/22/19 02:40	MMS 9523	
Iron	0.15	mg/L	0.05	0.0050	1	05/15/19 00:00	MPR 16654	05/22/19 02:40	MMS 9523	
Lead	J0.14	ug/L	0.25	0.060	1	05/15/19 00:00	MPR 16654	05/22/19 02:40	MMS 9523	
Zinc	11	ug/L	1.0	0.70	1	05/15/19 00:00	MPR 16654	05/28/19 14:47	MMS 9523	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**	SW846 3510C						**Prep by:**	JSF	
	Analytical Method:	EPA 8270M_NCI						**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Bifenthrin	J0.2	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Chlorpyrifos	J0.5	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Cyfluthrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Lambda-Cyhalothrin	J0.4	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Cypermethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Diazinon	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Fenpropathrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	1
Fipronil	J0.7	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Fipronil Desulfinyl	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Fipronil Sulfone	2.0	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Permethrin	ND	ng/L	10	2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Tetramethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Esfenvalerate-d6 (SS)	78	%	26-130		1	05/10/19 17:11	SPR 8426	05/16/19 22:10	SMS 4818	
Nitrogen,Total Kjeldahl Analysis	**Prep Method:**	SM 4500-Norg C/NH3 B,C-11						**Prep by:**	JDC	
	Analytical Method:	SM 4500-Norg C/NH3 B,C-11						**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.4	mg/L	0.1	0.070	1	05/18/19 00:00	WPR 1014	05/22/19 00:00	WAT 5000	
Phosphorus Analysis, Low Level	**Analytical Method:**	SM 4500-P B/F-11 (LL)						**Analyzed by:**	DR	

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419001** Date Collected 5/8/2019 10:10 Matrix Water
Sample ID **DW29-UR3** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Phosphorus as P	0.12	mg/L	0.01	0.0070	1			05/17/19 13:03	WCO 14688	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	4.2	mg/L	0.5	0.35	5			05/21/19 15:12	WCO 14701	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	0.15	NTU	0.070	0.070	1			05/09/19 16:58	WET 10020	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	490	umhos/cm	10	10	1			05/14/19 15:25	WET 10016	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	250	mg/L	10	4.0	1			05/15/19 17:03	WGR 7160	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	180	mg/L	5	1.7	1			05/13/19 10:20	WTI 3175	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	163	mg/L	10	1.2	1			05/14/19 17:31	WTI 3174	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:31	WTI 3174	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:31	WTI 3174	
Alkalinity, Total (as CACO3)	163	mg/L	10	1.2	1			05/14/19 17:31	WTI 3174	

Lab ID **U050419002** Date Collected 5/8/2019 09:25 Matrix Water
Sample ID **DW29-UR2S** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	8	mg/L	3	2	1			05/10/19 11:21	BIO 20695	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	81	mg/L	50	20	1			05/09/19 11:12	BIO 20693	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	RJD	
Sediment Concentration	9.5	mg/L	3.0	2.0	1			05/14/19 10:41	BIO 20704	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	05/09/19 14:18	BOD 11782	05/14/19 12:21	BOD 11783	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	JW	
	Analytical Method:		EPA 200.8					**Analyzed by:**	TPH	
Copper	13	ug/L	0.50	0.15	1	05/15/19 00:00	MPR 16654	05/22/19 02:48	MMS 9523	
Iron	0.24	mg/L	0.05	0.0050	1	05/15/19 00:00	MPR 16654	05/22/19 02:48	MMS 9523	
Lead	0.89	ug/L	0.25	0.060	1	05/15/19 00:00	MPR 16654	05/22/19 02:48	MMS 9523	
Zinc	18	ug/L	1.0	0.70	1	05/15/19 00:00	MPR 16654	05/28/19 14:56	MMS 9523	

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419002** Date Collected 5/8/2019 09:25 Matrix Water
Sample ID **DW29-UR2S** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	JSF	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Bifenthrin	1.0	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Cyfluthrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Lambda-Cyhalothrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Cypermethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Diazinon	3.8	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Fenpropathrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	1
Fipronil	J0.9	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Fipronil Desulfinyl	1.9	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Fipronil Sulfone	4.6	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Permethrin	ND	ng/L	10	2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Tetramethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Esfenvalerate-d6 (SS)	77	%	26-130		1	05/10/19 17:11	SPR 8426	05/16/19 23:52	SMS 4818	
Nitrogen,Total Kjeldahl Analysis	**Prep Method:**		SM 4500-Norg C/NH3 B,C-11					**Prep by:**	JDC	
	Analytical Method:		SM 4500-Norg C/NH3 B,C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	2.1	mg/L	0.1	0.070	1	05/18/19 00:00	WPR 1014	05/22/19 00:00	WAT 5000	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.20	mg/L	0.01	0.0070	1			05/17/19 13:05	WCO 14688	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	J0.083	mg/L	0.1	0.070	1			05/21/19 15:15	WCO 14701	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	6.1	NTU	0.070	0.070	1			05/09/19 16:59	WET 10020	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	640	umhos/cm	10	10	1			05/14/19 15:26	WET 10016	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	410	mg/L	10	4.0	1			05/15/19 17:03	WGR 7160	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	190	mg/L	5	1.7	1			05/13/19 10:20	WTI 3175	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	133	mg/L	10	1.2	1			05/14/19 17:39	WTI 3174	
Carbonate (as CACO3)	25	mg/L	10	1.2	1			05/14/19 17:39	WTI 3174	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:39	WTI 3174	

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419002** Date Collected 5/8/2019 09:25 Matrix Water
Sample ID **DW29-UR2S** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Alkalinity, Total (as CACO3)	158	mg/L	10	1.2	1			05/14/19 17:39	WTI 3174	

Lab ID **U050419003** Date Collected 5/8/2019 10:55 Matrix Water
Sample ID **DW29-UR5** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	3	mg/L	3	2	1			05/10/19 11:21	BIO 20695	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	J25	mg/L	50	20	1			05/09/19 11:12	BIO 20693	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	RJD	
Sediment Concentration	3.6	mg/L	3.0	2.0	1			05/14/19 10:41	BIO 20704	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	6	mg/L	5	5	1	05/09/19 14:22	BOD 11782	05/14/19 12:23	BOD 11783	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	JW	
	Analytical Method:		EPA 200.8					**Analyzed by:**	TPH	
Copper	0.62	ug/L	0.50	0.15	1	05/15/19 00:00	MPR 16654	05/22/19 03:49	MMS 9523	
Iron	0.12	mg/L	0.05	0.0050	1	05/15/19 00:00	MPR 16654	05/22/19 03:49	MMS 9523	
Lead	ND	ug/L	0.25	0.060	1	05/15/19 00:00	MPR 16654	05/22/19 03:49	MMS 9523	
Zinc	2.2	ug/L	1.0	0.70	1	05/15/19 00:00	MPR 16654	05/22/19 03:49	MMS 9523	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	JSF	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Bifenthrin	0.6	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Cyfluthrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Lambda-Cyhalothrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Cypermethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Diazinon	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Fenpropathrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	1
Fipronil	3.8	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Fipronil Desulfinyl	3.5	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Fipronil Sulfide	2.4	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Fipronil Sulfone	14	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Permethrin	ND	ng/L	10	2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419003** Date Collected 5/8/2019 10:55 Matrix Water
Sample ID **DW29-UR5** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Tetramethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Esfenvalerate-d6 (SS)	73	%	26-130		1	05/10/19 17:11	SPR 8426	05/17/19 05:35	SMS 4818	
Nitrogen,Total Kjeldahl Analysis	**Prep Method:**		SM 4500-Norg C/NH3 B,C-11					**Prep by:**	JDC	
	Analytical Method:		SM 4500-Norg C/NH3 B,C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	2.0	mg/L	0.1	0.070	1	05/18/19 00:00	WPR 1014	05/22/19 00:00	WAT 5000	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.49	mg/L	0.01	0.0070	1			05/17/19 13:06	WCO 14688	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	J0.083	mg/L	0.1	0.070	1			05/21/19 15:17	WCO 14701	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	1.8	NTU	0.070	0.070	1			05/09/19 16:59	WET 10020	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	650	umhos/cm	10	10	1			05/14/19 15:28	WET 10016	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	380	mg/L	10	4.0	1			05/15/19 17:03	WGR 7160	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	230	mg/L	5	1.7	1			05/13/19 10:20	WTI 3175	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	254	mg/L	10	1.2	1			05/14/19 17:48	WTI 3174	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:48	WTI 3174	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:48	WTI 3174	
Alkalinity, Total (as CACO3)	254	mg/L	10	1.2	1			05/14/19 17:48	WTI 3174	

Lab ID **U050419004** Date Collected 5/8/2019 10:15 Matrix Water
Sample ID **DW29-UR6** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	JW	
	Analytical Method:		EPA 200.8					**Analyzed by:**	TPH	
Copper	J0.44	ug/L	0.50	0.15	1	05/15/19 00:00	MPR 16654	05/22/19 03:58	MMS 9523	
Iron	0.06	mg/L	0.05	0.0050	1	05/15/19 00:00	MPR 16654	05/22/19 03:58	MMS 9523	
Lead	J0.21	ug/L	0.25	0.060	1	05/15/19 00:00	MPR 16654	05/22/19 03:58	MMS 9523	
Zinc	ND	ug/L	1.0	0.70	1	05/15/19 00:00	MPR 16654	05/22/19 03:58	MMS 9523	
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	JSF	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Bifenthrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419004** Date Collected 5/8/2019 10:15 Matrix Water
Sample ID **DW29-UR6** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Chlorpyrifos	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Cyfluthrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Lambda-Cyhalothrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Cypermethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Diazinon	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Fenpropathrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	1
Fipronil	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Fipronil Desulfinyl	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Fipronil Sulfone	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Permethrin	ND	ng/L	10	2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Tetramethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Esfenvalerate-d6 (SS)	77	%	26-130		1	05/10/19 17:11	SPR 8426	05/17/19 07:18	SMS 4818	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	ND	mg/L	5	1.7	1			05/13/19 10:20	WTI 3175	

Lab ID **U050419005** Date Collected 5/8/2019 10:10 Matrix Water
Sample ID **DW29-UR3 LAB DUP** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Total Suspended Solids Analysis	**Analytical Method:**		SM 2540 D-11					**Analyzed by:**	ACS	
Total Suspended Solids	ND	mg/L	3	2	1			05/10/19 11:21	BIO 20695	
Chemical Oxygen Demand Analysis	**Analytical Method:**		EPA 410.4-93 / SM 5220 D-11					**Analyzed by:**	DJC	
Chemical Oxygen Demand	ND	mg/L	50	20	1			05/09/19 11:12	BIO 20693	
Suspended Sediment Concentration	**Analytical Method:**		ASTM D 3977-97 B-Filtration					**Analyzed by:**	RJD	
Sediment Concentration	J2.8	mg/L	3.0	2.0	1			05/14/19 10:41	BIO 20704	2
Biochemical Oxygen Demand/5-Day	**Prep Method:**		SM 5210 B-11					**Prep by:**	DJC	
	Analytical Method:		SM 5210 B-11					**Analyzed by:**	DJC	
Biochemical Oxygen Demand	ND	mg/L	5	5	1	05/09/19 14:23	BOD 11782	05/14/19 12:25	BOD 11783	
Metals by ICPMS Collision Mode, Total	**Prep Method:**		EPA 200.8					**Prep by:**	JW	
	Analytical Method:		EPA 200.8					**Analyzed by:**	TPH	
Copper	5.2	ug/L	0.50	0.15	1	05/15/19 00:00	MPR 16654	05/22/19 04:07	MMS 9523	
Iron	0.14	mg/L	0.05	0.0050	1	05/15/19 00:00	MPR 16654	05/22/19 04:07	MMS 9523	
Lead	J0.15	ug/L	0.25	0.060	1	05/15/19 00:00	MPR 16654	05/22/19 04:07	MMS 9523	
Zinc	13	ug/L	1.0	0.70	1	05/15/19 00:00	MPR 16654	05/22/19 04:07	MMS 9523	

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ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID **U050419005** Date Collected 5/8/2019 10:10 Matrix Water
Sample ID **DW29-UR3 LAB DUP** Date Received 5/9/2019 09:35

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual
Pyrethroids+Fipronil Analysis,NCI,Water	**Prep Method:**		SW846 3510C					**Prep by:**	JSF	
	Analytical Method:		EPA 8270M_NCI					**Analyzed by:**	MDW	
Allethrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Bifenthrin	ND	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Chlorpyrifos	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Cyfluthrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Lambda-Cyhalothrin	J0.4	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Cypermethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Diazinon	3.4	ng/L	0.5	0.1	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Deltamethrin:Tralomethrin	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Esfenvalerate:Fenvalerate	ND	ng/L	1.0	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Fenpropathrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	1
Fipronil	J0.7	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Fipronil Desulfinyl	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Fipronil Sulfide	ND	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Fipronil Sulfone	1.6	ng/L	1.0	0.5	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Tau-Fluvalinate	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Permethrin	ND	ng/L	10	2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Tetramethrin	ND	ng/L	0.5	0.2	1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Esfenvalerate-d6 (SS)	81	%	26-130		1	05/10/19 17:11	SPR 8426	05/17/19 09:00	SMS 4818	
Nitrogen,Total Kjeldahl Analysis	**Prep Method:**		SM 4500-Norg C/NH3 B,C-11					**Prep by:**	JDC	
	Analytical Method:		SM 4500-Norg C/NH3 B,C-11					**Analyzed by:**	JDC	
Total Kjeldahl Nitrogen	1.6	mg/L	0.1	0.070	1	05/18/19 00:00	WPR 1014	05/22/19 00:00	WAT 5000	
Phosphorus Analysis, Low Level	**Analytical Method:**		SM 4500-P B/F-11 (LL)					**Analyzed by:**	DR	
Total Phosphorus as P	0.13	mg/L	0.01	0.0070	1			05/17/19 13:08	WCO 14688	
Nitrogen,Nitrate-Nitrite Analysis	**Analytical Method:**		EPA353.2-93/SM4500-NO3 F-00/11					**Analyzed by:**	DR	
Nitrogen, Nitrate-Nitrite	4.3	mg/L	0.5	0.35	5			05/21/19 15:19	WCO 14701	
Turbidity Analysis	**Analytical Method:**		EPA 180.1-93					**Analyzed by:**	BCP	
Turbidity	1.8	NTU	0.070	0.070	1			05/09/19 17:03	WET 10020	
Electrical Conductance Analysis	**Analytical Method:**		SM 2510 B-97/-11					**Analyzed by:**	DR	
Conductivity	480	umhos/cm	10	10	1			05/14/19 15:29	WET 10016	
Total Dissolved Solids Analysis	**Analytical Method:**		SM 2540 C-97/-11					**Analyzed by:**	ACS	
Total Dissolved Solids	260	mg/L	10	4.0	1			05/15/19 17:03	WGR 7160	
Hardness, as CACO3 by Titrimetric	**Analytical Method:**		SM 2340 C-97/-11					**Analyzed by:**	KMS	
Hardness (as CACO3)	180	mg/L	5	1.7	1			05/13/19 10:20	WTI 3175	
Alkalinity, Total Analysis	**Analytical Method:**		SM 2320 B-97/-11					**Analyzed by:**	DR	
Bicarbonate (as CACO3)	169	mg/L	10	1.2	1			05/14/19 17:57	WTI 3174	
Carbonate (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:57	WTI 3174	
Hydroxide (as CACO3)	ND	mg/L	10	1.2	1			05/14/19 17:57	WTI 3174	
Alkalinity, Total (as CACO3)	169	mg/L	10	1.2	1			05/14/19 17:57	WTI 3174	

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Caltest ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ANALYTICAL RESULTS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	**U050419005**	Date Collected	5/8/2019 10:10	Matrix	Water
Sample ID	**DW29-UR3 LAB DUP**	Date Received	5/9/2019 09:35		

Parameters	Result	Units	R. L.	MDL	DF	Prepared	Batch	Analyzed	Batch	Qual

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Chemical Oxygen Demand Analysis	**QC Batch:**	BIO/20693
Analysis Method:	EPA 410.4-93 / SM 5220 D-11	**QC Batch Method:**	EPA 410.4-93 / SM 5220 D-11

METHOD BLANK: 885583

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Chemical Oxygen Demand	ND	50	20	mg/L	

LABORATORY CONTROL SAMPLE: 885584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Chemical Oxygen Demand	mg/L	300	292	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885585 885586

Parameter	Units	U050366002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	40	300	332	334	97	98	90-110	0.6	20	

Analysis Description:	Total Suspended Solids Analysis	**QC Batch:**	BIO/20695
Analysis Method:	SM 2540 D-11	**QC Batch Method:**	SM 2540 D-11

METHOD BLANK: 885638

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Suspended Solids	ND	3	2	mg/L	

LABORATORY CONTROL SAMPLE: 885639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Suspended Solids	mg/L	500	502	100	80-120	

SAMPLE DUPLICATE: 885726

Parameter	Units	U050001009 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Suspended Solids	mg/L	1300	1190	8.8	20	30	20	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Suspended Sediment Concentration	**QC Batch:**	BIO/20704
Analysis Method:	ASTM D 3977-97 B-Filtration	**QC Batch Method:**	ASTM D 3977-97 B-Filtration

METHOD BLANK: 886155

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Sediment Concentration	ND	3.0	2	mg/L	

LABORATORY CONTROL SAMPLE & LCSD: 886156 886157

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Sediment Concentration	mg/L	500	496	500	99	100	80-120	0.8	20	

Analysis Description:	Biochemical Oxygen Demand/5-Day	**QC Batch:**	BOD/11782
Analysis Method:	SM 5210 B-11	**QC Batch Method:**	SM 5210 B-11

METHOD BLANK: 885526

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Biochemical Oxygen Demand	ND	5	5	mg/L	

LABORATORY CONTROL SAMPLE: 885527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Biochemical Oxygen Demand	mg/L	198	174	88	85-115	

SAMPLE DUPLICATE: 885528

Parameter	Units	U050001008 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Biochemical Oxygen Demand	mg/L	354	327	7.9	30	50	50	

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16654
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

METHOD BLANK: 886227

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Copper	ND	0.50	0.15	ug/L	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Metals by ICPMS Collision Mode, Total	**QC Batch:**	MPR/16654
Analysis Method:	EPA 200.8	**QC Batch Method:**	EPA 200.8

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Iron	ND	0.05	0.005	mg/L	
Lead	ND	0.25	0.06	ug/L	
Zinc	ND	1.0	0.7	ug/L	

LABORATORY CONTROL SAMPLE: 886228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Copper	ug/L	20	20.9	105	85-115	
Iron	mg/L	10	10.3	103	85-115	
Lead	ug/L	20	20.6	103	85-115	
Zinc	ug/L	20	20.8	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886230 886231

Parameter	Units	U050419002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	13	20	34.5	34.3	108	107	70-130	0.6	20	
Iron	mg/L	0.24	10	10.5	10.4	103	102	70-130	1	20	
Lead	ug/L	0.89	20	21.2	21.1	102	101	70-130	0.5	20	
Zinc	ug/L	18	20	39.7	39.1	109	106	70-130	1.5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886232 886233

Parameter	Units	U050452003 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Copper	ug/L	5.6	20	25.8	25.4	101	99	70-130	1.6	20	
Iron	mg/L	0.14	10	10.1	10.1	100	100	70-130	0	20	
Lead	ug/L	0.27	20	20.1	20	99	99	70-130	0.5	20	
Zinc	ug/L	25	20	43.8	43.3	94	92	70-130	1.1	20	

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8426
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

METHOD BLANK: 885716

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Allethrin	ND	0.5	0.1	ng/L	
Bifenthrin	ND	0.5	0.1	ng/L	
Chlorpyrifos	ND	1.0	0.5	ng/L	
Cyfluthrin	ND	0.5	0.2	ng/L	
Lambda-Cyhalothrin	ND	0.5	0.2	ng/L	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8426
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Cypermethrin	ND	0.5	0.2	ng/L	
Diazinon	ND	0.5	0.1	ng/L	
Deltamethrin:Tralomethrin	ND	1.0	0.2	ng/L	
Esfenvalerate:Fenvalerate	ND	1.0	0.2	ng/L	
Fipronil	ND	1.0	0.5	ng/L	
Fipronil Desulfinyl	ND	1.0	0.5	ng/L	
Fipronil Sulfide	ND	1.0	0.5	ng/L	
Tau-Fluvalinate	ND	0.5	0.2	ng/L	
Permethrin	ND	10	2	ng/L	
Tetramethrin	ND	0.5	0.2	ng/L	
Esfenvalerate-d6 (SS)	82	34-130		%	

METHOD BLANK: 885716

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Fipronil Sulfone	ND	1.0	0.5	ng/L	

LABORATORY CONTROL SAMPLE & LCSD: 885717 885718

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Allethrin	ng/L	20	12.2	11.6	61	58	30-130	5	35	
Bifenthrin	ng/L	20	13	13.1	65	66	44-130	0.8	35	
Chlorpyrifos	ng/L	20	13.4	13.1	67	66	25-130	2.3	35	
Cyfluthrin	ng/L	20	13.7	13.7	69	69	43-141	0	30	
Lambda-Cyhalothrin	ng/L	20	13.8	15	69	75	24-130	8.3	38	
Cypermethrin	ng/L	20	13.4	13.7	67	69	42-130	2.2	30	
Diazinon	ng/L	20	11.4	11.6	57	58	24-130	1.7	35	
Deltamethrin:Tralomethrin	ng/L	40	26.9	27.6	67	69	3-150	2.6	30	
Esfenvalerate:Fenvalerate	ng/L	40	26.9	28.1	67	70	32-130	4.4	30	
Fipronil	ng/L	20	17.3	17.1	87	86	27-130	1.2	32	
Fipronil Desulfinyl	ng/L	20	18.9	19.1	95	96	25-130	1.1	35	
Fipronil Sulfide	ng/L	20	16.4	16.6	82	83	22-130	1.2	41	
Fipronil Sulfone	ng/L	20	25.6	26	128	130	14-130	1.6	32	
Tau-Fluvalinate	ng/L	20	14.1	14.5	71	73	18-130	2.8	30	
Permethrin	ng/L	100	77.2	82.8	77	83	40-135	7	30	
Tetramethrin	ng/L	20	11.6	11.3	58	57	29-130	2.6	30	
Esfenvalerate-d6 (SS)	%				79	80	34-130	1.9	30	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Pyrethroids+Fipronil Analysis,NCI,Water	**QC Batch:**	SPR/8426
Analysis Method:	EPA 8270M_NCI	**QC Batch Method:**	SW846 3510C

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 885719 885720

Parameter	Units	U050419002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Allethrin	ng/L	0	20	10.9	11.1	55	56	21-130	1.8	30	
Bifenthrin	ng/L	1	20	12.5	11.9	58	55	29-139	4.9	30	
Chlorpyrifos	ng/L	0	20	10.7	11.2	54	56	10-130	4.6	30	
Cyfluthrin	ng/L	0	20	11.3	10.8	57	54	44-130	4.5	30	
Lambda-Cyhalothrin	ng/L	0	20	12	11.4	60	57	12-141	5.1	30	
Cypermethrin	ng/L	0	20	11.4	11.1	57	56	39-130	2.7	30	
Diazinon	ng/L	3.8	20	12.3	12.3	43	43	3-151	0	46	
Deltamethrin:Tralomethrin	ng/L	0	40	21.5	20.3	54	51	11-130	5.7	30	
Esfenvalerate:Fenvalerate	ng/L	0	40	23.4	23.1	59	58	32-130	1.3	30	
Fipronil	ng/L	0.9	20	14.9	15.4	70	73	7-142	3.3	30	
Fipronil Desulfinyl	ng/L	1.9	20	15.6	16	69	71	17-130	2.5	35	
Fipronil Sulfide	ng/L	0	20	13.1	13.2	66	66	3-130	0.8	32	
Fipronil Sulfone	ng/L	4.6	20	21.4	20.5	84	80	4-142	4.3	31	
Tau-Fluvalinate	ng/L	0	20	11.9	11.4	60	57	13-130	4.3	32	
Permethrin	ng/L	0	100	67.6	64.5	68	65	40-130	4.7	30	
Tetramethrin	ng/L	0	20	7.83	7.98	39	40	28-130	1.9	30	
Esfenvalerate-d6 (SS)	%					69	63	30-130	8.4	30	

Analysis Description:	Phosphorus Analysis, Low Level	**QC Batch:**	WCO/14688
Analysis Method:	SM 4500-P B/F-11 (LL)	**QC Batch Method:**	SM 4500-P B/F-11 (LL)

METHOD BLANK: 886774

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Phosphorus as P	ND	0.01	0.007	mg/L	

LABORATORY CONTROL SAMPLE: 886775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Phosphorus as P	mg/L	1	0.997	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 886776 886777

Parameter	Units	887151 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Phosphorus as P	mg/L	0.055	1	1.04	1.06	99	101	90-110	1.9	20	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Nitrogen,Nitrate-Nitrite Analysis	**QC Batch:**	WCO/14701
Analysis Method:	EPA353.2-93/SM4500-NO3 F-00/11	**QC Batch Method:**	EPA353.2-93/SM4500-NO3 F-00/11

METHOD BLANK: 887326

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Nitrogen, Nitrate-Nitrite	ND	0.1	0.07	mg/L	

LABORATORY CONTROL SAMPLE: 887327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Nitrogen, Nitrate-Nitrite	mg/L	1	0.919	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887328 887329

Parameter	Units	U050449002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.25	1	1.21	1.18	96	93	90-110	2.5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887330 887331

Parameter	Units	U050562003 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate-Nitrite	mg/L	0.47	1	1.47	1.45	100	98	90-110	1.4	20	

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/10016
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

METHOD BLANK: 886176

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Conductivity	ND	10	10	umhos/c	

LABORATORY CONTROL SAMPLE: 886177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Conductivity	umhos/c	1400	1420	100	80-120	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Electrical Conductance Analysis	**QC Batch:**	WET/10016
Analysis Method:	SM 2510 B-97/-11	**QC Batch Method:**	SM 2510 B-97/-11

SAMPLE DUPLICATE: 886178

Parameter	Units	U050149001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Conductivity	umhos/c	1500	1510	0.7	20	10	10	

Analysis Description:	Turbidity Analysis	**QC Batch:**	WET/10020
Analysis Method:	EPA 180.1-93	**QC Batch Method:**	EPA 180.1-93

METHOD BLANK: 886340

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Turbidity	ND	0.070	0.07	NTU	

LABORATORY CONTROL SAMPLE: 886341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Turbidity	NTU	4	4.31	108	90-110	

SAMPLE DUPLICATE: 886342

Parameter	Units	U050383001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Turbidity	NTU	0.15	0.131	8.8	20	0.070	.07	

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/7160
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

METHOD BLANK: 886560

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Dissolved Solids	ND	10	4	mg/L	

LABORATORY CONTROL SAMPLE: 886561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Total Dissolved Solids	mg/L	500	506	101	80-120	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Total Dissolved Solids Analysis	**QC Batch:**	WGR/7160
Analysis Method:	SM 2540 C-97/-11	**QC Batch Method:**	SM 2540 C-97/-11

SAMPLE DUPLICATE: 886566

Parameter	Units	U050407001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Total Dissolved Solids	mg/L	2500	2540	1.6	20	20	8	

Analysis Description:	Nitrogen,Total Kjeldahl Analysis	**QC Batch:**	WPR/1014
Analysis Method:	SM 4500-Norg C/NH3 B,C-11	**QC Batch Method:**	SM 4500-Norg C/NH3 B,C-11

METHOD BLANK: 887143

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Total Kjeldahl Nitrogen	J0.083	0.1	0.07	mg/L	3

LABORATORY CONTROL SAMPLE & LCSD: 887144 887145

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% REC Limits	RPD	Max RPD	Qualifier
Total Kjeldahl Nitrogen	mg/L	5	4.93	5.06	99	101	90-110	2.6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887240 887241

Parameter	Units	U050419002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Total Kjeldahl Nitrogen	mg/L	2.1	5	7.07	7.38	99	106	54-154	4.3	20	

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3174
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

METHOD BLANK: 886186

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Bicarbonate (as CACO3)	ND	10	1.2	mg/L	
Carbonate (as CACO3)	ND	10	1.2	mg/L	
Hydroxide (as CACO3)	ND	10	1.2	mg/L	
Alkalinity, Total (as CACO3)	ND	10	1.2	mg/L	

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QUALITY CONTROL DATA

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Analysis Description:	Alkalinity, Total Analysis	**QC Batch:**	WTI/3174
Analysis Method:	SM 2320 B-97/-11	**QC Batch Method:**	SM 2320 B-97/-11

LABORATORY CONTROL SAMPLE: 886187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Bicarbonate (as CACO3)	mg/L	100	95.3	95	80-120	
Alkalinity, Total (as CACO3)	mg/L	100	95.3	95	80-120	

SAMPLE DUPLICATE: 886188

Parameter	Units	U050149001 Result	DUP Result	RPD	Max RPD	Reporting Limit	MDL	Qualifiers
Bicarbonate (as CACO3)	mg/L	359	360	0.3	20	10	1.2	
Carbonate (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Hydroxide (as CACO3)	mg/L	ND	0	0	20	10	1.2	
Alkalinity, Total (as CACO3)	mg/L	359	360	0.3	20	10	1.2	

Analysis Description:	Hardness, as CACO3 by Titrimetric	**QC Batch:**	WTI/3175
Analysis Method:	SM 2340 C-97/-11	**QC Batch Method:**	SM 2340 C-97/-11

METHOD BLANK: 887103

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Hardness (as CACO3)	ND	5	1.7	mg/L	

LABORATORY CONTROL SAMPLE: 887104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% REC Limits	Qualifier
Hardness (as CACO3)	mg/L	100	102	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 887105 887106

Parameter	Units	U050419002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hardness (as CACO3)	mg/L	190	90	265	265	83	83	80-120	0	20	

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QUALITY CONTROL DATA QUALIFIERS

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage

3 Low level contamination noted in the Method Blank; sample results less than the RL or greater than 10 times the contamination level are reported.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U050419001	**DW29-UR3**	EPA 410.4-93 / SM 5220	BIO/20693		
U050419002	**DW29-UR2S**	EPA 410.4-93 / SM 5220	BIO/20693		
U050419003	**DW29-UR5**	EPA 410.4-93 / SM 5220	BIO/20693		
U050419005	**DW29-UR3 LAB DUP**	EPA 410.4-93 / SM 5220	BIO/20693		
U050419001	**DW29-UR3**	SM 2540 D-11	BIO/20695		
U050419002	**DW29-UR2S**	SM 2540 D-11	BIO/20695		
U050419003	**DW29-UR5**	SM 2540 D-11	BIO/20695		
U050419005	**DW29-UR3 LAB DUP**	SM 2540 D-11	BIO/20695		
U050419001	**DW29-UR3**	ASTM D 3977-97	BIO/20704		
U050419002	**DW29-UR2S**	ASTM D 3977-97	BIO/20704		
U050419003	**DW29-UR5**	ASTM D 3977-97	BIO/20704		
U050419005	**DW29-UR3 LAB DUP**	ASTM D 3977-97	BIO/20704		
U050419001	**DW29-UR3**	SM 5210 B-11	BOD/11782	SM 5210 B-11	BOD/11783
U050419002	**DW29-UR2S**	SM 5210 B-11	BOD/11782	SM 5210 B-11	BOD/11783
U050419003	**DW29-UR5**	SM 5210 B-11	BOD/11782	SM 5210 B-11	BOD/11783
U050419005	**DW29-UR3 LAB DUP**	SM 5210 B-11	BOD/11782	SM 5210 B-11	BOD/11783
U050419001	**DW29-UR3**	EPA 200.8	MPR/16654	EPA 200.8	MMS/9523
U050419002	**DW29-UR2S**	EPA 200.8	MPR/16654	EPA 200.8	MMS/9523
U050419003	**DW29-UR5**	EPA 200.8	MPR/16654	EPA 200.8	MMS/9523
U050419004	**DW29-UR6**	EPA 200.8	MPR/16654	EPA 200.8	MMS/9523
U050419005	**DW29-UR3 LAB DUP**	EPA 200.8	MPR/16654	EPA 200.8	MMS/9523
U050419001	**DW29-UR3**	SW846 3510C	SPR/8426	EPA 8270M_NCI	SMS/4818
U050419002	**DW29-UR2S**	SW846 3510C	SPR/8426	EPA 8270M_NCI	SMS/4818
U050419003	**DW29-UR5**	SW846 3510C	SPR/8426	EPA 8270M_NCI	SMS/4818
U050419004	**DW29-UR6**	SW846 3510C	SPR/8426	EPA 8270M_NCI	SMS/4818
U050419005	**DW29-UR3 LAB DUP**	SW846 3510C	SPR/8426	EPA 8270M_NCI	SMS/4818
U050419001	**DW29-UR3**	SM 4500-Norg C/NH3	WPR/1014	SM 4500-Norg C/NH3	WAT/5000
U050419002	**DW29-UR2S**	SM 4500-Norg C/NH3	WPR/1014	SM 4500-Norg C/NH3	WAT/5000
U050419003	**DW29-UR5**	SM 4500-Norg C/NH3	WPR/1014	SM 4500-Norg C/NH3	WAT/5000
U050419005	**DW29-UR3 LAB DUP**	SM 4500-Norg C/NH3	WPR/1014	SM 4500-Norg C/NH3	WAT/5000
U050419001	**DW29-UR3**	SM 4500-P B/F-11 (LL)	WCO/14688		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: U050419
Project ID: SSQP URBAN RUNOFF DISCHARGE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
U050419002	**DW29-UR2S**	SM 4500-P B/F-11 (LL)	WCO/14688		
U050419003	**DW29-UR5**	SM 4500-P B/F-11 (LL)	WCO/14688		
U050419005	**DW29-UR3 LAB DUP**	SM 4500-P B/F-11 (LL)	WCO/14688		
U050419001	**DW29-UR3**	EPA353.2-93/SM4500-N	WCO/14701		
U050419002	**DW29-UR2S**	EPA353.2-93/SM4500-N	WCO/14701		
U050419003	**DW29-UR5**	EPA353.2-93/SM4500-N	WCO/14701		
U050419005	**DW29-UR3 LAB DUP**	EPA353.2-93/SM4500-N	WCO/14701		
U050419001	**DW29-UR3**	SM 2510 B-97/-11	WET/10016		
U050419002	**DW29-UR2S**	SM 2510 B-97/-11	WET/10016		
U050419003	**DW29-UR5**	SM 2510 B-97/-11	WET/10016		
U050419005	**DW29-UR3 LAB DUP**	SM 2510 B-97/-11	WET/10016		
U050419001	**DW29-UR3**	EPA 180.1-93	WET/10020		
U050419002	**DW29-UR2S**	EPA 180.1-93	WET/10020		
U050419003	**DW29-UR5**	EPA 180.1-93	WET/10020		
U050419005	**DW29-UR3 LAB DUP**	EPA 180.1-93	WET/10020		
U050419001	**DW29-UR3**	SM 2540 C-97/-11	WGR/7160		
U050419002	**DW29-UR2S**	SM 2540 C-97/-11	WGR/7160		
U050419003	**DW29-UR5**	SM 2540 C-97/-11	WGR/7160		
U050419005	**DW29-UR3 LAB DUP**	SM 2540 C-97/-11	WGR/7160		
U050419001	**DW29-UR3**	SM 2320 B-97/-11	WTI/3174		
U050419002	**DW29-UR2S**	SM 2320 B-97/-11	WTI/3174		
U050419003	**DW29-UR5**	SM 2320 B-97/-11	WTI/3174		
U050419005	**DW29-UR3 LAB DUP**	SM 2320 B-97/-11	WTI/3174		
U050419001	**DW29-UR3**	SM 2340 C-97/-11	WTI/3175		
U050419002	**DW29-UR2S**	SM 2340 C-97/-11	WTI/3175		
U050419003	**DW29-UR5**	SM 2340 C-97/-11	WTI/3175		
U050419004	**DW29-UR6**	SM 2340 C-97/-11	WTI/3175		
U050419005	**DW29-UR3 LAB DUP**	SM 2340 C-97/-11	WTI/3175		

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Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date:

Lab ID: 1605419

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: LWA, TME
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

	Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)		Notes
1	DW29-UR3	CONV	5/8/19	1010	Water	2	1000 mL PE	none	X	X	X	X	X	X										LD
	DW29-UR3	MTL_T	5/8/19	1010	Water	1	500 mL PE	HNO3												X	X			LD
	DW29-UR3	NUTR_01	5/8/19	1010	Water	4	500 mL PE	H2SO4							X	X	X	X						LD
	DW29-UR3	PYRETH	5/8/19	1010	Water	2	1L AG	none														X		LD
	DW29-UR3	SSC	5/8/19	1010	Water	2	250 mL PE	none											X					LD
2	DW29-UR2S	CONV	5/8/19	0925	Water	1	1000 mL PE	none	X	X	X	X	X	X										
	DW29-UR2S	MTL_T	5/8/19	0925	Water	1	500 mL PE	HNO3												X	X			MSD
	DW29-UR2S	NUTR_01	5/8/19	0925	Water	2	500 mL PE	H2SO4							X	X	X	X						
	DW29-UR2S	PYRETH	5/8/19	0925	Water	3	1L AG	none														X		MSD
	DW29-UR2S	SSC	5/8/19	0925	Water	1	250 mL PE	none											X					
3	DW29-UR5	CONV	5/8/19	1055	Water	1	1000 mL PE	none	X	X	X	X	X	X										
	DW29-UR5	SSC	5/8/19	1055	WATER	1	250mL PE	none											X					

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature: [signature]
Print: Y. Kuzyerq
Organization: PIER
Date: 5-9-19 Time: 0830

Received By (2):
Alex Hartwig
Caltest
Date: 5-9-19 Time: 0830

Laboratory Comments:
TEMP. (°C): 1
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature: [signature]
Print: Alex Hartwig
Organization: Caltest
Date: 5-9-19 Time: 0935

Received By (2):
[signature]
COLBY CAMPBELL
CALTEST
Date: 05/09/19 Time: 09:35

Crew: PER

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date:

Lab ID: 4050419

Destination Lab: Caltest
Greg Martindale
Address: 1885 North Kelly Road
Napa, CA 94558
Phone: 707-258-4000
Fax: 707-226-1001

Sampled By: LWA, TME

LWA Contact: Steve Maricle

Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Alkalinity	TDS	TSS	Turbidity	EC	BOD5	Total P	Nitrate+Nitrite	TKN	COD	SSC	Hardness	LL Metals, Coll.Mode, unfiltered, (Cu, Pb, Zn, Fe)	Pyrethroids + (Chlorpyrifos, Diazinon, Fipronil)			Notes
DW29-UR5	MTL_T	5/8/19	1055	Water	1	500 mL PE	HNO3												X	X				
DW29-UR5	NUTR_01	5/8/19	1055	Water	2	500 mL PE	H2SO4							X	X	X	X							
DW29-UR5	PYRETH	5/8/19	1055	Water	2	1L AG	none														X			
DW29-UR5	SSC	5/8/19	1055	Water	1	250 mL PE	none											X						
DW29-UR6	MTL_T	5/8/19	1015	Water	1	500 mL PE	HNO3												X	X				
DW29-UR6	PYRETH	5/8/19	1015	Water	2	1L AG	none														X			

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Relinquished By (1):
Signature:
Print: Y. Chadwick
Organization: PER
Date: 5-9-19 Time: 0830

Received By (2):
Alex Hartwig
Caltest
Date: 5-9-19 Time: 0830

Laboratory Comments:
TEMP. (°C): 1
SEALED: Y
INTACT: Y

Relinquished By (1):
Signature:
Print: Alex Hartwig
Organization: Caltest
Date: 5-9-19 Time: 0935

Received By (2):
COLBY CAMPBELL
CALTEST
Date: 05/09/19 Time: 09:35

Crew: PER

TECHNICAL MEMORANDUM

405 0419
405 0420

Date: May 8, 2019

Prepared for: Steve Maricle, LWA

Prepared by: Alison Briden, Pacific EcoRisk

Subject: Filtration of SSQP DW29 UR-5 composite sample

As requested by Larry Walker Associates, the UR-5 sample was filtered upon receipt to remove duckweed from the water. Upon receipt at Pacific EcoRisk (PER), the entire UR-5 composite sample was passed through a 400 µm screen and was collected in a 20-L glass carboy that was cleaned in accordance with the SSQP study-specific cleaning procedure. The screen was made of nylon mesh and was cleaned following the same procedure prior to use. Once filtered, PER staff proceeded with sample disposition using sample bottles provided by the analytical laboratories in accordance with the splitting summary provided by LWA.

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ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

June 12, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave
Suite 100
Davis, CA 95618

Project Name: SSQP Urban Runoff Discharge Monitoring
Physis Project ID: 1204008-039

Dear Steve,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 5/9/2019. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625
Organophosphorus Pesticides by EPA 625

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PROJECT SAMPLE LIST

Larry Walker Associates

PHYSIS Project ID: 1204008-039

SSQP Urban Runoff Discharge Monitoring

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix
63353	DW29-UR3		5/8/2019	10:10	Liquid
63354	DW29-UR2S		5/8/2019	9:25	Liquid
63355	DW29-UR5		5/8/2019	10:55	Liquid
63356	DW29-UR6		5/8/2019	10:15	Liquid

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

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QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS1/MS2, BS1/BS2, LCS1/LCS2, LCM1/LCM2, CRM1/CRM2, surrogate spikes and/or replicate project sample analysis (R1/R2) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

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the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

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PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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ANALYTICAL REPORT

PHYSIS
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ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 1204008-039
Client: Larry Walker Associates
Project: SSQP Urban Runoff Discharge Monitoring

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63353-R1	**DW29-UR3**			**Matrix: Liquid**		**Sampled: 08-May-19 10:10**			**Received: 09-May-19**	
(PCB030)	EPA 625	% Recovery	93			Total		O-23010	09-May-19	03-Jun-19
(PCB112)	EPA 625	% Recovery	102			Total		O-23010	09-May-19	03-Jun-19
(PCB198)	EPA 625	% Recovery	99			Total		O-23010	09-May-19	03-Jun-19
(TCMX)	EPA 625	% Recovery	88			Total		O-23010	09-May-19	03-Jun-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Chlorpyrifos	EPA 625	ng/L	0.841	0.5	1	Total	J	O-23010	09-May-19	03-Jun-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-23010	09-May-19	03-Jun-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63354-R1	**DW29-UR2S**			**Matrix: Liquid**		**Sampled: 08-May-19 9:25**			**Received: 09-May-19**	
(PCB030)	EPA 625	% Recovery	91			Total		O-23010	09-May-19	03-Jun-19
(PCB112)	EPA 625	% Recovery	102			Total		O-23010	09-May-19	03-Jun-19
(PCB198)	EPA 625	% Recovery	91			Total		O-23010	09-May-19	03-Jun-19
(TCMX)	EPA 625	% Recovery	90			Total		O-23010	09-May-19	03-Jun-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-23010	09-May-19	03-Jun-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63355-R1	**DW29-UR5**			**Matrix: Liquid**		**Sampled: 08-May-19 10:55**			**Received: 09-May-19**	
(PCB030)	EPA 625	% Recovery	86			Total		O-23010	09-May-19	03-Jun-19
(PCB112)	EPA 625	% Recovery	97			Total		O-23010	09-May-19	03-Jun-19
(PCB198)	EPA 625	% Recovery	92			Total		O-23010	09-May-19	03-Jun-19
(TCMX)	EPA 625	% Recovery	82			Total		O-23010	09-May-19	03-Jun-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-23010	09-May-19	03-Jun-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19

Organophosphorus Pesticides

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63356-R1	**DW29-UR6**			**Matrix: Liquid**		**Sampled: 08-May-19 10:15**			**Received: 09-May-19**	
(PCB030)	EPA 625	% Recovery	89			Total		O-23010	09-May-19	03-Jun-19
(PCB112)	EPA 625	% Recovery	100			Total		O-23010	09-May-19	03-Jun-19
(PCB198)	EPA 625	% Recovery	98			Total		O-23010	09-May-19	03-Jun-19
(TCMX)	EPA 625	% Recovery	82			Total		O-23010	09-May-19	03-Jun-19
Bolstar (Sulprofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Chlorpyrifos	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Demeton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Diazinon	EPA 625	ng/L	ND	0.5	1	Total		O-23010	09-May-19	03-Jun-19
Dichlorvos	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Dimethoate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Disulfoton	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Ethoprop (Ethoprofos)	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenchlorphos (Ronnel)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Fensulfothion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Fenthion	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Malathion	EPA 625	ng/L	ND	2.5	5	Total		O-23010	09-May-19	03-Jun-19
Methidathion	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Methyl Parathion	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19
Mevinphos (Phosdrin)	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phorate	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Phosmet	EPA 625	ng/L	ND	5	10	Total		O-23010	09-May-19	03-Jun-19
Tetrachlorvinphos (Stirofos)	EPA 625	ng/L	ND	2	4	Total		O-23010	09-May-19	03-Jun-19
Tokuthion (Prothiofos)	EPA 625	ng/L	ND	3	6	Total		O-23010	09-May-19	03-Jun-19
Trichloronate	EPA 625	ng/L	ND	1	2	Total		O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63353-R1	**DW29-UR3**		**Matrix: Liquid**			**Sampled: 08-May-19 10:10**		**Received: 09-May-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	91			Total		O-23010	09-May-19	03-Jun-19
(d10-Phenanthrene)	EPA 625	% Recovery	100			Total		O-23010	09-May-19	03-Jun-19
(d12-Chrysene)	EPA 625	% Recovery	109			Total		O-23010	09-May-19	03-Jun-19
(d12-Perylene)	EPA 625	% Recovery	102			Total		O-23010	09-May-19	03-Jun-19
(d8-Naphthalene)	EPA 625	% Recovery	78			Total		O-23010	09-May-19	03-Jun-19
1-Methylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2-Methylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Acenaphthene	EPA 625	ng/L	1.13	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[b]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Biphenyl	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Naphthalene	EPA 625	ng/L	2.18	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Phenanthrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Pyrene	EPA 625	ng/L	1.32	1	5	Total	J	O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63354-R1	**DW29-UR2S**		**Matrix: Liquid**			**Sampled: 08-May-19 9:25**			**Received: 09-May-19**	
(d10-Acenaphthene)	EPA 625	% Recovery	85			Total		O-23010	09-May-19	03-Jun-19
(d10-Phenanthrene)	EPA 625	% Recovery	97			Total		O-23010	09-May-19	03-Jun-19
(d12-Chrysene)	EPA 625	% Recovery	115			Total		O-23010	09-May-19	03-Jun-19
(d12-Perylene)	EPA 625	% Recovery	98			Total		O-23010	09-May-19	03-Jun-19
(d8-Naphthalene)	EPA 625	% Recovery	74			Total		O-23010	09-May-19	03-Jun-19
1-Methylnaphthalene	EPA 625	ng/L	1.16	1	5	Total	J	O-23010	09-May-19	03-Jun-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2-Methylnaphthalene	EPA 625	ng/L	1.72	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Acenaphthene	EPA 625	ng/L	2.54	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[b]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Biphenyl	EPA 625	ng/L	1.21	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Fluoranthene	EPA 625	ng/L	2.52	1	5	Total	J	O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Naphthalene	EPA 625	ng/L	3.38	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Phenanthrene	EPA 625	ng/L	3.18	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Pyrene	EPA 625	ng/L	3.47	1	5	Total	J	O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63355-R1	**DW29-UR5**		**Matrix: Liquid**			**Sampled: 08-May-19 10:55**		**Received: 09-May-19**		
(d10-Acenaphthene)	EPA 625	% Recovery	82			Total		O-23010	09-May-19	03-Jun-19
(d10-Phenanthrene)	EPA 625	% Recovery	94			Total		O-23010	09-May-19	03-Jun-19
(d12-Chrysene)	EPA 625	% Recovery	102			Total		O-23010	09-May-19	03-Jun-19
(d12-Perylene)	EPA 625	% Recovery	96			Total		O-23010	09-May-19	03-Jun-19
(d8-Naphthalene)	EPA 625	% Recovery	69			Total		O-23010	09-May-19	03-Jun-19
1-Methylnaphthalene	EPA 625	ng/L	1.25	1	5	Total	J	O-23010	09-May-19	03-Jun-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2-Methylnaphthalene	EPA 625	ng/L	1.78	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Acenaphthene	EPA 625	ng/L	1.45	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[b]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Biphenyl	EPA 625	ng/L	1.49	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Naphthalene	EPA 625	ng/L	2.89	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Phenanthrene	EPA 625	ng/L	1.64	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 63356-R1	**DW29-UR6**		**Matrix: Liquid**			**Sampled: 08-May-19 10:15**			**Received: 09-May-19**	
(d10-Acenaphthene)	EPA 625	% Recovery	87			Total		O-23010	09-May-19	03-Jun-19
(d10-Phenanthrene)	EPA 625	% Recovery	96			Total		O-23010	09-May-19	03-Jun-19
(d12-Chrysene)	EPA 625	% Recovery	106			Total		O-23010	09-May-19	03-Jun-19
(d12-Perylene)	EPA 625	% Recovery	98			Total		O-23010	09-May-19	03-Jun-19
(d8-Naphthalene)	EPA 625	% Recovery	78			Total		O-23010	09-May-19	03-Jun-19
1-Methylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
1-Methylphenanthrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,3,5-Trimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2,6-Dimethylnaphthalene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
2-Methylnaphthalene	EPA 625	ng/L	1.06	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Acenaphthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Acenaphthylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benz[a]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[a]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[b]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[e]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[g,h,i]perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Benzo[k]fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Biphenyl	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Chrysene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenz[a,h]anthracene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Dibenzothiophene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Fluoranthene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluorene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Indeno[1,2,3-cd]pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Naphthalene	EPA 625	ng/L	1.42	1	5	Total	J	O-23010	09-May-19	03-Jun-19
Perylene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Phenanthrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19
Pyrene	EPA 625	ng/L	ND	1	5	Total		O-23010	09-May-19	03-Jun-19

QUALITY CONTROL REPORT

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Organophosphorus Pesticides QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63352-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19				Analyzed: 02-Jun-19	
(PCB030)	Total	86			% Recovery	100	86	57 - 133%	PASS			
(PCB112)	Total	92			% Recovery	100	92	65 - 133%	PASS			
(PCB198)	Total	89			% Recovery	100	89	69 - 133%	PASS			
(TCMX)	Total	82			% Recovery	100	82	39 - 135%	PASS			
Bolstar (Sulprofos)	Total	ND	2	4	ng/L							
Chlorpyrifos	Total	ND	0.5	1	ng/L							
Demeton	Total	ND	1	2	ng/L							
Diazinon	Total	ND	0.5	1	ng/L							
Dichlorvos	Total	ND	3	6	ng/L							
Dimethoate	Total	ND	5	10	ng/L							
Disulfoton	Total	ND	1	2	ng/L							
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L							
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L							
Fensulfothion	Total	ND	1	2	ng/L							
Fenthion	Total	ND	2	4	ng/L							
Malathion	Total	ND	2.5	5	ng/L							
Methidathion	Total	ND	5	10	ng/L							
Methyl Parathion	Total	ND	1	2	ng/L							
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L							
Phorate	Total	ND	5	10	ng/L							
Phosmet	Total	ND	5	10	ng/L							
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L							
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L							
Trichloronate	Total	ND	1	2	ng/L							

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63352-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19				Analyzed: 02-Jun-19	
(PCB030)	Total	102			% Recovery	100	0	102	57 - 133%		PASS	
(PCB112)	Total	107			% Recovery	100	0	107	65 - 133%		PASS	
(PCB198)	Total	101			% Recovery	100	0	101	69 - 133%		PASS	
(TCMX)	Total	97			% Recovery	100	0	97	39 - 135%		PASS	
Bolstar (Sulprofos)	Total	451	2	4	ng/L	500	0	90	46 - 147%		PASS	
Chlorpyrifos	Total	478	0.5	1	ng/L	500	0	96	75 - 120%		PASS	
Demeton	Total	439	1	2	ng/L	500	0	88	0 - 140%		PASS	
Diazinon	Total	475	0.5	1	ng/L	500	0	95	65 - 125%		PASS	
Dichlorvos	Total	489	3	6	ng/L	500	0	98	58 - 131%		PASS	
Dimethoate	Total	447	5	10	ng/L	500	0	89	17 - 146%		PASS	
Disulfoton	Total	472	1	2	ng/L	500	0	94	23 - 136%		PASS	
Ethoprop (Ethoprofos)	Total	466	1	2	ng/L	500	0	93	63 - 125%		PASS	
Fenchlorphos (Ronnel)	Total	481	2	4	ng/L	500	0	96	75 - 128%		PASS	
Fensulfothion	Total	382	1	2	ng/L	500	0	76	0 - 173%		PASS	
Fenthion	Total	466	2	4	ng/L	500	0	93	57 - 133%		PASS	
Malathion	Total	448	2.5	5	ng/L	500	0	90	41 - 150%		PASS	
Methidathion	Total	431	5	10	ng/L	500	0	86	34 - 155%		PASS	
Methyl Parathion	Total	472	1	2	ng/L	500	0	94	37 - 147%		PASS	
Mevinphos (Phosdrin)	Total	452	5	10	ng/L	500	0	90	28 - 132%		PASS	
Phorate	Total	449	5	10	ng/L	500	0	90	29 - 149%		PASS	
Phosmet	Total	462	5	10	ng/L	500	0	92	47 - 141%		PASS	
Tetrachlorvinphos (Stirofos)	Total	417	2	4	ng/L	500	0	83	57 - 138%		PASS	
Tokuthion (Prothiofos)	Total	494	3	6	ng/L	500	0	99	74 - 136%		PASS	
Trichloronate	Total	471	1	2	ng/L	500	0	94	75 - 122%		PASS	

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63352-BS2	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**		
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19				Analyzed: 02-Jun-19		
(PCB030)	Total	93			% Recovery	100	0	93	57 - 133%	PASS	9	30	PASS
(PCB112)	Total	98			% Recovery	100	0	98	65 - 133%	PASS	9	30	PASS
(PCB198)	Total	87			% Recovery	100	0	87	69 - 133%	PASS	15	30	PASS
(TCMX)	Total	90			% Recovery	100	0	90	39 - 135%	PASS	7	30	PASS
Bolstar (Sulprofos)	Total	429	2	4	ng/L	500	0	86	46 - 147%	PASS	5	30	PASS
Chlorpyrifos	Total	448	0.5	1	ng/L	500	0	90	75 - 120%	PASS	6	30	PASS
Demeton	Total	426	1	2	ng/L	500	0	85	0 - 140%	PASS	3	30	PASS
Diazinon	Total	456	0.5	1	ng/L	500	0	91	65 - 125%	PASS	4	30	PASS
Dichlorvos	Total	457	3	6	ng/L	500	0	91	58 - 131%	PASS	7	30	PASS
Dimethoate	Total	434	5	10	ng/L	500	0	87	17 - 146%	PASS	2	30	PASS
Disulfoton	Total	448	1	2	ng/L	500	0	90	23 - 136%	PASS	4	30	PASS
Ethoprop (Ethoprofos)	Total	448	1	2	ng/L	500	0	90	63 - 125%	PASS	3	30	PASS
Fenchlorphos (Ronnel)	Total	455	2	4	ng/L	500	0	91	75 - 128%	PASS	5	30	PASS
Fensulfothion	Total	362	1	2	ng/L	500	0	72	0 - 173%	PASS	5	30	PASS
Fenthion	Total	447	2	4	ng/L	500	0	89	57 - 133%	PASS	4	30	PASS
Malathion	Total	439	2.5	5	ng/L	500	0	88	41 - 150%	PASS	2	30	PASS
Methidathion	Total	415	5	10	ng/L	500	0	83	34 - 155%	PASS	4	30	PASS
Methyl Parathion	Total	448	1	2	ng/L	500	0	90	37 - 147%	PASS	4	30	PASS
Mevinphos (Phosdrin)	Total	428	5	10	ng/L	500	0	86	28 - 132%	PASS	5	30	PASS
Phorate	Total	427	5	10	ng/L	500	0	85	29 - 149%	PASS	6	30	PASS
Phosmet	Total	428	5	10	ng/L	500	0	86	47 - 141%	PASS	7	30	PASS
Tetrachlorvinphos (Stirofos)	Total	408	2	4	ng/L	500	0	82	57 - 138%	PASS	1	30	PASS
Tokuthion (Prothiofos)	Total	448	3	6	ng/L	500	0	90	74 - 136%	PASS	10	30	PASS
Trichloronate	Total	444	1	2	ng/L	500	0	89	75 - 122%	PASS	5	30	PASS

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63353-R2	**DW29-UR3**				**Matrix: Liquid**		**Sampled: 08-May-19 10:10**			**Received: 09-May-19**			
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19			Analyzed: 03-Jun-19			
(PCB030)	Total	87			% Recovery	100	87	25 - 130%	PASS	7	30	PASS	
(PCB112)	Total	99			% Recovery	100	99	34 - 132%	PASS	3	30	PASS	
(PCB198)	Total	99			% Recovery	100	99	30 - 136%	PASS	0	30	PASS	
(TCMX)	Total	81			% Recovery	100	81	6 - 124%	PASS	8	30	PASS	
Bolstar (Sulprofos)	Total	ND	2	4	ng/L					0	30	PASS	
Chlorpyrifos	Total	1.03	0.5	1	ng/L					20	30	PASS	
Demeton	Total	ND	1	2	ng/L					0	30	PASS	
Diazinon	Total	ND	0.5	1	ng/L					0	30	PASS	
Dichlorvos	Total	ND	3	6	ng/L					0	30	PASS	
Dimethoate	Total	ND	5	10	ng/L					0	30	PASS	
Disulfoton	Total	ND	1	2	ng/L					0	30	PASS	
Ethoprop (Ethoprofos)	Total	ND	1	2	ng/L					0	30	PASS	
Fenchlorphos (Ronnel)	Total	ND	2	4	ng/L					0	30	PASS	
Fensulfothion	Total	ND	1	2	ng/L					0	30	PASS	
Fenthion	Total	ND	2	4	ng/L					0	30	PASS	
Malathion	Total	ND	2.5	5	ng/L					0	30	PASS	
Methidathion	Total	ND	5	10	ng/L					0	30	PASS	
Methyl Parathion	Total	ND	1	2	ng/L					0	30	PASS	
Mevinphos (Phosdrin)	Total	ND	5	10	ng/L					0	30	PASS	
Phorate	Total	ND	5	10	ng/L					0	30	PASS	
Phosmet	Total	ND	5	10	ng/L					0	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	ND	2	4	ng/L					0	30	PASS	
Tokuthion (Prothiofos)	Total	ND	3	6	ng/L					0	30	PASS	
Trichloronate	Total	ND	1	2	ng/L					0	30	PASS	

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63354-MS1	**DW29-UR2S**				**Matrix: Liquid**		**Sampled: 08-May-19 9:25**			**Received: 09-May-19**		
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19			Analyzed: 02-Jun-19		
(PCB030)	Total	99			% Recovery	100	0	99	25 - 130% PASS			
(PCB112)	Total	102			% Recovery	100	0	102	34 - 132% PASS			
(PCB198)	Total	95			% Recovery	100	0	95	30 - 136% PASS			
(TCMX)	Total	96			% Recovery	100	0	96	6 - 124% PASS			
Bolstar (Sulprofos)	Total	753	2	4	ng/L	556	0	135	36 - 173% PASS			
Chlorpyrifos	Total	645	0.5	1	ng/L	556	0	116	36 - 150% PASS			
Demeton	Total	771	1	2	ng/L	556	0	139	0 - 156% PASS			
Diazinon	Total	693	0.5	1	ng/L	556	0	125	41 - 145% PASS			
Dichlorvos	Total	709	3	6	ng/L	556	0	128	31 - 143% PASS			
Dimethoate	Total	829	5	10	ng/L	556	0	149	25 - 150% PASS			
Disulfoton	Total	622	1	2	ng/L	556	0	112	20 - 143% PASS			
Ethoprop (Ethoprofos)	Total	759	1	2	ng/L	556	0	137	34 - 147% PASS			
Fenchlorphos (Ronnel)	Total	682	2	4	ng/L	556	0	123	39 - 153% PASS			
Fensulfothion	Total	1080	1	2	ng/L	556	0	194	46 - 182% FAIL			M
Fenthion	Total	702	2	4	ng/L	556	0	126	44 - 150% PASS			
Malathion	Total	941	2.5	5	ng/L	556	0	169	33 - 179% PASS			
Methidathion	Total	820	5	10	ng/L	556	0	147	28 - 175% PASS			
Methyl Parathion	Total	860	1	2	ng/L	556	0	155	18 - 190% PASS			
Mevinphos (Phosdrin)	Total	822	5	10	ng/L	556	0	148	19 - 160% PASS			
Phorate	Total	645	5	10	ng/L	556	0	116	21 - 151% PASS			
Phosmet	Total	805	5	10	ng/L	556	0	145	34 - 180% PASS			
Tetrachlorvinphos (Stirofos)	Total	1200	2	4	ng/L	556	0	216	42 - 196% FAIL			M
Tokuthion (Prothiofos)	Total	776	3	6	ng/L	556	0	140	44 - 163% PASS			
Trichloronate	Total	681	1	2	ng/L	556	0	122	37 - 158% PASS			

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Organophosphorus Pesticides — QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Sample ID: 63354-MS2	**DW29-UR2S**				**Matrix: Liquid**			**Sampled: 08-May-19 9:25**			**Received: 09-May-19**			
	Method: EPA 625				Batch ID: O-23010			Prepared: 09-May-19			Analyzed: 02-Jun-19			
(PCB030)	Total	86			% Recovery	100	0	86	25 - 130%	PASS	14	30	PASS	
(PCB112)	Total	93			% Recovery	100	0	93	34 - 132%	PASS	9	30	PASS	
(PCB198)	Total	87			% Recovery	100	0	87	30 - 136%	PASS	9	30	PASS	
(TCMX)	Total	82			% Recovery	100	0	82	6 - 124%	PASS	16	30	PASS	
Bolstar (Sulprofos)	Total	778	2	4	ng/L	562	0	138	36 - 173%	PASS	2	30	PASS	
Chlorpyrifos	Total	616	0.5	1	ng/L	562	0	110	36 - 150%	PASS	5	30	PASS	
Demeton	Total	818	1	2	ng/L	562	0	146	0 - 156%	PASS	5	30	PASS	
Diazinon	Total	693	0.5	1	ng/L	562	0	123	41 - 145%	PASS	2	30	PASS	
Dichlorvos	Total	707	3	6	ng/L	562	0	126	31 - 143%	PASS	2	30	PASS	
Dimethoate	Total	842	5	10	ng/L	562	0	150	25 - 150%	PASS	2	30	PASS	
Disulfoton	Total	640	1	2	ng/L	562	0	114	20 - 143%	PASS	2	30	PASS	
Ethoprop (Ethoprofos)	Total	747	1	2	ng/L	562	0	133	34 - 147%	PASS	3	30	PASS	
Fenchlorphos (Ronnel)	Total	660	2	4	ng/L	562	0	117	39 - 153%	PASS	5	30	PASS	
Fensulfothion	Total	1200	1	2	ng/L	562	0	214	46 - 182%	FAIL	10	30	PASS	M
Fenthion	Total	672	2	4	ng/L	562	0	120	44 - 150%	PASS	5	30	PASS	
Malathion	Total	947	2.5	5	ng/L	562	0	169	33 - 179%	PASS	0	30	PASS	
Methidathion	Total	840	5	10	ng/L	562	0	149	28 - 175%	PASS	1	30	PASS	
Methyl Parathion	Total	875	1	2	ng/L	562	0	156	18 - 190%	PASS	1	30	PASS	
Mevinphos (Phosdrin)	Total	789	5	10	ng/L	562	0	140	19 - 160%	PASS	6	30	PASS	
Phorate	Total	676	5	10	ng/L	562	0	120	21 - 151%	PASS	3	30	PASS	
Phosmet	Total	825	5	10	ng/L	562	0	147	34 - 180%	PASS	1	30	PASS	
Tetrachlorvinphos (Stirofos)	Total	1210	2	4	ng/L	562	0	215	42 - 196%	FAIL	0	30	PASS	M
Tokuthion (Prothiofos)	Total	780	3	6	ng/L	562	0	139	44 - 163%	PASS	1	30	PASS	
Trichloronate	Total	659	1	2	ng/L	562	0	117	37 - 158%	PASS	4	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63352-B1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**	
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19				Analyzed: 02-Jun-19	
(d10-Acenaphthene)	Total	86			% Recovery	100	86	65 - 113%	PASS			
(d10-Phenanthrene)	Total	95			% Recovery	100	95	80 - 111%	PASS			
(d12-Chrysene)	Total	105			% Recovery	100	105	60 - 139%	PASS			
(d12-Perylene)	Total	94			% Recovery	100	94	36 - 161%	PASS			
(d8-Naphthalene)	Total	77			% Recovery	100	77	44 - 119%	PASS			
1-Methylnaphthalene	Total	ND	1	5	ng/L							
1-Methylphenanthrene	Total	ND	1	5	ng/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L							
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L							
2-Methylnaphthalene	Total	ND	1	5	ng/L							
Acenaphthene	Total	ND	1	5	ng/L							
Acenaphthylene	Total	ND	1	5	ng/L							
Anthracene	Total	ND	1	5	ng/L							
Benz[a]anthracene	Total	ND	1	5	ng/L							
Benzo[a]pyrene	Total	ND	1	5	ng/L							
Benzo[b]fluoranthene	Total	ND	1	5	ng/L							
Benzo[e]pyrene	Total	ND	1	5	ng/L							
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L							
Benzo[k]fluoranthene	Total	ND	1	5	ng/L							
Biphenyl	Total	ND	1	5	ng/L							
Chrysene	Total	ND	1	5	ng/L							
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L							
Dibenzothiophene	Total	ND	1	5	ng/L							
Fluoranthene	Total	ND	1	5	ng/L							
Fluorene	Total	ND	1	5	ng/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L							
Naphthalene	Total	ND	1	5	ng/L							
Perylene	Total	ND	1	5	ng/L							
Phenanthrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	ND	1	5	ng/L							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63352-BS1	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**			**Received:**		
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19			Analyzed: 02-Jun-19		
(d10-Acenaphthene)	Total	94			% Recovery	100	0	94	65 - 113%	PASS		
(d10-Phenanthrene)	Total	98			% Recovery	100	0	98	80 - 111%	PASS		
(d12-Chrysene)	Total	116			% Recovery	100	0	116	60 - 139%	PASS		
(d12-Perylene)	Total	100			% Recovery	100	0	100	36 - 161%	PASS		
(d8-Naphthalene)	Total	89			% Recovery	100	0	89	44 - 119%	PASS		
1-Methylnaphthalene	Total	422	1	5	ng/L	500	0	84	49 - 117%	PASS		
1-Methylphenanthrene	Total	500	1	5	ng/L	500	0	100	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	434	1	5	ng/L	500	0	87	57 - 120%	PASS		
2,6-Dimethylnaphthalene	Total	426	1	5	ng/L	500	0	85	54 - 117%	PASS		
2-Methylnaphthalene	Total	420	1	5	ng/L	500	0	84	47 - 130%	PASS		
Acenaphthene	Total	439	1	5	ng/L	500	0	88	53 - 131%	PASS		
Acenaphthylene	Total	421	1	5	ng/L	500	0	84	43 - 140%	PASS		
Anthracene	Total	486	1	5	ng/L	500	0	97	58 - 135%	PASS		
Benz[a]anthracene	Total	480	1	5	ng/L	500	0	96	55 - 145%	PASS		
Benzo[a]pyrene	Total	472	1	5	ng/L	500	0	94	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	440	1	5	ng/L	500	0	88	46 - 165%	PASS		
Benzo[e]pyrene	Total	445	1	5	ng/L	500	0	89	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	476	1	5	ng/L	500	0	95	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	483	1	5	ng/L	500	0	97	56 - 145%	PASS		
Biphenyl	Total	439	1	5	ng/L	500	0	88	56 - 119%	PASS		
Chrysene	Total	514	1	5	ng/L	500	0	103	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	404	1	5	ng/L	500	0	81	55 - 150%	PASS		
Dibenzothiophene	Total	477	1	5	ng/L	500	0	95	75 - 113%	PASS		
Fluoranthene	Total	505	1	5	ng/L	500	0	101	60 - 146%	PASS		
Fluorene	Total	443	1	5	ng/L	500	0	89	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	397	1	5	ng/L	500	0	79	50 - 151%	PASS		
Naphthalene	Total	418	1	5	ng/L	500	0	84	41 - 126%	PASS		
Perylene	Total	468	1	5	ng/L	500	0	94	48 - 141%	PASS		
Phenanthrene	Total	481	1	5	ng/L	500	0	96	67 - 127%	PASS		

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	526	1	5	ng/L	500	0	105	54 - 156%	PASS			

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63352-BS2	**QAQC Procedural Blank**				**Matrix: DI Water**		**Sampled:**				**Received:**		
	Method: EPA 625				Batch ID: O-23010		Prepared: 09-May-19				Analyzed: 02-Jun-19		
(d10-Acenaphthene)	Total	92			% Recovery	100	0	92	65 - 113%	PASS	2	30	PASS
(d10-Phenanthrene)	Total	96			% Recovery	100	0	96	80 - 111%	PASS	2	30	PASS
(d12-Chrysene)	Total	114			% Recovery	100	0	114	60 - 139%	PASS	2	30	PASS
(d12-Perylene)	Total	97			% Recovery	100	0	97	36 - 161%	PASS	3	30	PASS
(d8-Naphthalene)	Total	85			% Recovery	100	0	85	44 - 119%	PASS	5	30	PASS
1-Methylnaphthalene	Total	408	1	5	ng/L	500	0	82	49 - 117%	PASS	2	30	PASS
1-Methylphenanthrene	Total	487	1	5	ng/L	500	0	97	66 - 127%	PASS	3	30	PASS
2,3,5-Trimethylnaphthalene	Total	424	1	5	ng/L	500	0	85	57 - 120%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	415	1	5	ng/L	500	0	83	54 - 117%	PASS	2	30	PASS
2-Methylnaphthalene	Total	402	1	5	ng/L	500	0	80	47 - 130%	PASS	5	30	PASS
Acenaphthene	Total	425	1	5	ng/L	500	0	85	53 - 131%	PASS	3	30	PASS
Acenaphthylene	Total	409	1	5	ng/L	500	0	82	43 - 140%	PASS	2	30	PASS
Anthracene	Total	471	1	5	ng/L	500	0	94	58 - 135%	PASS	3	30	PASS
Benz[a]anthracene	Total	470	1	5	ng/L	500	0	94	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	463	1	5	ng/L	500	0	93	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	424	1	5	ng/L	500	0	85	46 - 165%	PASS	3	30	PASS
Benzo[e]pyrene	Total	432	1	5	ng/L	500	0	86	42 - 152%	PASS	3	30	PASS
Benzo[g,h,i]perylene	Total	466	1	5	ng/L	500	0	93	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	467	1	5	ng/L	500	0	93	56 - 145%	PASS	4	30	PASS
Biphenyl	Total	425	1	5	ng/L	500	0	85	56 - 119%	PASS	3	30	PASS
Chrysene	Total	507	1	5	ng/L	500	0	101	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	393	1	5	ng/L	500	0	79	55 - 150%	PASS	2	30	PASS
Dibenzothiophene	Total	463	1	5	ng/L	500	0	93	75 - 113%	PASS	2	30	PASS
Fluoranthene	Total	489	1	5	ng/L	500	0	98	60 - 146%	PASS	3	30	PASS
Fluorene	Total	430	1	5	ng/L	500	0	86	58 - 131%	PASS	3	30	PASS
Indeno[1,2,3-cd]pyrene	Total	392	1	5	ng/L	500	0	78	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	402	1	5	ng/L	500	0	80	41 - 126%	PASS	5	30	PASS
Perylene	Total	454	1	5	ng/L	500	0	91	48 - 141%	PASS	3	30	PASS
Phenanthrene	Total	468	1	5	ng/L	500	0	94	67 - 127%	PASS	2	30	PASS

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	507	1	5	ng/L	500	0	101	54 - 156%	PASS	4	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Sample ID: 63353-R2	**DW29-UR3**				**Matrix: Liquid**			**Sampled: 08-May-19 10:10**			**Received: 09-May-19**			
	Method: EPA 625				Batch ID: O-23010			Prepared: 09-May-19			Analyzed: 03-Jun-19			
(d10-Acenaphthene)	Total	86			% Recovery	100		86	45 - 118%	PASS	6	30	PASS	
(d10-Phenanthrene)	Total	98			% Recovery	100		98	56 - 123%	PASS	2	30	PASS	
(d12-Chrysene)	Total	105			% Recovery	100		105	36 - 142%	PASS	4	30	PASS	
(d12-Perylene)	Total	100			% Recovery	100		100	36 - 161%	PASS	2	30	PASS	
(d8-Naphthalene)	Total	75			% Recovery	100		75	20 - 112%	PASS	4	30	PASS	
1-Methylnaphthalene	Total	ND	1	5	ng/L						0	30	PASS	
1-Methylphenanthrene	Total	ND	1	5	ng/L						0	30	PASS	
2,3,5-Trimethylnaphthalene	Total	ND	1	5	ng/L						0	30	PASS	
2,6-Dimethylnaphthalene	Total	ND	1	5	ng/L						0	30	PASS	
2-Methylnaphthalene	Total	1.34	1	5	ng/L						29	30	PASS	J
Acenaphthene	Total	1.2	1	5	ng/L						6	30	PASS	J
Acenaphthylene	Total	ND	1	5	ng/L						0	30	PASS	
Anthracene	Total	ND	1	5	ng/L						0	30	PASS	
Benz[a]anthracene	Total	ND	1	5	ng/L						0	30	PASS	
Benzo[a]pyrene	Total	ND	1	5	ng/L						0	30	PASS	
Benzo[b]fluoranthene	Total	ND	1	5	ng/L						0	30	PASS	
Benzo[e]pyrene	Total	ND	1	5	ng/L						0	30	PASS	
Benzo[g,h,i]perylene	Total	ND	1	5	ng/L						0	30	PASS	
Benzo[k]fluoranthene	Total	ND	1	5	ng/L						0	30	PASS	
Biphenyl	Total	1	1	5	ng/L						0	30	PASS	J
Chrysene	Total	ND	1	5	ng/L						0	30	PASS	
Dibenz[a,h]anthracene	Total	ND	1	5	ng/L						0	30	PASS	
Dibenzothiophene	Total	ND	1	5	ng/L						0	30	PASS	
Fluoranthene	Total	1.29	1	5	ng/L						25	30	PASS	J
Fluorene	Total	ND	1	5	ng/L						0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	ND	1	5	ng/L						0	30	PASS	
Naphthalene	Total	2.08	1	5	ng/L						5	30	PASS	J
Perylene	Total	ND	1	5	ng/L						0	30	PASS	
Phenanthrene	Total	ND	1	5	ng/L						0	30	PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	1.6	1	5	ng/L					19	30	PASS	J

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TERRA FAUNA FLORA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature
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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63354-MS1	**DW29-UR2S**				**Matrix: Liquid**			**Sampled: 08-May-19 9:25**			**Received: 09-May-19**	
	Method: EPA 625				Batch ID: O-23010			Prepared: 09-May-19			Analyzed: 02-Jun-19	
(d10-Acenaphthene)	Total	88			% Recovery	100	0	88	45 - 118%		PASS	
(d10-Phenanthrene)	Total	97			% Recovery	100	0	97	56 - 123%		PASS	
(d12-Chrysene)	Total	110			% Recovery	100	0	110	36 - 142%		PASS	
(d12-Perylene)	Total	99			% Recovery	100	0	99	36 - 161%		PASS	
(d8-Naphthalene)	Total	76			% Recovery	100	0	76	20 - 112%		PASS	
1-Methylnaphthalene	Total	422	1	5	ng/L	556	0	76	39 - 104%		PASS	
1-Methylphenanthrene	Total	565	1	5	ng/L	556	0	102	62 - 136%		PASS	
2,3,5-Trimethylnaphthalene	Total	479	1	5	ng/L	556	0	86	47 - 132%		PASS	
2,6-Dimethylnaphthalene	Total	446	1	5	ng/L	556	0	80	37 - 118%		PASS	
2-Methylnaphthalene	Total	419	1	5	ng/L	556	0	75	33 - 113%		PASS	
Acenaphthene	Total	450	1	5	ng/L	556	0	81	51 - 116%		PASS	
Acenaphthylene	Total	447	1	5	ng/L	556	0	80	53 - 127%		PASS	
Anthracene	Total	511	1	5	ng/L	556	0	92	60 - 126%		PASS	
Benz[a]anthracene	Total	637	1	5	ng/L	556	0	115	51 - 165%		PASS	
Benzo[a]pyrene	Total	541	1	5	ng/L	556	0	97	24 - 170%		PASS	
Benzo[b]fluoranthene	Total	573	1	5	ng/L	556	0	103	38 - 158%		PASS	
Benzo[e]pyrene	Total	558	1	5	ng/L	556	0	100	26 - 157%		PASS	
Benzo[g,h,i]perylene	Total	531	1	5	ng/L	556	0	96	57 - 133%		PASS	
Benzo[k]fluoranthene	Total	577	1	5	ng/L	556	0	104	27 - 167%		PASS	
Biphenyl	Total	445	1	5	ng/L	556	0	80	41 - 111%		PASS	
Chrysene	Total	575	1	5	ng/L	556	0	103	58 - 136%		PASS	
Dibenz[a,h]anthracene	Total	560	1	5	ng/L	556	0	101	53 - 156%		PASS	
Dibenzothiophene	Total	523	1	5	ng/L	556	0	94	69 - 112%		PASS	
Fluoranthene	Total	604	1	5	ng/L	556	0	109	61 - 147%		PASS	
Fluorene	Total	483	1	5	ng/L	556	0	87	62 - 120%		PASS	
Indeno[1,2,3-cd]pyrene	Total	565	1	5	ng/L	556	0	102	58 - 147%		PASS	
Naphthalene	Total	406	1	5	ng/L	556	0	73	22 - 110%		PASS	
Perylene	Total	527	1	5	ng/L	556	0	95	34 - 147%		PASS	
Phenanthrene	Total	521	1	5	ng/L	556	0	94	64 - 121%		PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Pyrene	Total	611	1	5	ng/L	556	0	110	65 - 146%	PASS			

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODE
Sample ID: 63354-MS2	**DW29-UR2S**				**Matrix: Liquid**			**Sampled: 08-May-19 9:25**			**Received: 09-May-19**		
	Method: EPA 625				Batch ID: O-23010			Prepared: 09-May-19			Analyzed: 02-Jun-19		
(d10-Acenaphthene)	Total	87			% Recovery	100	0	87	45 - 118%	PASS	1	30 PASS	
(d10-Phenanthrene)	Total	101			% Recovery	100	0	101	56 - 123%	PASS	4	30 PASS	
(d12-Chrysene)	Total	115			% Recovery	100	0	115	36 - 142%	PASS	4	30 PASS	
(d12-Perylene)	Total	104			% Recovery	100	0	104	36 - 161%	PASS	5	30 PASS	
(d8-Naphthalene)	Total	72			% Recovery	100	0	72	20 - 112%	PASS	5	30 PASS	
1-Methylnaphthalene	Total	418	1	5	ng/L	562	0	74	39 - 104%	PASS	3	30 PASS	
1-Methylphenanthrene	Total	598	1	5	ng/L	562	0	106	62 - 136%	PASS	4	30 PASS	
2,3,5-Trimethylnaphthalene	Total	492	1	5	ng/L	562	0	88	47 - 132%	PASS	2	30 PASS	
2,6-Dimethylnaphthalene	Total	446	1	5	ng/L	562	0	79	37 - 118%	PASS	1	30 PASS	
2-Methylnaphthalene	Total	419	1	5	ng/L	562	0	75	33 - 113%	PASS	0	30 PASS	
Acenaphthene	Total	451	1	5	ng/L	562	0	80	51 - 116%	PASS	1	30 PASS	
Acenaphthylene	Total	458	1	5	ng/L	562	0	81	53 - 127%	PASS	1	30 PASS	
Anthracene	Total	542	1	5	ng/L	562	0	96	60 - 126%	PASS	4	30 PASS	
Benz[a]anthracene	Total	673	1	5	ng/L	562	0	120	51 - 165%	PASS	4	30 PASS	
Benzo[a]pyrene	Total	569	1	5	ng/L	562	0	101	24 - 170%	PASS	4	30 PASS	
Benzo[b]fluoranthene	Total	617	1	5	ng/L	562	0	110	38 - 158%	PASS	7	30 PASS	
Benzo[e]pyrene	Total	586	1	5	ng/L	562	0	104	26 - 157%	PASS	4	30 PASS	
Benzo[g,h,i]perylene	Total	570	1	5	ng/L	562	0	101	57 - 133%	PASS	5	30 PASS	
Benzo[k]fluoranthene	Total	611	1	5	ng/L	562	0	109	27 - 167%	PASS	5	30 PASS	
Biphenyl	Total	444	1	5	ng/L	562	0	79	41 - 111%	PASS	1	30 PASS	
Chrysene	Total	601	1	5	ng/L	562	0	107	58 - 136%	PASS	4	30 PASS	
Dibenz[a,h]anthracene	Total	619	1	5	ng/L	562	0	110	53 - 156%	PASS	9	30 PASS	
Dibenzothiophene	Total	549	1	5	ng/L	562	0	98	69 - 112%	PASS	4	30 PASS	
Fluoranthene	Total	640	1	5	ng/L	562	0	114	61 - 147%	PASS	4	30 PASS	
Fluorene	Total	498	1	5	ng/L	562	0	89	62 - 120%	PASS	2	30 PASS	
Indeno[1,2,3-cd]pyrene	Total	631	1	5	ng/L	562	0	112	58 - 147%	PASS	9	30 PASS	
Naphthalene	Total	401	1	5	ng/L	562	0	71	22 - 110%	PASS	3	30 PASS	
Perylene	Total	556	1	5	ng/L	562	0	99	34 - 147%	PASS	4	30 PASS	
Phenanthrene	Total	543	1	5	ng/L	562	0	97	64 - 121%	PASS	3	30 PASS	

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODE
Pyrene	Total	653	1	5	ng/L	562	0	116	65 - 146%	PASS	5	30	PASS	

CHAIN OF CUSTODY

PHTSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

1204008-039

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: PHYSIS
Misty Mercier
Address: 1904 East Wright Circle
Anaheim, CA 92806
Phone: 714-602-5320
Fax:
Sampled By:
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	OP Pesticides and LL PAHs														Notes
DW29-UR3	'_PEST_P/	5/8/19	10:10	Water	4	1L AG	none	X														LD
DW29-UR2S	'_PEST_P/	5/8/19	0925	Water	6	1L AG	none	X														MSD
DW29-UR5	'_PEST_P/	5/8/19	10:55	Water	2	1L AG	none	X														
DW29-UR6	'_PEST_P/	5/8/19	10:15	Water	2	1L AG	none	X														

Sender Comments:
Request shortest Standard turn-around-time (~15 business days)

Laboratory Comments:

Relinquished By (1):
Signature: Jessica Okutsu
Print: JESSICA OKUTSU
Organization: PER
Date: 5/8/19 Time: 1459

Received By (2):
Richard Hanken
Physis
Date: 5/9/19 Time: 928

Relinquished By (1):
Signature:
Print:
Organization:
Date: Time:

Received By (2):
Date: Time:

Crew: PER

TECHNICAL MEMORANDUM

Date: May 8, 2019

Prepared for: Steve Maricle, LWA

Prepared by: Alison Briden, Pacific EcoRisk

Subject: Filtration of SSQP DW29 UR-5 composite sample

As requested by Larry Walker Associates, the UR-5 sample was filtered upon receipt to remove duckweed from the water. Upon receipt at Pacific EcoRisk (PER), the entire UR-5 composite sample was passed through a 400 µm screen and was collected in a 20-L glass carboy that was cleaned in accordance with the SSQP study-specific cleaning procedure. The screen was made of nylon mesh and was cleaned following the same procedure prior to use. Once filtered, PER staff proceeded with sample disposition using sample bottles provided by the analytical laboratories in accordance with the splitting summary provided by LWA.

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Physis Project ID
1204008-039

Sample Receipt Summary

Client: Larry Walker Associates | Date Received: 5/9/2019 | Received By: RGH | Inspected By: RGH

Courier:	Cooler:	Temperature:
☐ Physis ☑ FEDEX ☐ UPS ☐ Client	☑ Cooler ☐ Box Total #: 2	☐ BLUE ☑ WET ☐ DRY
Start End ☐ Other:	☐ Other :	☐ None 0.3 °C

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out.....Yes
2. All sample containers arrived intact.....Yes
3. All samples listed on COC(s) are present.....Yes
4. Information on containers consistent with information on COC(s).....Yes
5. Correct containers and volume for all analyses indicated.....Yes
6. All samples received within method holding time.....Yes
7. Correct preservation used for all analyses indicated.....Yes
8. Name of sampler included on COC(s).....Yes

Notes:

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Sacramento Regional County Sanitation District
Regional San Environmental Laboratory
8521 Laguna Station Road
Elk Grove, CA 95758
Phone: (916) 875-9000 Fax: (916) 875-9069

May 13, 2019

Steve Maricle
Larry Walker Associates
1480 Drew Ave. Suite 100
Davis, CA 95618

RE: Work Order No: 71462
Project ID: SSQP Urban Runoff Discharge Monitoring (May 7, 2019)

Dear Steve Maricle:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, May 07, 2019. Results reported herein conform to the most current ELAP standards, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celeste Patena
Program Coordinator
patenac@sacsewer.com

Justin Nordin
QA Officer

Srividhya Ramamoorthy
Lab Manager

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SAMPLE SUMMARY

Work Order No: 71462
Project ID: SSQP Urban Runoff Discharge Monitoring (May 7, 2019)

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1905070086	**DW29-UR3**	Stormwater	05/07/2019 10:15	05/07/2019 13:16
1905070087	**DW29-UR7**	Stormwater	05/07/2019 10:15	05/07/2019 13:16
1905070088	**DW29-UR2S**	Stormwater	05/07/2019 09:09	05/07/2019 13:16
1905070089	**DW29-UR5**	Stormwater	05/07/2019 11:35	05/07/2019 13:16
1905070090	**DW 29-UR6**	Stormwater	05/07/2019 11:05	05/07/2019 13:16
1905070096	**DWI-S152**	Stormwater	05/07/2019 09:15	05/07/2019 13:16

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ANALYTICAL RESULTS

Work Order No: 71462
Project ID: SSQP Urban Runoff Discharge Monitoring (May 7, 2019)

Lab ID: **1905070086** Date Collected: 5/7/2019 10:15 Matrix: Stormwater
Sample ID: **DW29-UR3** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	4,900	MPN/100mL	1	18	NA	05/07/2019	CHR
E.COLI	SM 9221 F	4,900	MPN/100mL	1	18	NA	05/07/2019	CHR

Lab ID: **1905070087** Date Collected: 5/7/2019 10:15 Matrix: Stormwater
Sample ID: **DW29-UR7** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	4,900	MPN/100mL	1	18	NA	05/07/2019	CHR
E.COLI	SM 9221 F	3,300	MPN/100mL	1	18	NA	05/07/2019	CHR

Lab ID: **1905070088** Date Collected: 5/7/2019 09:09 Matrix: Stormwater
Sample ID: **DW29-UR2S** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	92,000	MPN/100mL	1	18	NA	05/07/2019	CHR
E.COLI	SM 9221 F	450	MPN/100mL	1	18	NA	05/07/2019	CHR

Lab ID: **1905070089** Date Collected: 5/7/2019 11:35 Matrix: Stormwater
Sample ID: **DW29-UR5** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	400	MPN/100mL	1	18	NA	05/07/2019	CHR
E.COLI	SM 9221 F	210	MPN/100mL	1	18	NA	05/07/2019	CHR

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Work Order No: 71462
Project ID: SSQP Urban Runoff Discharge Monitoring (May 7, 2019)

Lab ID: **1905070089** Date Collected: 5/7/2019 11:35 Matrix: Stormwater
Sample ID: **DW29-UR5** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By

Lab ID: **1905070090** Date Collected: 5/7/2019 11:05 Matrix: Stormwater
Sample ID: **DW 29-UR6** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	<1.8	MPN/100mL	1	1.8	NA	05/07/2019	CHR
E.COLI	SM 9221 F	<1.8	MPN/100mL	1	1.8	NA	05/07/2019	CHR

Lab ID: **1905070096** Date Collected: 5/7/2019 09:15 Matrix: Stormwater
Sample ID: **DWI-S152** Date Received: 5/7/2019 13:16

Parameter	Method	Results	Units	DF	RL	MDL	Analyzed	By
BIOLOGICAL								
Coliform,Fecal	SM 9221 E	4,900	MPN/100mL	1	18	NA	05/07/2019	CHR
E.COLI	SM 9221 F	2,200	MPN/100mL	1	18	NA	05/07/2019	CHR

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS QUALIFIERS

Work Order No: 71462
Project ID: SSQP Urban Runoff Discharge Monitoring (May 7, 2019)

PARAMETER QUALIFIERS

J - The analytical result is below RL but above MDL.

MDL - Method Detection Limit defined in 40 CFR, Sect. 136, Appendix B.

ND - Non Detect - Analyte not detected above the MDL or, in the absence of a MDL, above the RL

RL - Reporting limit is the quantitation limit at which the laboratory is able to detect an analyte with a certain degree of confidence. Generally, this represents the parameter's lowest calibration point. This can also define the customer's requirement.

(S) - Surrogates.

DF - Dilution Factor.

NA - Not Applicable.

VS and VSS results reported as percentages of TS and TSS.

MBAS, calculated as LAS, mol wt 340.

Total Alkalinity is titrated to pH 4.5 per the method. This may not correspond to an inflection point where the slope changes rapidly.

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QUALITY CONTROL DATA QUALIFIERS

Work Order No: 71462
Project ID: SSQP Urban Runoff Discharge Monitoring (May 7, 2019)

QUALITY CONTROL PARAMETER QUALIFIERS

Result Qualifiers:These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank.

LCS - Laboratory Control Standard.

DUP - Duplicate of Original Sample Matrix.

MS/MSD - Matrix Spike/Matrix Spike Duplicate.

RPD -Relative Percent Difference.

% Rec - Spike Recovery stated as a percentage.

QC - Total QC applies to total recoverable.

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Prof 2210
WO 71462

Larry Walker Associates
1480 Drew Avenue, Suite 100 Davis, CA 95618 530-753-6400 530-753-7030 Fax

CHAIN-OF-CUSTODY RECORD

Date: Lab ID:

Destination Lab: SRCSD
Celeste Patena
Address: 8521 Laguna Station Road
Elk Grove, CA 95758
Phone: 916-875-9000
Fax: 916-875-9069

Sampled By: Dave Pfohler, Chase Davis
LWA Contact: Steve Maricle
Project: SSQP Urban Runoff Discharge Monitoring

Client Sample Id	Analysis Code	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Container Pres.	Fecal Coliform	E. coli	LIMS ID # / Notes
DW29-UR3	BACTI	5/7/19	10:15	Water	1	100 mL PE	Na2S2O3	X	X	1905070086
DW29-UR7	BACTI	5/7/19	10:15	Water	1	100 mL PE	Na2S2O3	X	X	1905070087
DW29-UR2S	BACTI	5/7/19	9:09	Water	1	100 mL PE	Na2S2O3	X	X	1905070088
DW29-UR5	BACTI	5/7/19	11:35	Water	1	100 mL PE	Na2S2O3	X	X	1905070089
DW29-UR6	BACTI	5/7/19	11:05	Water	1	100 mL PE	Na2S2O3	X	X	1905070090
DW1-S152	BACTI	5/7/19	9:15	↓	1	↓	↓	X	X	1905070096

sample temp upon receipt = 11.0°C

Sender Comments:	Relinquished By (1):	Received By (2):
Request shortest Standard turn-around-time (~15 business days)	Signature:	Celeste Patena
	Print: David Pfohler	C. PATENA
	Organization: Thunder Mountain Enterprise	SRWTP
	Date: 5/7/2019 Time: 1:16 pm	Date: 5/7/19 Time: 1316
Laboratory Comments:	Relinquished By (1):	Received By (2):
	Signature:	
	Print:	
	Organization:	
	Date: Time:	Date: Time:

Crew: TME

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR5** Site: **North Natomas Detention Basin No. 4** | **38.667779** | **-121.506603**

Sample Crew: **TME** Personnel: _____

Date: 5/7/19 Time of arrival 11:00

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other
Site odor none musty sulfides sewage petroleum mixed other
Other presences vascular nonvascular algae oily sheen foam trash other
Water odor none sulfides sewage petroleum mixed other
Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)
Water color clear brown green grey yellow other
Sky code clear partly cloudy overcast fog hazy
Precipitation none foggy drizzle rain snow
Prec (last 24 hours) unknown <1" >1" none

Photo Numbers
upstream
downstream
take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.29	717.4	4.02	22.24	9.19
Instrument(s)	SmartRoll	S66789			Hach 2100P
Calibration Date(s)	5/6/19				4/29/2019

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ DW29-UR5	NA	none	0	Field Measurements	11:15	
☐ DW29-UR5	500mL CG	HCl	1	Mercury, Total		
☐ DW29-UR5	500mL AG	HCl	1	Methylmercury		
☐ DW29-UR5	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ DW29-UR5	125 mL AG	none	1	DOC		
☐ DW29-UR5	3x40ml, VOA A	HCl	1	TOC		
☐ DW29-UR5	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ DW29-UR5	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ DW29-UR5	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ DW29-UR6	500mL CG	HCl	1	Mercury, Total		FB
☐ DW29-UR6	500mL AG	HCl	1	Methylmercury		FB
☐ DW29-UR6	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FB
☐ DW29-UR6	125 mL AG	none	1	DOC		FB
☐ DW29-UR6	3x40ml, VOA A	HCl	1	TOC		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time: 11:10 Grab Resume Time: 11:52 Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

Sampler Started

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR3** Site: **Sump 111** | 38.601237 | -121.492729

Sample Crew: **TME** Personnel: SM, KA, CD, DP

Date: 5/7/19 Time of arrival 9:45 am

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.29	644.3	7.72	19.31	10.5

Instrument(s) In Situ SmarTroll S66784 / Hach 2100P Turbidimeter

Calibration Date(s) 5/6/2019 / 4/29/2019

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ DW29-UR3	NA	none	0	Field Measurements	10:00	
☐ DW29-UR3	500mL CG	HCl	1	Mercury, Total		LD
☐ DW29-UR3	500mL AG	HCl	1	Methylmercury		LD
☐ DW29-UR3	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ DW29-UR3	125 mL AG	none	2	DOC		LD
☐ DW29-UR3	3x40ml, VOA A	HCl	2	TOC		LD
☐ DW29-UR3	3x40ml, VOA C	HCl	2	Total Petroleum Hydrocarbons (Gasoline)		LD
☐ DW29-UR3	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		LD
☐ DW29-UR3	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ DW29-UR7	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure _____

Additional Notes or Comments

Sampler Started 10.00

B. & Feces Present

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR2S** Site: **Strong Ranch Slough** | **38.584985** | **-121.417627**

Sample Crew: **TME** Personnel: _____

Date: 5/7/19 Time of arrival 8:15

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other
Site odor none musty sulfides sewage petroleum mixed other
Other presences vascular nonvascular algae oily sheen foam trash other
Water odor none sulfides sewage petroleum mixed other
Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)
Water color clear brown green grey yellow other
Sky code clear partly cloudy overcast fog hazy
Precipitation none foggy drizzle rain snow
Prec (last 24 hours) unknown <1" >1" none

Photo Numbers
upstream
downstream
take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**
	6.48	943.3	10.68	20.34	4.72

Instrument(s) Turbidity meter ~~and pH meter~~ and DO sensor @ 9:38 → used turbidity meter

Calibration Date(s) 4/29/19

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ DW29-UR2S	NA	none	0	Field Measurements		
☐ DW29-UR2S	500mL CG	HCl	1	Mercury, Total	8:42	MSD
☐ DW29-UR2S	500mL AG	HCl	1	Methylmercury	8:39	MSD
☐ DW29-UR2S	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform	9:09	
☐ DW29-UR2S	3x40ml, VOA A	HCl	1	TOC	8:44	
☐ DW29-UR2S	125 mL AG	none	1	DOC	8:52	
☐ DW29-UR2S	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)	8:49	
☐ DW29-UR2S	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)	8:54	
☐ DW29-UR2S	500 mL PE	none	1	Microbial Source Tracking (Weston)	8:56	
☐ DW29-UR2S	500 mL PE	none	1	Microbial Source Tracking (Source)	8:58	
☐ DW29-UR7	500 mL PE	none	1	Microbial Source Tracking (Weston)	9:00	FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? (yes) / no Time of departure 9:15am

Additional Notes or Comments

Sampler Started 8:30am D.P

Bacti Sample Taken at 9:07am CD

Program Resume @ 9:10am CD

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR5** Site: **North Natomas Detention Basin No. 4** **38.667779** **-121.506603**

Sample Crew: **TME** Personnel: _____

Date: 5/8/19 Time of arrival 10:50

Habitat Observations: Circle your observations

Dominant substrate (concrete) cobble gravel sand mud unknown other

Site odor none (musty) sulfides sewage petroleum mixed other

Other presences (vascular) nonvascular (algae) oily sheen foam trash other

Water odor (none) sulfides sewage petroleum mixed other

Water clarity (clear) (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color (clear) brown green grey yellow other

Sky code (clear) partly cloudy overcast fog hazy

Precipitation (none) foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" (none)

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**

Instrument(s) _____

Calibration Date(s) _____

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ DW29-UR5	NA	none	0	Field Measurements		
☐ DW29-UR5	500mL CG	HCl	1	Mercury, Total		
☐ DW29-UR5	500mL AG	HCl	1	Methylmercury		
☐ DW29-UR5	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ DW29-UR5	125 mL AG	none	1	DOC		
☐ DW29-UR5	3x40ml, VOA A	HCl	1	TOC		
☐ DW29-UR5	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ DW29-UR5	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ DW29-UR5	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ DW29-UR6	500mL CG	HCl	1	Mercury, Total		FB
☐ DW29-UR6	500mL AG	HCl	1	Methylmercury		FB
☐ DW29-UR6	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FB
☐ DW29-UR6	125 mL AG	none	1	DOC		FB
☐ DW29-UR6	3x40ml, VOA A	HCl	1	TOC		FB

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / (no) Time of departure 11:12am

Additional Notes or Comments

Manual Sample: 10:55am

Metals Sample: 11:00am

Sampler Turned off: 11:00am

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR2S** Site: **Strong Ranch Slough** **38.584985** **-121.417627**

Sample Crew: **TME** Personnel: CD DR

Date: 5/9/19 Time of arrival 9:10

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**

Instrument(s) _____

Calibration Date(s) _____

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ DW29-UR2S	NA	none	0	Field Measurements		
☐ DW29-UR2S	500mL CG	HCl	1	Mercury, Total		MSD
☐ DW29-UR2S	500mL AG	HCl	1	Methylmercury		MSD
☐ DW29-UR2S	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ DW29-UR2S	3x40ml, VOA A	HCl	1	TOC		
☐ DW29-UR2S	125 mL AG	none	1	DOC		
☐ DW29-UR2S	3x40ml, VOA C	HCl	1	Total Petroleum Hydrocarbons (Gasoline)		
☐ DW29-UR2S	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		
☐ DW29-UR2S	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ DW29-UR2S	500 mL PE	none	1	Microbial Source Tracking (Source)		
☐ DW29-UR7	500 mL PE	none	1	Microbial Source Tracking (Weston)		FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes (no) Time of departure 9:45

Additional Notes or Comments

Sampler Shut off 9:30

Metals sample taken 9:30

Manual Sample taken 9:25

Field Sampling Data Log Sheet

SSQP Urban Runoff Discharge Monitoring

Site Id: **UR3** Site: **Sump 111** 38.601237 -121.492729

Sample Crew: **TME** Personnel: CD DP

Date: 5/8/19 Time of arrival 10:05

Habitat Observations: Circle your observations

Dominant substrate concrete cobble gravel sand mud unknown other

Site odor none musty sulfides sewage petroleum mixed other

Other presences vascular nonvascular algae oily sheen foam trash other

Water odor none sulfides sewage petroleum mixed other

Water clarity clear (can see bottom) cloudy (>4" vis.) murky (<4" vis.)

Water color clear brown green grey yellow other

Sky code clear partly cloudy overcast fog hazy

Precipitation none foggy drizzle rain snow

Prec (last 24 hours) unknown <1" >1" none

Photo Numbers

upstream

downstream

take photo of composite bottle if possible

Field Measurements

	pH*	SpecCond (uS/cm)	D.O. (mg/L)*	Temp (°C)	Turbidity (NTU)
WQO*	**6.5 - 8.5**	**≤700**	**≥7**	**NA**	**NA**

Instrument(s) _____

Calibration Date(s) _____

* Preform cailbration check if pH or DO are outside the specified range. Record post-calibration results as field measurements.

Samples Collected

Sample ID	ContainerType		Container Count	Analytes	Collection Time	Notes (add location**)
☐ DW29-UR3	NA	none	0	Field Measurements		
☐ DW29-UR3	500mL CG	HCl	1	Mercury, Total		LD
☐ DW29-UR3	500mL AG	HCl	1	Methylmercury		LD
☐ DW29-UR3	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		
☐ DW29-UR3	125 mL AG	none	2	DOC		LD
☐ DW29-UR3	3x40ml, VOA A	HCl	2	TOC		LD
☐ DW29-UR3	3x40ml, VOA C	HCl	2	Total Petroleum Hydrocarbons (Gasoline)		LD
☐ DW29-UR3	1L AG	none	2	Total Petroleum Hydrocarbons (Diesel and Motor Oil)		LD
☐ DW29-UR3	500 mL PE	none	1	Microbial Source Tracking (Weston)		
☐ DW29-UR7	100 mL PE	Na2S2O3	1	E. coli, Fecal Coliform		FD

** Note location where sample was taken. Use codes: P = Pump, DG = Direct Grab, GP = Grab Pole, B = Bailer

Composite Sampler Status

Grab Pause Time:_____ Grab Resume Time:_____ Comp ID: ____of____ Level: _____L Bottle Change? yes / no

Composite Sampler Program Running? yes / no Time of departure 10:25

Additional Notes or Comments

Manual Sample taken 10:10
Metals Sample taken: 10:10
Sampler Shut off: 10:15