CITY OF STOCKTON

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October 1, 2018

Ms. Elizabeth Lee, Unit Chief
Municipal Storm Water Permitting Unit
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN STORM WATER MANAGEMENT PROGRAMS 2017-2018 ANNUAL REPORT (ORDER NO. R5-2016-0040, NPDES PERMIT NO. CAS0085324)

Dear Ms. Lee:

For your review and consideration, the City of Stockton (City) and County of San Joaquin (County) are jointly submitting this 2017-2018 Annual Report, in accordance with the National Pollutant Discharge Elimination System Permit (NPDES) and Waste Discharge Requirements (WDR) General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (General Permit), Part V.F.4. The report reflects all storm water activities conducted during Fiscal Year 2017-2018.

A copy has been submitted to centralvalleysacramento@waterboards.ca.gov.

If you have any questions, please contact Jason Farnsworth of City of Stockton at (209) 937-8155 or Jason.Farnsworth@stocktonca.gov or Brandon Nakagawa of San Joaquin County at (209) 468-3089 or BNakagawa@sjgov.org.

Sincerely,

CITY OF STOCKTON
JASON FARNSWORTH
STORMWATER PROGRAM MANAGER III

COUNTY OF SAN JOAQUIN
BRANDON W. NAKAGAWA, P.E.
WATER RESOURCES COORDINATOR

Attachments: 2017-2018 Annual Report

Cc: Karen Ashby, Larry Walker Associates

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OCTOBER 2018

CITY OF STOCKTON & COUNTY OF SAN JOAQUIN

National Pollutant Discharge Elimination System

(Order Nos. R5-2016-0040-002 and R5-2016-0040-003)

Municipal Stormwater Program

2017-2018 Annual Report

prepared by

LARRY WALKER ASSOCIATES

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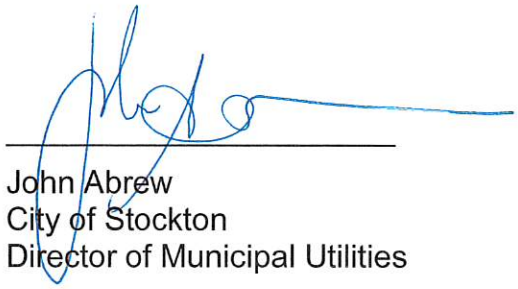
CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Executed on the 28th day of September 2018, at the City of Stockton.



John Abrew
City of Stockton
Director of Municipal Utilities

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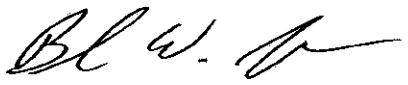
Executed on the 28th day of September, 2018, at the County of San Joaquin.



Brandon Nakagawa, P.E.
County of San Joaquin
Water Resources Manager

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1. Introduction

A Stormwater Management Plan (SWMP) was developed for and is being implemented within the jurisdictional limits of the City of Stockton (City) and the urbanized areas of San Joaquin County (County)[1] covered by the Phase I National Pollutant Discharge Elimination System (NPDES) permit (Order Nos. R5-2016-0040-002 City and R5-2016-0040-003 County) area.[2] The SWMP represents the City and County strategy for controlling the discharge of pollutants from the municipal storm drain system to the Maximum Extent Practicable (MEP) and includes a wide range of Best Management Practices (BMPs).[3]

In accordance with Provision II of the NPDES Permit's Monitoring and Reporting Program (MRP), the City and County submitted a request to the Central Valley Regional Water Quality Control Board (Regional Water Board) for approval of an Alternative Monitoring Program (AMP). The City and County also requested to participate in the Delta Regional Monitoring Program (Delta RMP) in lieu of conducting some of the otherwise required local water quality monitoring. In 2015, the Regional Water Board Executive Officer approved both requests. As a result, the revised monitoring program was initiated during the 2015-2016 reporting period.

The fourth term, region-wide NPDES and Waste Discharge Requirements (WDR) General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (Region-wide Permit) was adopted June 23, 2016. The City and County submitted a Notice of Intent (NOI) application package in accordance with Part V.B.1 on November 1, 2016 and received the Notice of Applicability (NOA) from the Regional Water Board on November 30, 2016.[4] The NOI package included the applicable forms, a preliminary prioritization approach, and a Work Plan that outlines how the current SWMP and modifications thereto will be implemented until such time as a new SWMP is approved by the Regional Water Board.

In addition, on May 30, 2017, the City and County submitted their *Assessment and Prioritization of Water Quality Constituents in the Stockton Urbanized Area as well as the Preliminary Reasonable Assurance Analysis Outlin*e. The City and County met with Regional Water Board staff in June 2017 and received written comments on July 2, 2018. The City and County will submit a revised document/addendum to the Regional Water Board by October 2, 2018.

The Region-wide Permit requires Annual Reports (Provision V.F.4), Mid-Term Reports, and End-Term Reports (Provision V.F.5). The Mid-Term and End-Term Reports serve as the Annual Report for the years submitted. Effectiveness assessments (Provision V.E.5) will be conducted as part of the Mid-Term and End-Term Reports. A summary of the annual reporting schedule is provided in **Table 1**.

[1] This jurisdictional area is also referred to as the Stockton Urbanized Area (SUA).

[2] The SWMP was approved by the Central Valley Regional Water Quality Control Board on October 9, 2009 (Resolution R5-2009-0105).

[3] The primary objective of the AMP is to focus on Pollutants of Concern (POCs) and implement an intensive monitoring approach to determine the source(s) of pollutants in urban discharges.

[4] City of Stockton under Order No. R5-2016-0040-002; County of San Joaquin Order under No. R5-2016-0040-003.

Table 1. Annual Reporting Schedule (Due Oct 1)

Permit/Fiscal Year	Report Type & Reporting Period
Year 1 (2016-2017)	Annual Report (2016-2017) ***Complete***
Year 2 (2017-2018)	Annual Report (2017-2018)
Year 3 (2018-2019)	Mid-Term Report (2016-2019)
Year 4 (2019-2020)	Annual Report (2019-2020)
Year 5 (2020-2021)	End-Term Report (2016-2021)

The 2017-2018 Annual Report is being submitted in accordance with Region-wide Permit Provision V.F.4 and includes the items listed in **Table 2**.

Table 2. Annual Report Requirements

Report Requirement	Location in Annual Report
(a.i) A statement certifying that the Storm Water Management Program and Work Plan were implemented as approved.	Section 2
(a.ii) A summary of activities and tasks scheduled to be implemented in the upcoming year. If the Work Plan is still being implemented as described from the previous year, the Permittee may refer to the Work Plan.	Section 2
(a.iii) Any proposed minor modifications to the Storm Water Management Program; or any proposed Work Plan Modification.	Section 6
(a.iv) A completed certification statement, in accordance with the signatory requirements in Attachment H (Standard Permit Provisions and General Provisions).	Certification Statements
(c) Provision of water quality data collected.	Appendix C
(d) Additional requirements described in 40 CFR 122.42(c) (Attachment H, Standard Permit Provisions and General Provisions)	Certification Statements Section 3 Section 4 & Appendix B, D Section 5

2. Implementation Statement

The City and County have developed a comprehensive approach for managing the implementation of the stormwater program within the SUA and continue to implement the program consistent with the intent of the 2009 SWMP (and modifications thereto) and as described by the Work Plan submitted to (and as approved by) the Regional Water Board as a part of the NOI application package.

During 2017-2018, the City and County implemented the stormwater program within the SUA consistent with the intent of the SWMP and as outlined by the Work Plan submitted with the NOI package in November 2016 and included as **Appendix A**. In 2018-2019, the City and County will continue to implement the stormwater program with the SUA as outlined by the Work Plan.

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3. Annual Expenditures and Projected Budget

The City and County assessed the current NPDES expenditures, as well as the projected expenditures for the next fiscal year. The City's fiscal analysis is provided in **Table 3**; the County's fiscal analysis is provided in **Table 4.**

Table 3. 2017-2018 Fiscal Analysis, City of Stockton

Program Element	Expenditures During Fiscal Year 2017-2018	Estimated Budget for Fiscal Year 2018-2019[a]
Program Management: Staff salaries, utility billing, phone charges, computer software/rentals, memberships, permit fees, indirect cost allocations, training, consultant contracts	$1,478,952	$2,579,818
Public Outreach: Staff salaries, industrial, commercial, and residential programs, including media and community events	$4,008	$18,858
Municipal Operations: Staff salaries, CIPs, and Storm Drain System Cleaning and Maintenance (includes Illicit Discharges, illegal connections mitigation, and clean-up)[b]	$2,948,593	$3,961,545
Industrial and Commercial: Staff salaries, inspections, and follow-up inspections[c]	$3,281	$10,500
Construction: Staff salaries, outreach[d]	$3,281	$10,500
Planning and Land Development: Staff salaries	$73,639	$51,544
Water Quality Monitoring Programs: Includes Baseline Monitoring Program, Bioassessment Analysis, Dry Weather Field Screening, Smith Canal Bathymetry Study, Detention Basin Monitoring, BMP Effectiveness Study, Sediment Toxicity, Smith Canal/Mosher Slough Low DO13267 Letter Monitoring	$257,441	$340,725
Water Quality Based Programs: Includes Pesticide, Pathogen, Mercury, and DO Work Plans and Implementation	$54,998	$75,096
TOTAL	**$4,824,191**	**$7,048,586**

[a] Annually, the City breaks the overall budget down into individual Program Element expenditures. The City has developed and is implementing a consistent methodology for tracking stormwater program expenditures.

[b] Facility Pollution Prevention Plans (FPPPs) are paid for out of Public Works budget and are not a Stormwater Expense.

[c] The Industrial and Commercial Inspection Program is conducted in-house by Stormwater and Environmental Control Staff. During the 2017-2018 reporting year, the City reorganized staffing positions to better align with permit objectives. During this process, the staff positions for inspector and project manager were vacant; therefore, there was no salary expenditure.

[d] During the 2017-2018 reporting year, the City reorganized staffing positions to better align with permit objectives. During this process, the staff position for construction site inspector was vacant; therefore, there was no salary expenditure.

The City's stormwater program is funded primarily by a storm drain maintenance or user fee. The fee is $2.10/month per Equivalent Residential Unit.

Table 4. 2017-2018 Fiscal Analysis, County of San Joaquin

Program Element	Expenditures During Fiscal Year 2017-2018[a]	Estimated Budget for Fiscal Year 2018-2019[b]
Program Management	$ 87,437	$ 296,504
Illicit Discharges	$ 10,670	$ 36,181
Public Outreach	$ 11,076	$ 37,559
Municipal Operations[c]	$ 53,184	$ 180,347
Industrial and Commercial	$ 34,213	$ 116,019
Construction[d]	$ 7,676	$ 26,030
Planning and Land Development	$ 12,344	$ 41,859
Water Quality Monitoring Program	$ 22,847	$ 77,475
Water Quality Based Programs	$ 1,987	$ 6,737
Program Implementation, Assessment, and Reporting	$ 149,549	$ 507,128
TOTAL	$ 390,983	$ 1,325,839

[a] Actual expenditures for fiscal year 2017-2018 do not reflect the County's shared costs of co-permitee expenditures with the City of Stockton, therefore County expenditures in several program elements are understated.

[b] Estimated budget for fiscal year 2018-2019 includes assumption of the payment of co-permittee costs to the City for current and past years.

[c] Expenditures for use of a second, new VacCon Truck for storm drain cleaning, a Stormwater expense, have been included in 2017-2018 reporting and are paid from the Road Maintenance budget.

[d] Responsibility for reviewing and implementing Storm Water Pollution Prevention Plan (SWPPP) Inspections for the San Joaquin County Road Projects were transferred to the Field Engineering division, which is responsible for construction activities for the department. Expenditures for reviewing and implementing SWPPPs were absorbed in the Field Engineering Division budget and were not available to report along with Stormwater expenses.

The County's funding sources are summarized in **Table 5.**

Table 5. 2017-2018 Funding Sources, County of San Joaquin

Source	Funding for Fiscal Year 2017-2018, by Percentage	Estimated Funding for Fiscal Year 2018-2019, by Percentage
Assessment Fee/Special District Fund (Fee $35/parcel)	76.41%	87.07%
Inspection/plan check fees	10.34%	6.98%
Miscellaneous Revenue – Interest Income	3.68%	2.90%
Operating Transfers	9.56%	3.05%

The County's stormwater program is funded primarily by a storm drain maintenance or user fee assessed at $35/year per Equivalent Residential Unit.

4. Stormwater Quality Monitoring Program and Analysis of Monitoring Results

The Region-wide Permit requires monitoring of urban runoff and receiving waters per Provision V.E. In accordance with Provision II of the MRP, the City and County received approval from the Regional Water Board in 2015 for conducting an Alternative Monitoring Program (AMP).[5] The AMP is consistent with the proposed monitoring program from the Report of Waste Discharge,[6] meets the objectives of the MRP, directs resources to the most critical water quality issues, and collects data to support management decisions to address those issues.

The primary objective of the AMP is to focus on Pollutants of Concern (POCs) and implement an intensive monitoring approach to determine the source(s) of pollutants in urban discharges. In addition to the AMP, the City and County were approved to participate in the Delta Regional Monitoring Program (Delta RMP) in lieu of conducting some of the local water quality monitoring.[7]

As a result, the revised monitoring program was initiated during the 2015-2016 reporting period. In addition, the AMP will continue to be implemented and will form the basis of the monitoring program that will be submitted as a part of the SWMP required by Order Nos. R5-2016-0040-002 and R5-2016-0040-003.

The monitoring program is a focused effort conducted within six (6) key water bodies on a rotating basis. The schedule for the staggered waterbody monitoring is shown in **Table 6**. Monitoring during 2015-2016 occurred on Mosher Slough and was reported in the *2015-2016 Stormwater Management Program Annual Report*. During 2016-2017, monitoring occurred on the Calaveras River and was reported on in the *2016-2017 Stormwater Management Program Annual Report*. During 2017-2018, monitoring occurred on Duck Creek and is reported in this Annual Report.

[5] *See* City of Stockton and County of San Joaquin. Submittal of Alternative Stormwater Monitoring Program (Order No. R5-2015-0024). June 10, 2015; Central Valley Regional Water Quality Control Board. Approval of City of Stockton and County of San Joaquin's 27 October Alternative Monitoring Program. 4 November 2015.

[6] National Pollutant Discharge Elimination System Municipal Stormwater Program – *Report of Waste Discharge & Proposed Stormwater Management Plan*, June 2012 (Section 2.7; Tables 2-42, 2-43, 2-44, 2-45, 2-46, and 2-47).

[7] Central Valley Regional Water Quality Control Board. Approval to Allow the City of Stockton and County of San Joaquin to Reduce Local Water Quality Monitoring and Participate in the Delta Regional Monitoring Program. 4 November 2015.

Table 6. Staggered Waterbody Monitoring

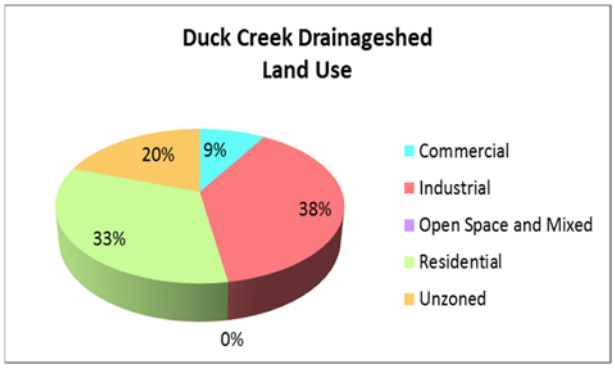
Waterbody	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Mosher Slough[a]						
Calaveras River[a]						
Duck Creek[a]						
Smith Canal[a]						
Mormon Slough						
Five-Mile Slough						

[a] Historical monitoring location

4.1 WATERBODY AND DRAINAGESHED MONITORING

Duck Creek/Walker Slough (Duck Creek) is located in the southern portion of the SUA. Duck Creek originates in Stanislaus County and meanders westward before ending just south/southwest of downtown Stockton. East of the SUA, Duck Creek flows through predominantly open space and agricultural land use areas. Between El Dorado Street and I-5, Duck Creek drains into Walker Slough, which continues approximately 700 feet west to its confluence with French Camp Slough. From this convergence point, Walker Slough extends approximately 600 feet west to its confluence with the San Joaquin River.

Duck Creek is a mixed-use watershed with residential, commercial, and industrial land uses. Duck Creek receives inputs from groundwater, tidal exchange, urban runoff, and agricultural runoff and return flows (tailwater).



Monitoring sites are shown in **Figure 1**. The constituents monitored at each site are identified in **Table 7**.

- The full list of constituents (**Table 12**) is monitored at the historical locations, DC-65/66 and DC-65R/66R.
- Monitoring at other locations is focused on the POCs within the Duck Creek drainage-shed, which include:
  - Indicator bacteria (*E. coli* and fecal coliform);
  - Pesticides (chlorpyrifos and pyrethroids);
  - Mercury and methylmercury; and
  - Dissolved oxygen (DO).

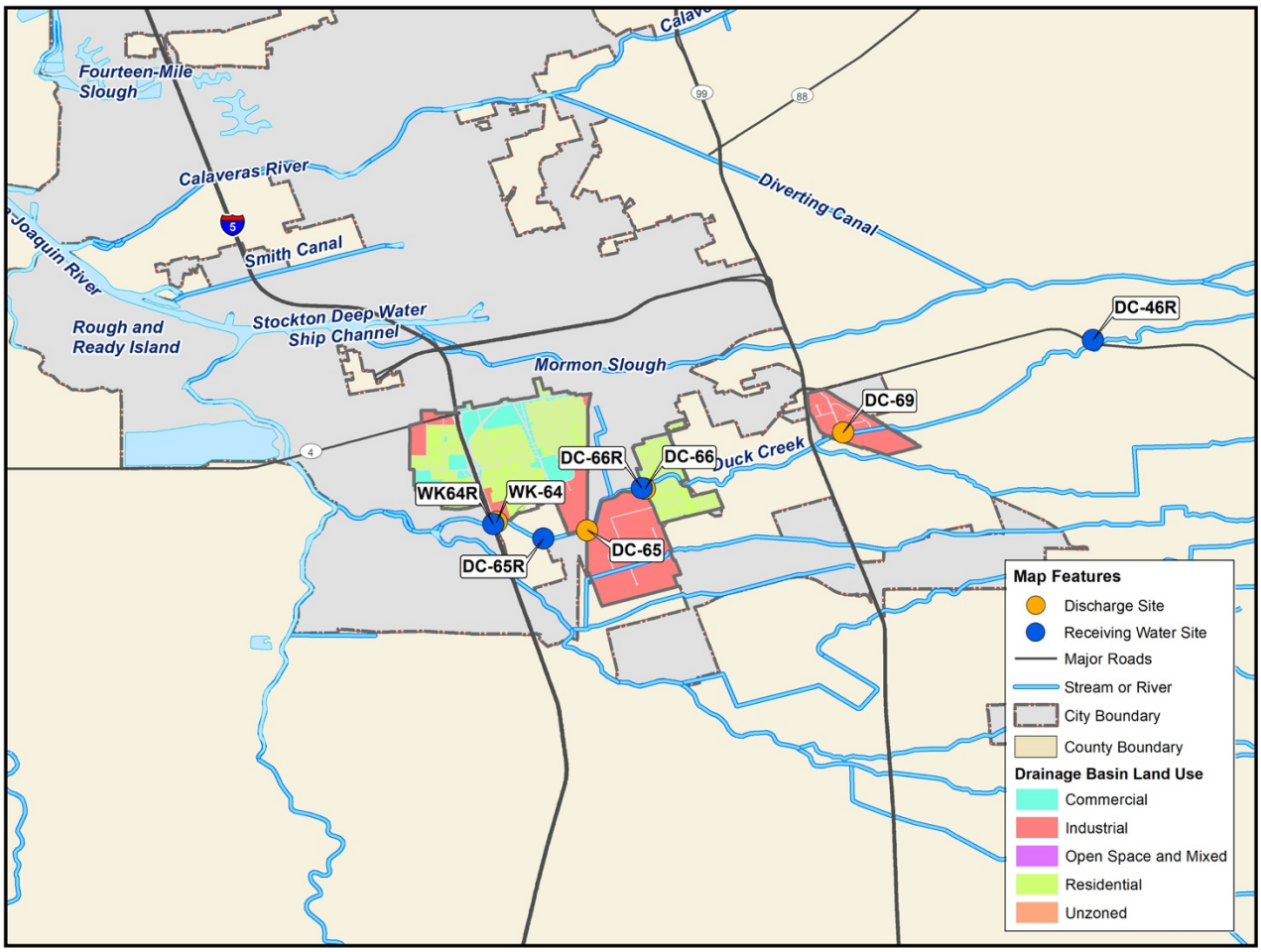


Figure 1. Duck Creek Monitoring Sites and Discharge Site Drainagesheds

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Table 7. Duck Creek Monitoring Sites and Constituents Monitored

Constituents Monitored	Monitoring Type	Sites Monitored							
		DC-46R	DC-69	DC-66[a]	DC-66R[a]	DC-65[b,c]	DC-65R[b,c]	WK-64	WK-64R
Full suite of constituents (**Table 12**)	Water quality					C	G		
E. coli & fecal coliform	Water quality	G	G	G	G			G	G
Chlorpyrifos and pyrethroids	Water quality	G	G	G	G			G	G
Mercury (and methylmercury)	Water quality	G	G	G	G			G	G
DO & biological oxygen demand (BOD)	Water quality	G	G	G	G			G	G
Sediment toxicity & sediment chemistry[d]	Sediment								Sed
Water column toxicity	Water column				G		G		

G = Grab
C = Composite
Sed = Sediment
S = Sonde
[a] These sites are monitored during dry weather only
[b] Historical Monitoring Site
[c] These sites are monitored during wet weather only
[d] Follow-up testing of sediment chemistry will be performed if toxicity is determined to be statistically significant and a greater than or equal to 50% increase in Hyalella azteca mortality is observed.

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Monitoring activities completed during 2017-2018 are summarized in **Table 8**. Monitoring efforts and results for these POCs are presented in the following sections.

Table 8. 2017-2018 Monitoring Program Accomplishments

Monitoring Program Activity	Status
Waterbody/Drainageshed Monitoring (Section 4.1)	
Outfall and Receiving Water Monitoring (Section 4.1.2)	• 3 wet weather events monitored at 3 urban discharge[a] and 2 receiving water sites • 4 dry weather events monitored at 3 urban discharge[b] and 2 receiving water sites • 3 wet weather event and 4 dry weather events monitored at 1 upstream site
Rainwater/Atmospheric Deposition Monitoring (Section 4.1.3)	• Rainwater monitored at 3 locations during 3 wet weather events
Sediment Toxicity and Sediment Chemistry (Section 4.1.4)	• 1 wet weather event and 2 dry weather events monitored for sediment toxicity (WK-64R)
Water Column Toxicity (Section 4.1.5)	• 1 wet weather event monitored at the historical monitoring location (DC-65R) • Historical monitoring location (DC-66R) was dry during the targeted dry weather event

Note:
a. Sites DC-65 and DC-65R are only monitored during wet weather
b. Sites DC-66 and DC-66R are only monitored during dry weather

4.1.1 Storm Tracking and Selection

Monitoring of stormwater runoff is a key component of the monitoring program[8] and requires a high level of coordination of equipment and field crews. Incoming storms are tracked and assessed against storm selection criteria (e.g., amount of precipitation, days since last rain event, duration of event) and the forecasted reliability that the storm will occur in the SUA. Wet weather monitoring is particularly challenging in the SUA, as rainfall forecasts are often unreliable due to the convective nature of incoming storms. In addition, because storms normally intersect Stockton traveling from the west to the east, it is not unusual for northern Stockton to receive substantial rainfall, while southern Stockton remains dry, or vice versa.

Wet weather events are timed to capture urban runoff impacts with the highest possible representation of the targeted storm event (i.e., high percent capture), using flow-based composite samplers at urban discharge stations when possible. Grab sampling techniques, which are, when feasible, conducted near the peak of storm event hydrographs, are used at all receiving water stations. Due to standard method requirements, grab sampling is used for the following constituents when monitored:

- Oil and grease;
- Indicator bacteria;

[8] The Regional Permit defines the "monitoring year" as October 1 – September 30. Monitoring events are reported for the fiscal year, due to the time needed for data reporting and processing.

- Pesticides; and
- Mercury/methylmercury.

The daily total rainfall at the Stockton Metropolitan Airport[9] during the 2017-2018 monitoring year is shown in **Figure 2**. The total cumulative seasonal rainfall (relative to the historical average[10]) and monitoring event timing are also shown. Historical average annual rainfall at the Stockton Metropolitan Airport is 14 inches. The 2017-2018 monitoring year had below-average precipitation with 9.22 inches of rain, which is 66% of historical annual rainfall. Although the 2017-2018 wet season was drier than average, the California Department of Water Resources classified the 2017 water year (ending September 30, 2017) as "wet" for the San Joaquin Valley.[11] The 2018 water year classification is yet to be determined.

[9] https://cdec.water.ca.gov/cgi-progs/queryCSV?station_id=SOC&sensor_num=45&dur_code=D&start_date=7%2F1%2F2016&end_date=6%2F30%2F2017&data_wish=View+CSV+Data

[10] Based on 1981-2010 data. http://www.cnrfc.noaa.gov/awipsProducts/RNOWRKCLI.php

[11] http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST

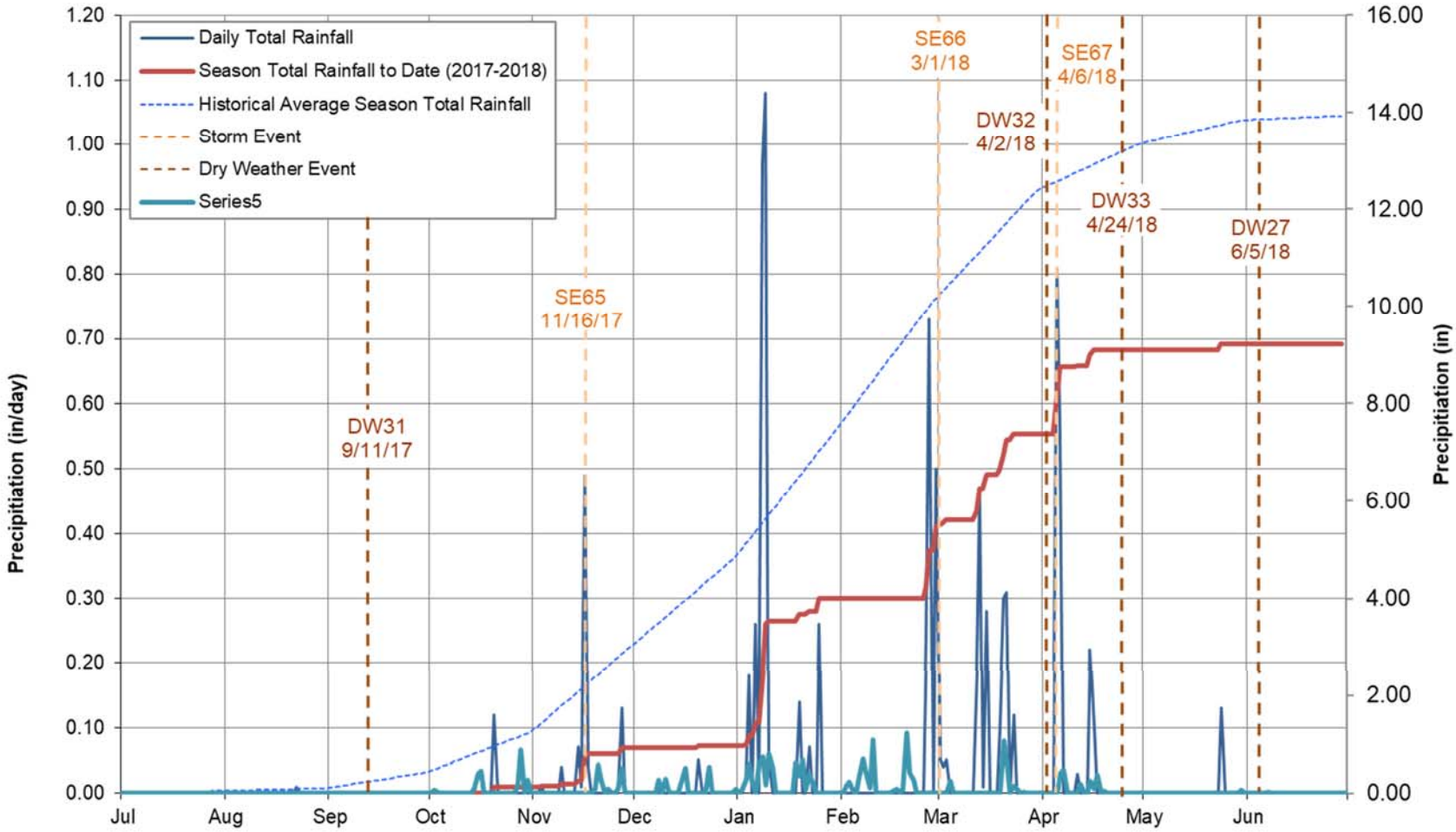

Figure 2. 2017-2018 Precipitation at Stockton Metropolitan Airport and Captured Monitoring Events

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4.1.1.1 Details of 2017-2018 Wet Weather Monitoring Events

Each monitoring event is unique in terms of the antecedent weather conditions, flow in the receiving waterbody, field conditions, etc. Runoff quality is particularly influenced by the amount and intensity of rainfall and time of sampling with respect to the rainfall hydrograph. The conditions for wet weather events conducted during 2017-2018 are summarized in **Table 9**.

Table 9. Details of 2017-2018 Wet Weather Monitoring Events

Storm Events[a, b]	**SE65** **11/16/17**	**SE66** **03/01/18**	**SE67** **04/06/18**
Time of first rain	11/15/2017 23:00	3/1/2018 2:00	4/6/2018 3:00
Time of last rain	11/16/2017 20:00	3/1/2018 15:00	4/7/2018 7:00
Total rain (in)	0.76	0.72	1.68
Antecedent Conditions			
Date of last precipitation	11/13/2017	2/26/2018	3/24/2018
Date of last storm > 0.1	10/20/2017	2/26/2018	3/22/2018
Days since last storm	3	3	13
Date of last storm > 0.25	4/16/2017	2/26/2018	3/22/2018
Days since last storm	214	3	15
Cumulative rainfall to date (in)	1.08	6.24	10

[a] Precipitation data are collected at the Stockton Metropolitan Airport, available at: http://mesowest.utah.edu/cgi-bin/droman/download_ndb.cgi?stn=KSCK&year1=2014&day1=19&month1=6&hour1=&timetype=LOCAL&unit=0

[b] Per the AMP approved by the Regional Water Board, rainfall events of 0.15''- 0.25'' are targeted for the monitoring program.

4.1.2 Outfall and Receiving Water Monitoring

The monitoring program includes urban discharge outfall and receiving water monitoring. Urban discharge outfall monitoring characterizes the quality of urban runoff discharged from four storm drain outfalls along Duck Creek. In addition, receiving water monitoring characterizes the quality of the receiving waters within the SUA. Three receiving water sites were sampled downstream of the urban discharge sites. The co-located sites are used to help determine if the urban discharge is causing or contributing to in-stream exceedances of applicable water quality objectives.

One additional upstream site (upstream of the SUA boundary) was sampled in order to characterize the quality of water entering the SUA. The upstream receiving water site is intended to be as close to the boundary of the SUA as possible.

Monitoring sites sampled in 2017-2018 are shown in **Table 7**.

- Urban discharge sites are labeled with a station and number code (e.g., DC-65).
- Receiving water sites are labeled with an "R" for receiving water (e.g., DC-65R).

The outfall and receiving water monitoring sites and predominant land uses are summarized in **Table 10.**

Table 10. 2017-2018 Outfall and Receiving Water Monitoring Sites on Duck Creek

Site Type	Station ID	Monitoring Site Description	Predominant Land Use	Drainage Area (acres)
Urban Outfall	DC-69	Duck Creek/Stagecoach Road Bridge - NW side	Industrial	259
	DC-66[a]	Duck Creek/Airport Way Bridge - SE side	Mixed-use	316
	DC-65[b]	Composite Sampler, Corner of Zephyr Street and Producers Drive	Industrial	597
	WK-64	Manthey/Turnpike Road Pump Station	Mixed-use	1491
Receiving Water	DC-66R[a]	Downstream of DC-66 Discharge Outfall - west side of Airport Way Bridge	Mixed-use	NA
	DC-65R[b]	Duck Creek/Odell Avenue Overcrossing	Industrial	NA
	WK-64R	Downstream of WK-64 Discharge Outfall - west of I-5; samples generally collected from north side of undercrossing	Mixed-use	NA
Upstream Receiving Water	DC-46R[c]	Duck Creek/Farmington Road Bridge	Agricultural	NA

NA = not applicable
[a] These sites are monitored during dry weather only.
[b] These sites are monitored during wet weather only.

[c] DC-46R replaced DC-65RUS as the upstream sampling location for Duck Creek starting during 2017/2018, as it is more representative of upstream influence.

Monitoring is generally conducted during three wet weather events and four dry weather events each year. During 2017-2018, monitoring was completed at each urban discharge and receiving water site three times during the wet season and four times during the dry season. The timeline of the events is shown in **Figure 2**. The sites that were sampled during each event are listed in **Table 11**. Wet weather events (labeled "SE" for storm event) and dry weather events (labeled "DW" for dry weather) are numbered sequentially from the initiation of monitoring wet weather and dry weather events (in 1992 and 2004, respectively).

Table 11. Sites Sampled and Type of Sample Collected in 2017-2018

Site Type	Station ID	DW31 09/11/17	SE65 11/16/17	SE66 03/01/18	DW32 04/02/18	SE67 04/06/18	DW33 04/24/18	DW34 06/05/18
Urban Discharge	DC-69	G	G	G	G	G	G	G
	DC-66[a]	G	NS[a]	NS[a]	G	NS[a]	G	G
	DC-65[b]	NS[b]	G[c]	G[c]	NS[b]	C	NS[b]	NS[b]
	WK-64	G	G	G	G	G	G	G
Receiving Water	DC-66R[a]	NS[d]	NS[a]	NS[a]	NS[d]	NS[a]	NS[d]	NS[d]
	DC-65R[b]	NS[b]	G	G	NS[b]	G	NS[b]	NS[b]
	WK-64R	G	G	G	G	G	G	G
Upstream Receiving Water	DC-46R	G	NS[d]	NS[d]	NS[d]	NS[d]	NS[d]	G

C = Composite
G = Grab
S = Sonde
NS = Not sampled
[a] This location is only sampled during dry weather.
[b] This location is only sampled during wet weather.
[c] Insufficient flow at composite intake. Sample collected as grab.
[d] Lack of representative upstream flow / dry channel.

4.1.2.1 Monitored Constituents and Analytical Methods

The constituents and corresponding analytical methods for urban discharge and receiving water monitoring comply with the Method Detection Limits (MDLs) specified in the monitoring program. During the 2017-2018 events, samples at the historical sites (DC-65/DC-66 and DC-65R/DC-66R) were analyzed for the constituents shown in **Table 12**. Samples at all other sampling locations on Duck Creek were analyzed for a targeted set of constituents, based on POCs identified in the 2012 ROWD, as shown in **Table 7**.

Table 12. Constituent Analysis for Outfall and Receiving Water Monitoring at Historical Sites

Constituents	Method Detection Limits (MDLs)	WQO(s)[12]	WQO Source
Conventional Pollutants	**mg/L**		
Oil and Grease	5	Narrative[a]	Basin Plan[b]
pH	0-14	6.5-8.5	Basin Plan
Dissolved Oxygen	Sensitivity to 5 mg/L	>5-6[c]	Basin Plan
Field Measurements			
Date	mm/dd/yyyy	--	--
Sample Time	hr:min (regular time)	--	--
Weather	degrees F	--	--
Water Temperature	degrees C	--	--
Bacteria	**MPN/100 mL**		
Fecal coliform	<20	400	Basin Plan
E. coli	<20	235[d]	Basin Plan
General	**mg/L**		
Turbidity	0.1 NTU	--	--
Total Suspended Solids	2	--	--
Total Dissolved Solids	2	1,000 – 1,500	Secondary MCL (Basin Plan)
Total Organic Carbon	1	--	--
Biochemical Oxygen Demand	2	--	--
Chemical Oxygen Demand	20-900	--	--
Total Kjeldahl Nitrogen	0.1	--	--
Alkalinity	2	--	--
Total Ammonia-Nitrogen	0.1	--	--
Specific Conductance	1 µmhos/cm	700/1,000[e] 1,600-2,200	Bay-Delta WQ Plan[f] Secondary MCL (Basin Plan)
Total Hardness	2	--	--
Metals	**µg/L**		
Aluminum, Dissolved	50	750	EPA Criteria Guidance[g]
Aluminum, Total	50	200	Secondary MCL[h] (Basin Plan)
Copper, Dissolved	0.5	Hardness-dependent	CTR[i]
Iron, Total	100	300	Secondary MCL (Basin Plan)
Lead, Dissolved	0.5	Hardness-dependent	CTR
Mercury, Total	0.5 ng/L	0.050	CTR[l]

[12] It should be noted that there is some question as to the applicability of these water quality objectives and criteria to stormwater discharges. It is not clear that a proper Water Code section 13241 analysis was performed on the state water quality objectives used herein. In addition, the State Water Resources Control Board (SWRCB) has determined that the federal water quality criteria, such as are contained in the CTR, do "not apply to regulation of storm water discharges." *See* SWRCB Policy for Implementation of Toxics Standards for the Inland Surface Waters, Enclosed Bays, and Estuaries of California at pg. 1, fn 1; *see also* CTR Preamble, 65 Fed. Reg. 31682 (5/18/00), which does not identify municipal stormwater as a potentially affected entity. Moreover, there is no indication that these objectives and criteria were ever intended to be applied to stormwater discharges at the end of pipe. Nevertheless, these objectives and criteria are utilized herein for the purposes of this report.

Constituents	Method Detection Limits (MDLs)	WQO(s)[12]	WQO Source
Methylmercury, Total	0.05 ng/L	--	Basin Plan[j]
Zinc, Dissolved	1	Hardness-dependent	CTR
Pesticides	**ng/L**		
Chlorpyrifos	10	15	Basin Plan
Diazinon[K]	50	100	Basin Plan
Pyrethroids	5	--	--

[a] Oil and grease have a narrative WQO that states "Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses." For the purposes of the exceedance assessments, a value of 0 is used as a conservative comparison.

[b] Water Quality Control Plan for the Sacramento River and San Joaquin River Basins.

[c] The WQO is >6 mg/L September 1 – November 30.

[d] Stockton Urban Waterbodies Pathogen TMDL single sample maximum water quality target.

[e] The WQO is a maximum 30-day average of 700 µmhos/cm April – August, and 1,000 µmhos/cm September – March.

[f] The San Francisco Bay/Sacramento-San Joaquin Delta Estuary contains the WQO for the areas within the Delta Legal Boundary (which may be revised). The Basin Plan contains the WQO for the areas outside of the Delta Legal Boundary.

[g] United States Environmental Protection Agency Recommended Ambient Water Quality Criteria.

[h] United States Environmental Protection Agency Secondary Maximum Contaminant Level.

[i] 40 C.F.R. Section 138.38(b) California Toxics Rule.

[j] The methylmercury objective is a tissue-based objective. For the Sacramento-San Joaquin Delta and Yolo Bypass waterways listed in Appendix 43 (including waterways in the Stockton Urbanized Area), the average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150-500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length.

It should also be noted that the State Water Resources Control Board recently adopted Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions, which establishes five mercury fish tissue water quality objectives, based on the designated beneficial uses for the waterbodies. While these objectives do not supersede any site-specific numeric mercury WQOs established in a Basin Plan, they may be applicable to other waterways within the SUA in the future.

[k] Diazinon is monitored only at Rainwater/Atmospheric Deposition stations.

[l] Although CTR has criteria for total mercury, the basis of the criteria is inconsistent with current mercury/methylmercury WQOs in California.

The Region-wide Permit requires the submittal of water quality monitoring to the Regional Water Board. As such, all water quality monitoring data are submitted as **Appendix B**. The Region-wide Permit also requires that the water quality monitoring data be uploaded to the California Environmental Data Exchange Network (CEDEN) or the Storm Water Multi Application Reporting and Tracking System (SMARTS) database, when available (both databases are not currently able to accept the formatted data, which requires Regional Water Board coordination with the and the Surface Water Ambient Monitoring Program (SWAMP) at the State Water Resources Control Board). It is anticipated that when the databases are capable of receiving the water quality monitoring data that the receiving water and urban discharge data may be uploaded to the SMARTS database, while only the receiving water data would be uploaded to CEDEN. However, in order to prepare the data, the Permittees have been working with the three analytical laboratories (Fruit Growers Laboratory, Caltest, and Pacific EcoRisk) to format the data to be compatible with the requirements for the electronic upload. Due to time needed to coordinate with the analytical laboratories, the water quality monitoring data from 2016-2017 and 2017-2018 will be submitted to the Regional Water Board in CEDEN-compatible format by the end of 2018.

The waterbody/drainage-shed monitoring results included in **Appendix B** contain the following information:

- Sample location
- Station type (urban discharge [UD] or receiving water [RW])
- Sampling method (composite or grab)
- Sample date and time
- Sample result
- MDLs
- Reporting Limits (RLs)
- Data qualifiers
- Comparison to the lowest applicable water quality objective (WQO)
- The name of the analyzing laboratory

For analyses that were non-detect (ND), the value is reported as less than the MDL, where the MDL is provided by the lab; otherwise, the value is reported as less than the RL.

Monitoring results for the constituents identified as water quality POCs for Duck Creek are presented graphically to provide an overview of the characterization of Duck Creek:

- *E. coli* and fecal coliform (**Figure 3**);
- Chlorpyrifos (**Figure 4**) and pyrethroids (**Figure 5**)
- Total Mercury and Total Methylmercury (**Figure 6**); and
- Dissolved oxygen (**Figure 7**).

Data for the POCs are summarized in tables in **Appendix C**. A complete assessment of monitoring results from Duck Creek within the context of all monitored waterbodies, including data from the historical monitoring locations and an assessment of trends, will be provided in the End-Term Report. For this report, general observations are provided below:

- *E. coli* are a more appropriate indicator than fecal coliform to evaluate risk to human health, as noted in the 2012 United States Environmental Protection Agency Recreational Water Quality Criteria,[13] and the State Water Board's 2018 Bacteria Provisions.[14] *E. coli* concentrations in receiving water sites are below the WQO in most receiving water samples, but frequent exceedances occurred at discharge sites, primarily during storm events. As is typical, indicator bacteria concentrations are generally higher during storm events than during dry weather events.

[13] United States Environmental Protection Agency. 2012. Recreational Water Quality Criteria. Office of Water, 820-F-12-058.

[14]https://www.waterboards.ca.gov/bacterialobjectives/docs/bdmtg_aug7_bacteria_2nd_iswebe_bacteria_provisions_2nd_rev_proposed.pdf

- Chlorpyrifos concentrations were below the WQO in all discharge and receiving water samples. There was a single exceedance of the WQO in the NE-rain location during SE65 (rainwater monitoring is described in **Section 4.1.3**).
- Pyrethroids (total)
    - Pyrethroids were rarely detected in the upstream monitoring location. Bifenthrin was the only pyrethroid detected at the upstream location, during DW31.
    - All pesticides were more frequently detected during storm events than during dry weather events.
    - A higher number of individual pyrethroid compounds, and higher concentrations of pyrethroids, were detected in discharge samples than receiving water samples.
        - Samples at location WK-64 had the greatest number of individual pyrethroids and most consistent detections.
    - Bifenthrin and permethrin were detected most frequently and at the highest concentrations. Discharge site WK-64 had the highest concentrations of both compounds.
- Methylmercury concentrations at the upstream location were higher than most samples from the receiving water locations within the SUA, while total mercury concentrations were lower at the upstream location than the receiving water locations within the SUA. Concentrations at all sites were similar between storm events and dry weather events.
- Dissolved oxygen (DO)
    - DO concentrations were below the minimum WQO in all samples during the first dry weather event, DW31, with the lowest concentration observed in the upstream location (DC-46R).
    - Concentrations at discharge site DC-66 were below the minimum WQO in all dry weather samples.
    - In general, concentrations were higher during storm events than during wet weather events.
    - Concentrations below the minimum WQO were also observed during the first dry weather event at DC-69, WK-64, and WK-64R and at the upstream location DC-46R. Concentrations below the minimum WQO were also observed during the first storm event, SE65, in the receiving water station DC-65R, and both the discharge station WK-64 and receiving water station WK-64R.

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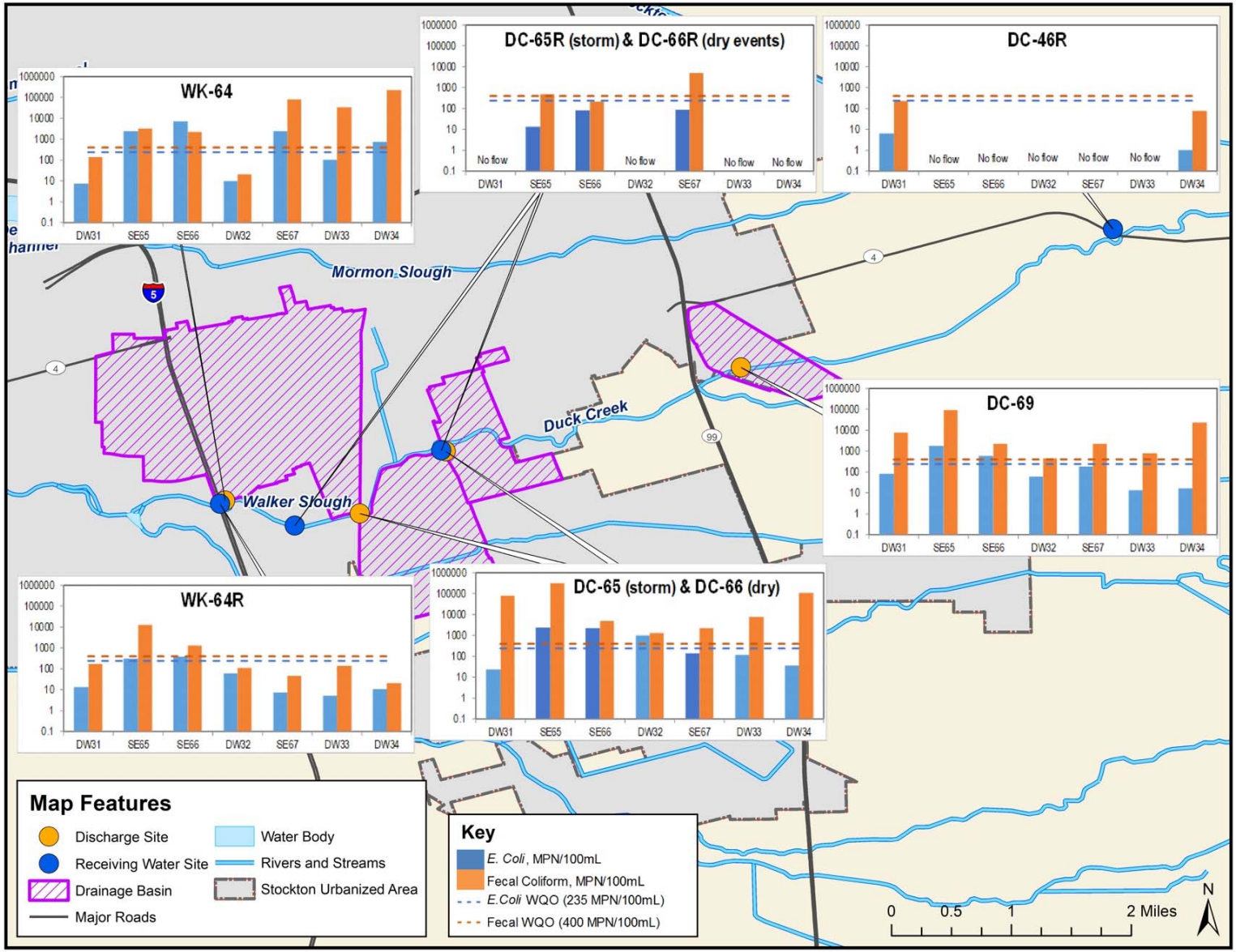

Figure 3. Duck Creek 2017-2018 *E. coli* and Fecal Coliform Concentrations (MPN/100 mL)

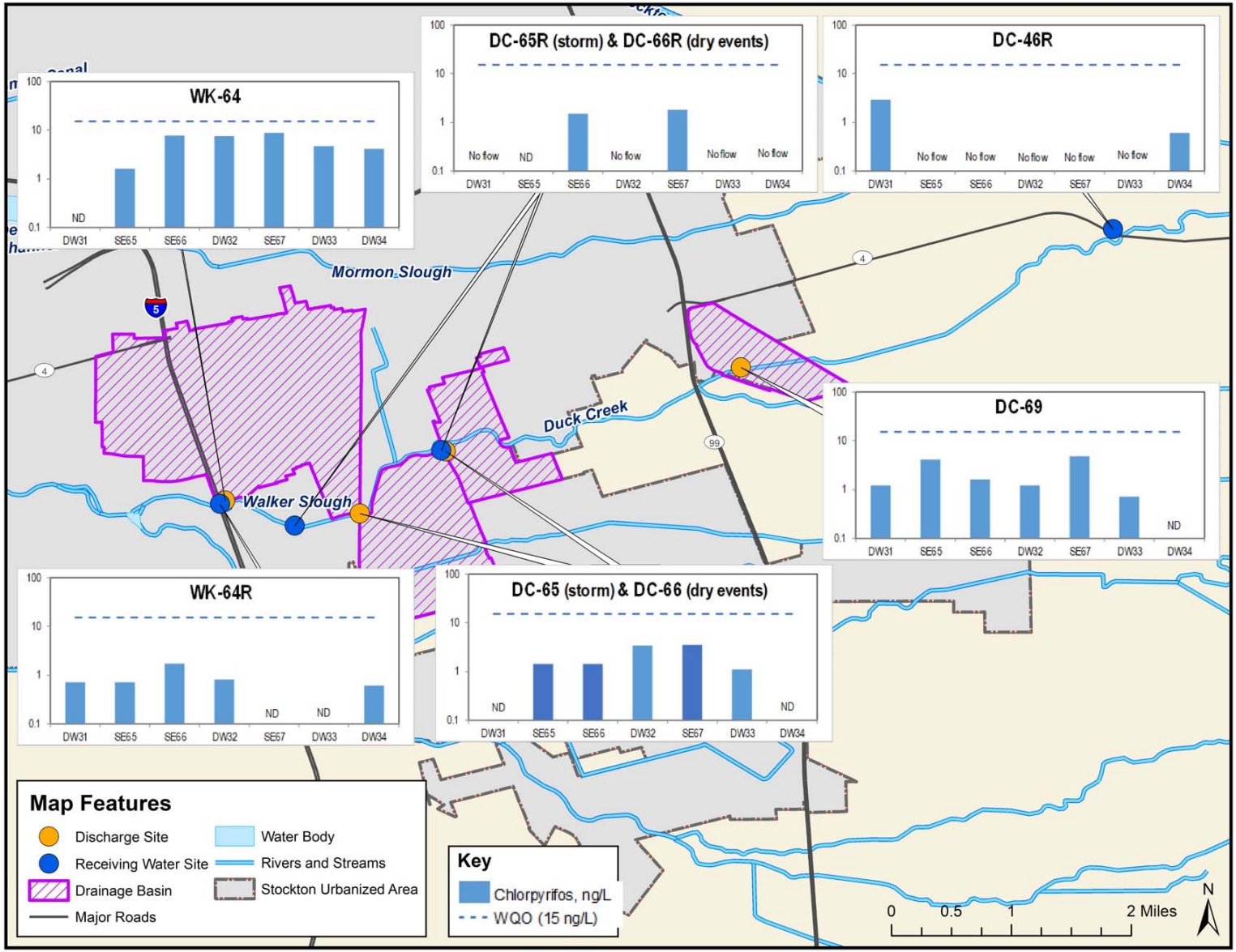

Figure 4. Duck Creek 2017-2018 Chlorpyrifos Concentrations (ng/L)

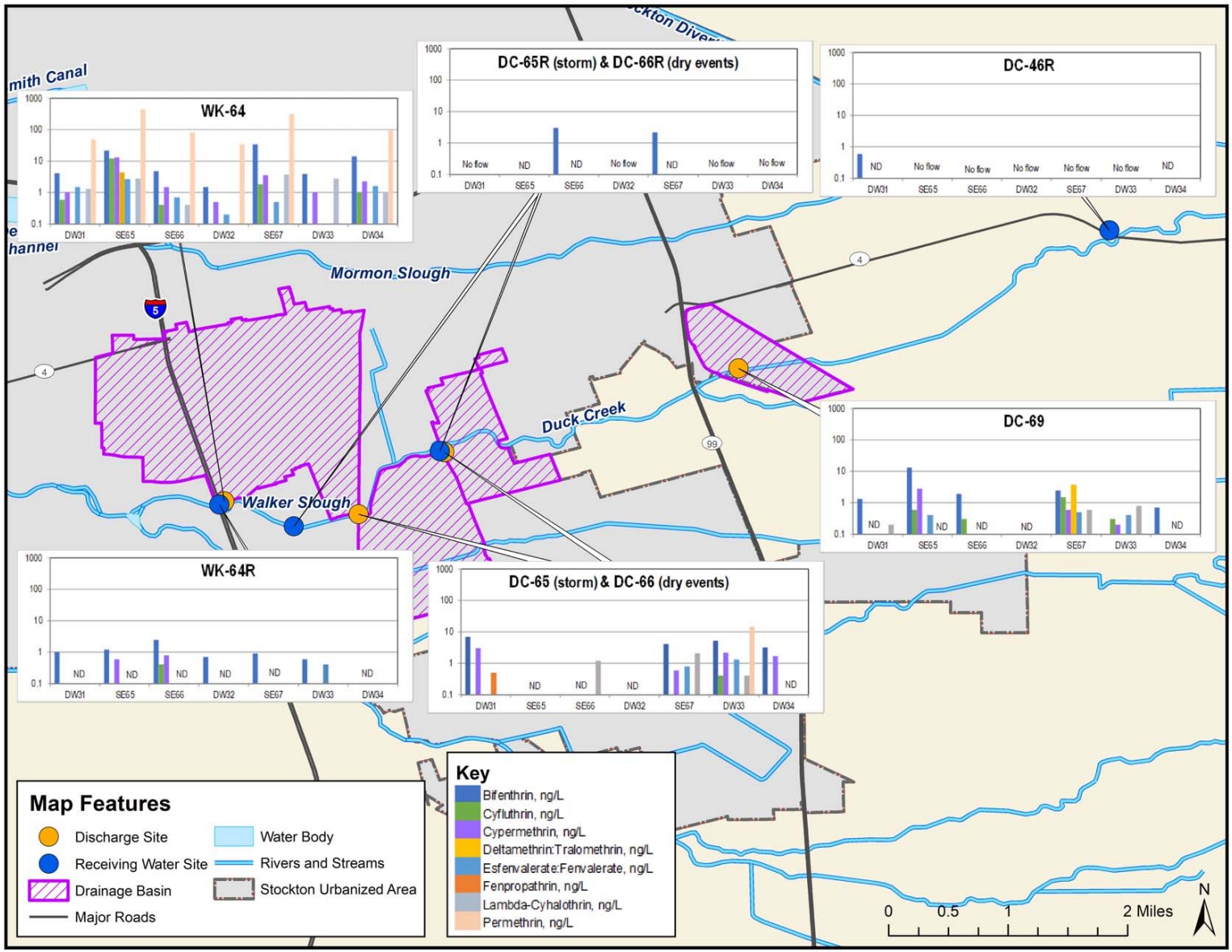

Figure 5. Duck Creek 2017-2018 Pyrethroid Concentrations (ng/L)

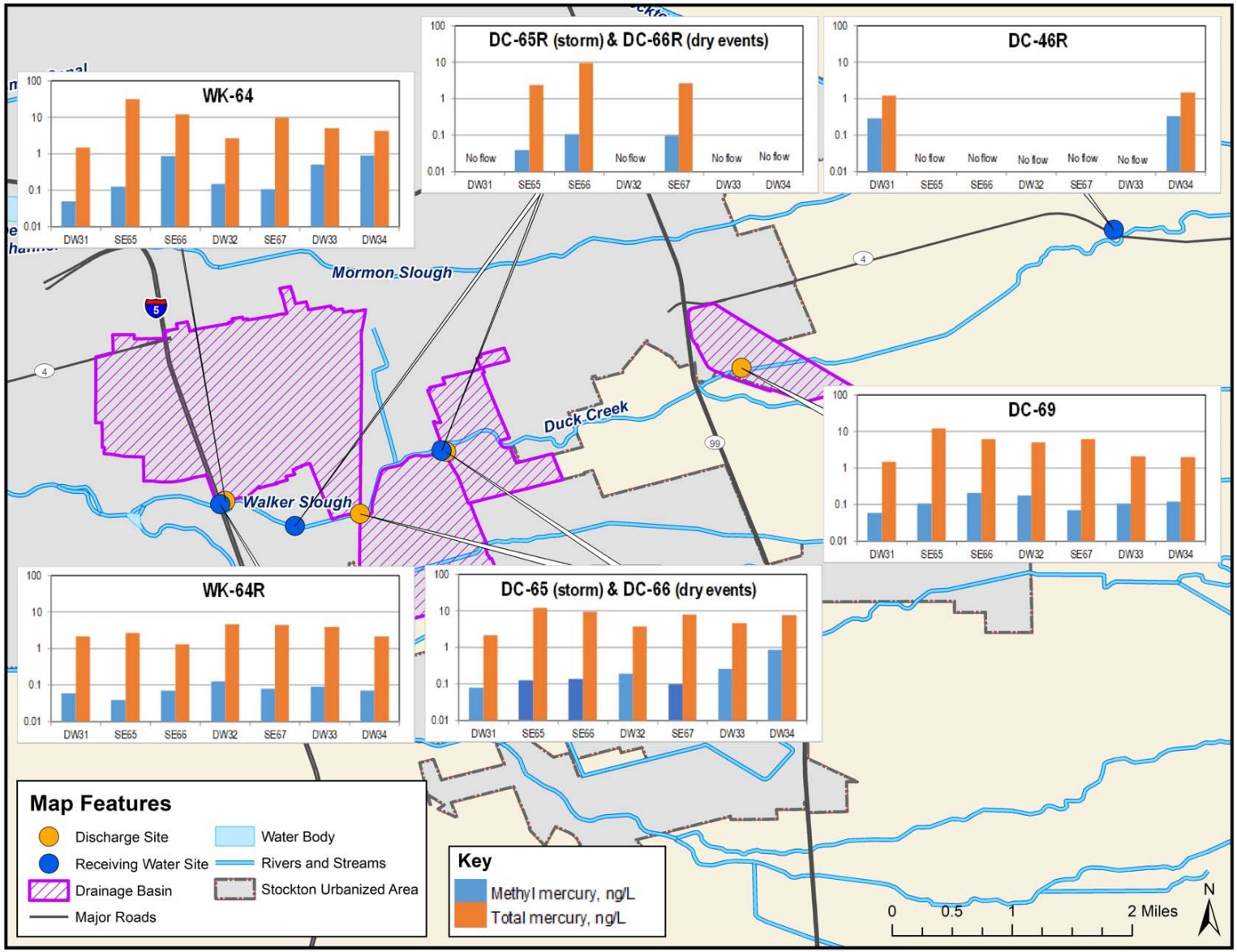

Figure 6. Duck Creek 2017-2018 Total Mercury and Total Methylmercury Concentrations (ng/L)

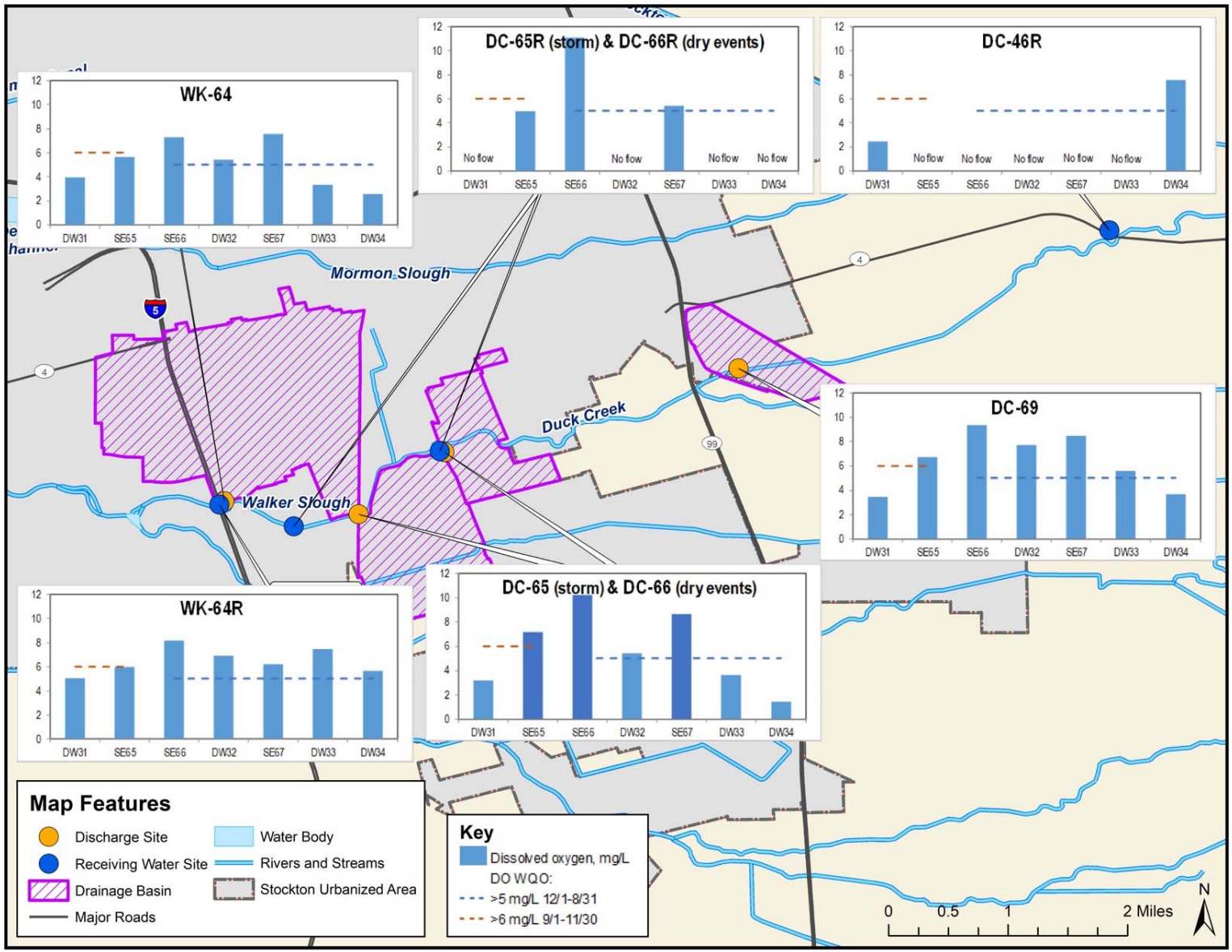

Figure 7. Duck Creek 2017-2018 Dissolved Oxygen Concentrations (mg/L)

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4.1.3 Rainwater/Atmospheric Deposition Monitoring

During 2017-2018, rainwater/atmospheric deposition was monitored for mercury (total mercury and total methylmercury) and pesticides (chlorpyrifos and pyrethroids) at three representative locations in the SUA. In addition to chlorpyrifos and pyrethroids, diazinon was monitored at the NW-Rain location. These three locations are shown in **Figure 8**.

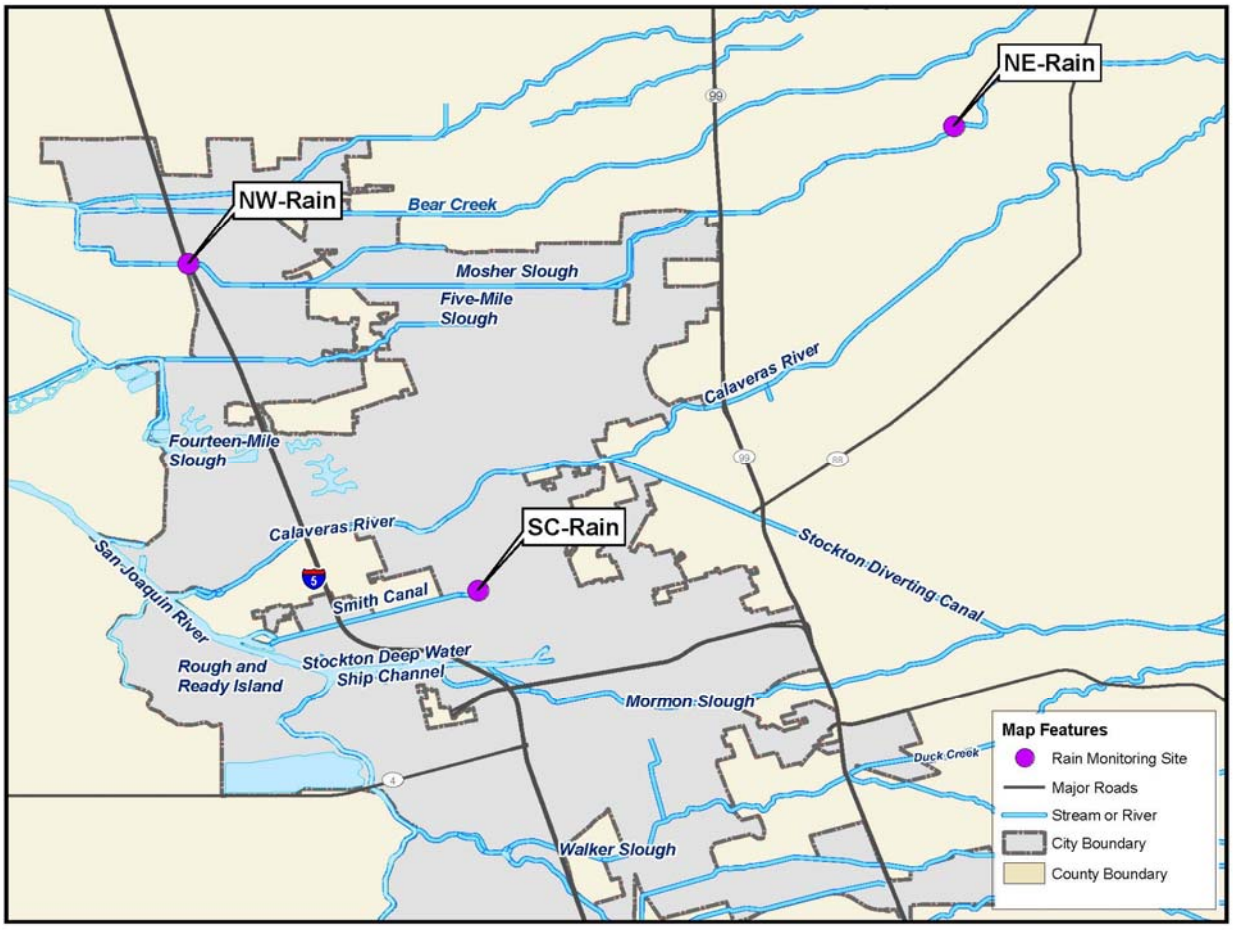

Figure 8. Rainwater/Atmospheric Deposition Monitoring Locations

The monitoring sites include the following:

- NW-Rain – Located along Mosher Slough in the northwest corner of the SUA. This site has been historically monitored for the Pesticide Plan. The site is representative of atmospheric deposition generated within and outside of the SUA.
- NE-Rain – Located along Mosher Slough outside of the SUA, to the northeast. This site has been historically monitored for the Pesticide Plan. The site is representative of atmospheric deposition generated outside of the SUA.
- SC-Rain – Located at the Legion Park Pump Station, in the center of the SUA. This site is representative of atmospheric deposition that is generated within the SUA.

During 2017-2018, rainwater was monitored at all three sites during all three storm events sampled for outfall and receiving water monitoring. Rainwater monitoring results are shown in **Figure 9**.

General observations are summarized below:

- Total mercury and methylmercury concentrations in rainwater were similar at all three locations; these concentrations were also similar in magnitude to those observed in urban runoff and receiving water samples.
- Pesticides:
    - Organophosphate (OP) pesticides were detected in most samples, and chlorpyrifos was detected at a concentration above the WQO during the first storm event in the NE rainwater location.
    - Pyrethroids were most frequently detected at the NE rainwater location, with the most individual compounds detected at this site.

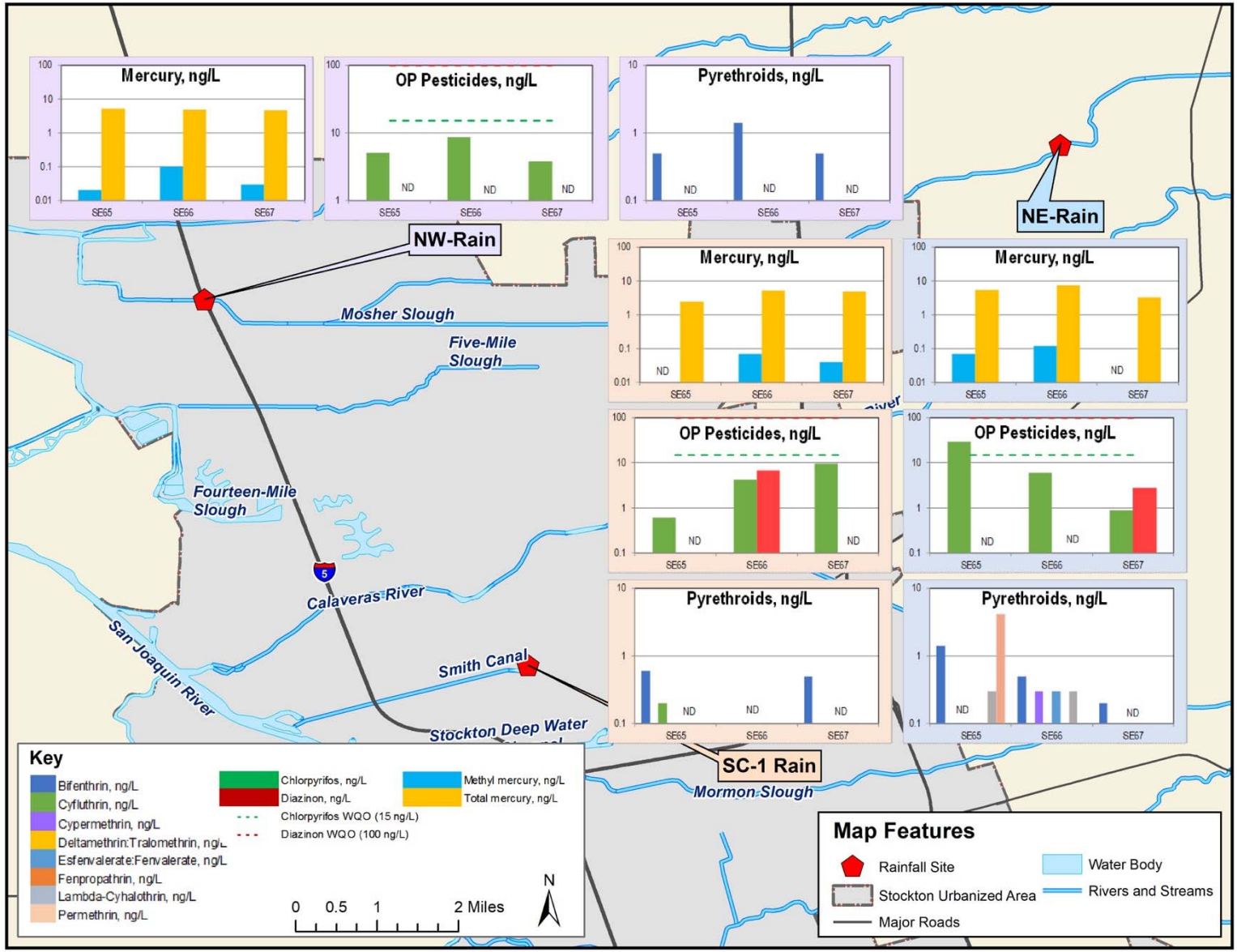

Figure 9. 2017-2018 Rainwater/Atmospheric Deposition Monitoring Results

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4.1.4 Sediment Toxicity and Sediment Chemistry

The MRP specifies that sediment toxicity be monitored for receiving water sites on each historical waterbody. Monitoring is performed 2-4 days following one storm event and during two dry weather events. Sediment samples are analyzed using the USEPA standardized ten-day sediment toxicity testing method[15] for freshwaters using *Hyalella azteca*, and sediment total organic carbon (TOC) and grain size are reported. If toxicity is determined to be statistically significant, and a greater than or equal to 50% increase in *Hyalella azteca* mortality[16] is observed, follow-up testing of sediment chemistry is performed for the parameters specified in **Table 13**.

Table 13. Sediment Chemistry Constituents to be Monitored

Pesticides in Sediment[a]	Target Reporting Limit
Organophosphate Pesticides	**µg/kg**
Chlorpyrifos	0.01
Diazinon	0.05
Pyrethroid Pesticides[b]	**ng/g**
Bifenthrin	1
Cyfluthrin-1	3
Cyfluthrin-2	3
Cyfluthrin-3	3
Cyfluthrin-4	3
Cypermethrin-1	3
Cypermethrin-2	3
Cypermethrin-3	3
Cypermethrin-4	3
Deltamethrin	2
Esfenvalerate/Fenvalerate-1	2
Esfenvalerate/Fenvalerate-2	1
Lambda-cyhalothrin-1	1
Lambda-cyhalothrin-2	4
Permethrin-1	4
Permethrin-2	1

Notes:

[a] Follow-up testing of sediment chemistry will be performed if toxicity is determined to be statistically significant and a greater than or equal to 50% increase in *Hyalella azteca* mortality is observed.

[b] Pyrethroid isomers are typically reported as totals instead of the individual isomers, except where individual isomers may be obtained.

[15] USEPA 2000. Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates. EPA 600/R-99/064. Office of Research and Development. Washington, DC.

[16] City of Stockton and County of San Joaquin. Sediment Toxicity Work Plan. March 27, 2009, revised June 2009.

During 2017-2018, monitoring was completed at WK-64R during three events:

- One day following SE65, 11/17/2018
- DW32, 04/02/2018
- DW34, 06/05/2018

Sediment toxicity results are summarized in **Table 14** and included in **Appendix D**.

Samples from the first dry weather event (DW32) showed significant toxicity in *H. azteca* survival; however, follow up testing of sediment chemistry was not triggered because the reduction in mortality was less than 50%. Samples from all events showed significant reductions in *H. azteca* growth.

Table 14. 2017-2018 Sediment Toxicity Results at Duck Creek

Sample ID	Date	Toxicity Present Relative to Lab Control?		Mean % Survival	Reduction in Survival (%)	Mean Growth (mg)
		H. azteca Survival	H. azteca Growth			
SE65						
Control	-	-	-	97.5	-	0.103
WK-64R	11/17/18	No	No	98.8	-1.28	0.085
WK-64R FD	11/17/18	No	**Yes**[a]	86.2	11.5	0.086
DW32						
Control	-	-	-	100	-	0.049
WK-64R	04/02/18	**Yes**	**Yes**	92.5	7.5	0.040
WK-64R FD	04/02/18	**Yes**	No	92.5	7.5	0.043
DW34						
Control	-	-	-	98.8	-	0.142
WK-64R	06/05/18	No	**Yes**	97.5	1.3	0.127
WK-64R FD	06/05/18	No	**Yes**	93.8	5.1	0.120

LD = Lab Duplicate
FD = Field Duplicate
Bold indicates that toxicity observed was statistically significant.
[a] Growth reduction was statistically toxic due to low inter-replicate variability observed for the sample.

4.1.5 Water Column Toxicity Monitoring

The monitoring program specifies that water column toxicity be monitored during one storm event and one dry weather event when the historical monitoring location is sampled (i.e., DC-65 during wet weather and DC-66 during dry weather). Water column toxicity is conducted in accordance with USEPA methods[17] using short-term chronic toxicity tests based on two freshwater species: 1) Three-brood (6-8 day) survival and reproduction test with water fleas (the crustacean *Ceriodaphnia dubia*); and 2) Seven-day survival and growth test with larval fathead minnows (*Pimephales promelas*). If 100% mortality of either species is detected in a receiving water sample within 24 hours of test initiation, dilution series testing (from 6.25% to 100% receiving water) is initiated to determine if toxicity was persistent. If statistically significant toxicity is detected, and a greater than or equal to 50% increase in fathead minnow or *Ceriodaphnia dubia* mortality or reduction in *Ceriodaphnia dubia* mortality compared to the laboratory control is observed, a Toxicity Identification Evaluation (TIE) is conducted.

During 2017-2018, water column toxicity was monitored at site DC-65R during one storm event and at site DC-66R during one dry weather event:

- SE65, 11/16/2017
- DW34, 06/05/2018

During SE65, no significant reductions in *Ceriodaphnia dubia* survival or growth were observed. Similarly, there were no significant reductions in fathead minnow survival or growth in any of the water samples. During DW34, the receiving water location DC-66R was dry, so no water column toxicity samples were collected. The water column toxicity results are included in **Appendix E**.

[17] USEPA 2002. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms, 4th Edition. EPA-821-R-02-013. Office of Water. Washington, DC.

4.2 DATA QUALITY EVALUATION

Quality Assurance/Quality Control (QA/QC) refers to the process of reviewing lab and "field" initiated checks on the sampling and analytical process. These checks, which include field blanks, method blanks, field duplicates, lab duplicates and matrix spike/matrix spike duplicates (MS/MSD), and data review are used to confirm that data are of high quality. Lab reports are initially screened by the field monitoring contractor for missing analytical data (both environmental and QA/QC), holding time exceedances, discrepancies in analytical methods or detection limits, and any apparent out-of-range environmental results. If the analytical work appears to be missing any requested analyses, the lab is asked to complete the missing analyses, if possible to do so within the specified holding time. Periodically, data analyses are requested even if samples exceed the specified hold time. Data qualifiers are appended to the environmental data points where appropriate by applying the data quality objectives provided by the laboratories. The QA/QC process allows for the identification of isolated incidents of out-of-range lab and sampling performance, but, more importantly, the process allows for the identification of potential long-term trends in lab and sampling performance. An important and ongoing component of the QA/QC program is to report and correct any identified problems.

Overall, no significant problems with data quality were identified during 2017-2018. Isolated instances of constituents detected in field blanks, field duplicates not meeting relative percent difference standards (RPD), and lab QA/QC issues occurred. However, when conducting such a large monitoring and reporting program, field, lab, and/or analytical issues occasionally arise. In general, the data collected and reported are considered of high quality and suitable for data analysis with the qualifications noted in the **Appendix B** data report. The main qualifiers used are summarized in **Table 15**.

Table 15. Definitions of Commonly Used QA/QC Qualifiers and Instances of Application

Qualifier	Definition of Qualifier	Qualifier Description/Applicability, 2017-2018
FB	The concentration of a given constituent was detected in the field blank. The associated environmental sample taken at the same site is considered an estimate.	• A field blank was taken at one site for all constituents during each monitoring event. There were no constituents detected in field blank samples, and the FB qualifier was not used.
FD	The Relative Percent Difference (RPD) between the concentrations of a given constituent in the field duplicate and the associated environmental sample was outside the acceptable limit. This indicates that the duplicability and precision of the results for this constituent may be low.	• A field duplicate was taken at one site for all constituents during each monitoring event. RPDs were within acceptable limits, and the FD qualifier was not used.
J	The concentration of a given constituents is between the MDL and the RL and is therefore an estimate. The J qualifier does not indicate poor data quality because all the RLs used meet permit requirements.	• The J-flag qualifier is common in all data in the monitoring program, and was frequently applied.
ND	A given constituent was not detected and is given as < MDL. The ND qualifier does not indicate poor data quality but rather indicates that a constituent was simply not detected.	• The ND qualifier is common in all data in the monitoring program, and was frequently applied.

4.3 DELTA REGIONAL MONITORING PROGRAM

The Delta RMP is a stakeholder-directed project formed to develop a regional water quality monitoring program to improve understanding of water quality issues in the Sacramento-San Joaquin Delta. The goal of this effort is to better coordinate and design current and future monitoring activities in and around the Delta to create a cost effective approach for providing critically needed water quality information to better inform policy and regulatory decisions of the Regional Water Board and other Federal, State and local agencies and organizations.[18] The RMP is focusing the initial monitoring efforts on mercury, pesticides, nutrients, and pathogens. The City and County are contributing members of the RMP, which commenced monitoring in 2015. As the data are collected and results reported, the City and County will reference them within the annual reports and mid-term and end-term reports, as needed.

4.4 TOTAL MAXIMUM DAILY LOADS

The Region-wide Permit requires the City and County to continue implementation of the stormwater monitoring program, which includes implementation actions and assessments related to applicable TMDLs. Efforts to fulfill TMDL monitoring requirements (included in Attachment G of the Region-wide Permit) are summarized in the following sections.

4.4.1 Sacramento-San Joaquin Delta Diazinon and Chlorpyrifos TMDL (Resolution R5-2006-0061)

The organophosphate (OP) Pesticide TMDL establishes wasteload allocations (WLAs) for the sum of diazinon and chlorpyrifos concentrations relative to their respective WQOs. Attachment G of the Region-wide Permit requires that, within one year of the receipt of the notice of applicability (NOA) under the Region-wide Permit, the City and County (Permittees) must submit an assessment to determine the diazinon and chlorpyrifos levels and attainment of WLAs in urban discharge and WQOs in the receiving water. The Permittees performed this assessment during 2016-2017, and submitted the information with the Assessment and Prioritization of Water Quality Constituents in the Stockton Urbanized Area.[19] The assessment indicated that, with the exception of Duck Creek, the targets and allocations for the TMDL are largely being met. In addition, Calaveras River, Mosher Slough, and Smith Canal all meet the 303(d) delisting criteria.

4.4.2 Central Valley Pesticide TMDLs

4.4.2.1 Central Valley Diazinon and Chlorpyrifos TMDL (Resolution No. R5-2014-0041)

The Regional Water Board adopted the Diazinon and Chlorpyrifos TMDL on March 28, 2014. This TMDL was approved by the State Water Resources Control Board on June 16, 2015, and approved by the USEPA on August 16, 2017, at which time the TMDL became fully effective. The Diazinon and Chlorpyrifos TMDL includes WQOs for diazinon and chlorpyrifos based on

[18] http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/delta_regional_monitoring/index.shtml

[19] City of Stockton and County of San Joaquin. Assessment and Prioritization of Water Quality Constituents in the Stockton Urbanized Area. Prepared by Larry Walker Associates. May 30, 2017.

the California Department of Fish and Game criteria, which are the existing Basin Plan WQOs applicable to the SUA. The TMDL does not change the existing WLAs for point source dischargers.

4.4.2.2 Central Valley Pyrethroid Pesticides TMDL (Resolution R5-2017-0057)

The Regional Water Board adopted the Pyrethroid TMDL on June 8, 2017, but this TMDL has not yet been approved by the State Water Resources Control Board or USEPA. Once effective, the TMDL will establish concentration goals for pyrethroids.

4.4.3 Stockton Urban Water Bodies Pathogen TMDL (Resolution No. R5-2009-0030)

The Pathogen TMDL includes WLAs for fecal coliform and *E. coli*. The Permittees are required to continue monitoring and implementation activities consistent with the Stockton Urban Waterbodies Pathogen Control Program, and document in Mid-Term and End-Term Reports under the Region-wide Permit, the implementation of BMPs to control the discharge of pathogens (indicator bacteria) in their urban discharge, as well as submit effectiveness assessments of implemented BMPs. During 2017-2018, the Permittees monitored for indicator bacteria at Duck Creek, as described in **Section 4.1.2**.

4.4.4 Delta Methylmercury TMDL (Resolution No. R5-2010-0043)

As a part of Phase I of the Sacramento-San Joaquin Delta Methylmercury TMDL,[20] the City and the County must conduct a Methylmercury Control Study (Control Study) and participate in the Mercury Exposure Reduction Program (MERP). Progress for the Control Study and MERP participation are reported in the following sections.

4.4.4.1 Methylmercury Control Study

The Permittees submitted a Control Study Workplan to the Regional Water Board on April 22, 2013, and received feedback from the technical advisory committee and Regional Water Board staff during August 2013. The Permittees submitted a revised Control Study Workplan in October 2013 to address the comments received.

The Control Study focuses on evaluating the mercury and methylmercury removal performance of the Airport Business Center detention basin within the SUA, along with examining the potential for methylmercury production in the basin. The Permittees are implementing the Control Study according to the schedule in **Table 16**.

[20] Central Valley Regional Water Quality Control Board. 2012. Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin River Delta Estuary. Rancho Cordova, CA. Available online: www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/delta_hg/2011oct20/bpa_20oct2011_final.pdf

Table 16. Methylmercury Control Study Schedule

Task	Estimated Completion	Completed
Submit Control Study Work Plan to Regional Water Board	April 19, 2013	✓
Regional Water Board and TAC Work Plan Review	May-July 2013	✓
Finalize Work Plan	October 21, 2013	✓
Initiate Control Study Sampling • First Year Monitoring • Second Year Monitoring • Third Year Monitoring	October 2013 • Oct 2013 – Sep 2014 • Oct 2014 – Sep 2015 • Oct 2015 – Sep 2016	✓
Submit Control Study Progress Report	October 2015	✓
Complete Control Study Sampling	September 2016	✓
Submit Annual Progress Report	October 2016 (submitted as part of Annual Report)	✓
Submit Annual Progress Report	October 2018 (submitted as part of Annual Report)	✓
Submit Control Study Final Report to Regional Water Board	October 20, 2018	

The Control Study includes monitoring for mercury and methylmercury using grab samples; along with ancillary constituents (i.e., suspended sediment, TSS, TDS, turbidity, phosphorus, sulfate, and iron) using composite samples, and field readings. Samples are collected at the detention basin inlets and outlet. During dry weather events, sediment samples are collected for mercury and methylmercury. Sampling occurs during three wet weather events and one dry weather event for three years.

Monitoring was completed during 2015-2016. The Control Study Progress Report was submitted in October 2015. An annual progress report, per TMDL requirements, was submitted in October 2016 and 2017. The final report will be submitted by October 20, 2018.

4.4.4.2 Delta Mercury Exposure Reduction Program Participation

The Delta Mercury Control Program requires the entities identified in the Basin Plan to develop and implement a mercury exposure reduction program. The Delta Mercury Exposure Reduction Program (MERP) Participants include those entities and agencies that have formally submitted a letter describing their intent to participate in the collective exposure reduction program. The Permittees submitted their letter during 2013-2014, and are participating in the Delta MERP.

The Delta MERP is designed to increase understanding of contaminants in fish and reduce exposure to mercury among people who eat fish from the Delta. The Delta MERP is producing educational materials based on fish consumption guidelines, and is also focusing on presenting a balanced message, including communicating the health risks associated with exposure to mercury in fish, ways to reduce exposure, and health benefits of eating fish generally, as well as identifying low-mercury fish species and areas. The Delta MERP is also focusing efforts on

training opportunities for entities involved in the Delta MERP, including county agencies, tribal organizations, community-based organizations, and health care providers.

During 2017-2018, the Permittees contributed funding to the MERP and have been actively tracking its progress.

4.4.4 Lower San Joaquin River, Stockton Deep Water Ship Channel Organic Enrichment and Low Dissolved Oxygen TMDL (Resolution No. R5-2005-0005)

The Organic Enrichment and Low Dissolved Oxygen TMDL requires that responsible parties implement BMPs to control and abate the discharge of oxygen-demanding substances. Attachment G of the Region-wide Permit requires covered Permittees to continue implementation of BMPs identified in their SWMP to control oxygen demanding substances in their stormwater discharges. These implementation efforts will be documented in the Mid-Term and End-Term Reports required under the Region-wide Permit. During 2017-2018, the Permittees monitored for dissolved oxygen at Duck Creek using grab samples, as described in **Section 4.1.2**.

5. Programmatic Activities and Data

This section provides a summary of the status of the implementation of the stormwater program, as well as the inspections conducted, number and nature of enforcement actions taken, and public education programs implemented during 2017-2018.

As described in **Section 1** and **Section 6**, the City and County submitted a Work Plan as part of their NOI application package (**Appendix A**). During 2017-2018, the City and County implemented the activities as outlined in the Work Plan.

In addition, throughout each reporting period, the City and County are tracking the data and information necessary to conduct short-term and long-term program effectiveness assessments, which will be completed as part of the Mid-Term and End-Term Reports, respectively. Although this may change from year to year, a summary of the programmatic data and information generally tracked for each stormwater program element is provided in **Table 17**.

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Table 17. Data and Information Tracked Annually for Each Program Element

Data/Information Tracked Annually (by Program Element)	Pollutants of Concern Addressed[a]			
	Dissolved Oxygen	Mercury	Pathogen Indicators	Pesticides
Program Management				
Fiscal Analysis (i.e., current NPDES expenditures, projected expenditures for the next fiscal year)	-	-	-	-
Illicit Discharges (ID)				
Number of water pollution complaints received/verified and source of complaints	✓	✓	✓	✓
Number of water pollution issues observed/verified by field staff	✓	✓	✓	✓
Number of illegal connections reported/verified/eliminated	✓	-	✓	-
Types of materials involved in the verified incidents	✓	✓	✓	✓
Location of illicit discharges (Illicit Discharges Location Map)	✓	✓	✓	✓
Number/types enforcement actions taken for illicit discharges and illegal connections	-	-	-	-
Training sessions held; pre- and post-training survey results	✓	✓	✓	✓
Public Outreach (PO)				
Summary of stream cleanup events, volunteer organizations, and number of volunteers	✓	✓	✓	✓
Amount used oil and household hazardous waste collected	✓	✓	-	✓
Number hotline calls received/verified	✓	✓	✓	✓
Number educational materials distributed	✓	✓	✓	✓
Summary of installation of pet waste bag dispensing stations	-	-	✓	-
Number/types mixed media campaigns conducted	✓	✓	✓	✓
Summary of community-wide events	✓	✓	✓	✓
Summary of events held for school-age children	✓	✓	✓	✓

Data/Information Tracked Annually (by Program Element)	Pollutants of Concern Addressed[a]			
	Dissolved Oxygen	Mercury	Pathogen Indicators	Pesticides
Municipal Operations (MO)				
Summary of sanitary sewer overflows	✓	-	✓	-
Information about municipal Capital Improvement Projects (CIPs)/Priority Project status	✓	✓	-	-
Number acres treated with fertilizers; amount applied	✓	-	-	-
Number acres treated with pesticides	-	-	-	✓
Number acres under IPM program	-	-	-	✓
Total pesticide use (by active ingredient, when available) at parks/golf courses/detention basins	-	-	-	✓
Information regarding catch basin prioritization/inspection/cleaning; overall storm drain system maintenance activities	✓	✓	✓	✓
Information regarding pump station inspection/cleaning; overall pump station maintenance activities	✓	✓	✓	✓
Number of catch basins stenciled	✓	✓	✓	✓
Number events required to obtain special use permits and address trash and debris removal	✓	✓	✓	-
Total street miles swept, amount debris removed, and amount green waste collected	✓	✓	✓	✓
Training sessions held; pre- and post-training survey results	✓	✓	✓	✓
Industrial and Commercial (IC)				
Number industrial facilities	✓	✓	✓	✓
Number commercial facilities (significant sources) by category	✓	✓	✓	✓
Number/results industrial facility inspections conducted	✓	✓	✓	✓
Number/results commercial facility inspections conducted	✓	✓	✓	✓
Number/results follow-up inspections conducted	✓	✓	✓	✓
Mobile business Self-Certifications mailed/received	✓	✓	✓	✓
Number BMP Fact Sheets distributed during inspections	✓	✓	✓	✓

Data/Information Tracked Annually (by Program Element)	Pollutants of Concern Addressed[a]			
	Dissolved Oxygen	Mercury	Pathogen Indicators	Pesticides
Number/types enforcement actions taken during inspections/illicit discharge responses	✓	✓	✓	✓
Number/causes referrals made to Regional Water Board due to illicit discharge violations	✓	✓	✓	✓
Number/types enforcement steps taken related to Self-Certification Forms	✓	✓	✓	✓
Number/types enforcement actions taken against carpet cleaners	✓	✓	✓	✓
Training sessions held; pre- and post-training survey results	✓	✓	✓	✓
Construction (CO)				
Number grading permits issued; number requiring SWPPPs and NOIs	✓	✓	-	-
Number private/public construction sites; number requiring SWPPP; number completed	✓	✓	-	-
Number/type outreach materials distributed during inspections	✓	✓	-	-
Number active construction sites; number regular/follow-up inspections conducted	✓	✓	-	-
Number/types of enforcement actions taken	✓	✓	-	-
Training sessions held; pre- and post-training survey results	✓	✓	-	-
Planning and Land Development (LD)				
Number project plans reviewed for stormwater BMPs	✓	✓	✓	✓
Number Priority Projects, by Category	✓	✓	✓	✓
Total acreage covered by approved Priority Projects	✓	✓	✓	✓
Number/Type approved Control Measures	✓	✓	✓	✓
Information for permanent post-construction stormwater treatment devices (Post-Construction BMP Treatment Devices Database)	✓	✓	✓	✓
Completed priority projects/post-construction BMP maintenance oversight inspection results	✓	✓	✓	✓
Number stormwater treatment device access and maintenance agreements executed	✓	✓	✓	✓
Training sessions held; pre- and post-training survey results	✓	✓	✓	✓

[a] ✓ = addresses Pollutant of Concern, - = does not apply to Pollutant of Concern

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5.1 OVERVIEW OF INSPECTIONS, ENFORCEMENT ACTIONS, AND PUBLIC EDUCATION PROGRAMS

A summary of the inspections conducted, number and nature of enforcement actions taken, and public education programs implemented during 2017-2018 is provided below.

5.1.1 Inspections

5.1.1.1 Industrial and Commercial Program Element (IC)

Industrial Facility Inspections

City

A summary of the City's industrial facility inspections is provided below:

Number of industrial facilities in current inventory	162
Number of facilities inspected in 2017-2018[a]	64
Number of facilities with SWPPPs on site	60
Number of facilities in compliance with stormwater control requirements	51
Number of facilities requiring follow-up inspections	13
Number of facilities in compliance after follow-up inspections	13

[a] In 2017-2018, the City reorganized its efforts regarding industrial and commercial inspections and follow-up enforcement actions to better align its resources with the requirements of the Permit. The reorganization was intended to focus the City's efforts on one geographic grid location at a time, with full coverage of all industrial and commercial facilities within that grid. As such, the inventory may change from year to year as additional facilities are identified. This approach allows the City's inspectors to concentrate on geographic grids for inspections and response to violations, with the goals of increasing the number of inspections performed each year, providing better opportunities for outreach to facilities, and achieving full compliance of all facilities with stormwater control requirements.

County

A summary of the County's industrial facility inspections is provided below:

Number of industrial facilities in current inventory[a]	14
Number of facilities inspected in 2017-2018[b]	7
Number of facilities with SWPPPs on site	7
Number of facilities in compliance with stormwater control requirements	7
Number of facilities requiring follow-up inspections	0
Number of facilities in compliance after follow-up inspections	N/A

[a] One site submitted a Notice of Termination (NOT) in 2016-2017 due to lack of exposure to stormwater and was approved. The site was removed from the industrial site inventory in 2017-2018. Two sites previously noted within the inventory were determined to discharge to the City's MS4; these facilities are now part of the City's industrial inventory and have been or will be inspected.

[b] The County maintains an annual presence in the field by inspecting a percentage of industrial sites annually, with the end result being that all sites are inspected at least twice during a five-year permit term.

Commercial Facility Inspections

City

A summary of the City's 2017-2018 commercial facility inspections is provided below:

Total number of commercial facilities in current inventory	359
Number of commercial facilities requiring inspection	359
Number of facilities inspected in 2017-2018[a]	359
Number of facilities adequately implementing BMPs[b]	161
Number of facilities requiring follow-up inspections	25
Number of facilities in compliance after follow-up inspections	25

[a] In 2017-2018, the City reorganized its efforts regarding industrial and commercial inspections and follow-up enforcement actions to better align its resources with the requirements of the Permit. The reorganization was intended to focus the City's efforts on one geographic grid location at a time, with full coverage of all industrial and commercial facilities within that grid. As such, the inventory may change from year to year as additional facilities are identified. This approach allows the City's inspectors to concentrate on geographic grids for inspections and response to violations, with the goals of increasing the number of inspections performed each year, providing better opportunities for outreach to facilities, and achieving full compliance of all facilities with stormwater control requirements.

[b] Commercial facilities with multiple or egregious BMP implementation failures are re-inspected. Commercial facilities with minor BMP implementation failures are issued a Notice of Warning and documentation is required to show compliance in lieu of a follow-up inspection. A single enforcement action may be sent to the owner of multiple properties.

County

A summary of the County's 2017-2018 commercial facility inspections is provided below:

Total number of commercial facilities in current inventory	117
Number of commercial facilities requiring inspection[a]	62
Number of facilities inspected in 2017-2018[b]	41
Number of facilities adequately implementing BMPs	41
Number of facilities in compliance with stormwater control requirements	41
Number of facilities requiring follow-up inspections	0
Number of facilities in compliance after follow-up inspections	N/A

[a] The total number of commercial facilities requiring inspection is estimated at about half of all the inventoried facilities each year, in order to project an annual presence in the field.

[b] The County maintains an annual presence in the field by inspecting a percentage of commercial sites annually, with the end result being that all sites are inspected at least twice during a five-year permit term.

Mobile Business Self-Certification Forms

The Permittees have been mailing Self-Certification requests to mobile carpet cleaning businesses on an as-needed basis.

5.1.1.2 Construction Program Element (CO)

Construction Site Inspections

City

A summary of the City's construction site inspections for 2017-2018 is provided below:

Number of active construction sites ≥1 acre in size	44
Number of regular inspections conducted at active construction sites[a]	71
Number of follow-up inspections conducted due to violations	48

[a] During the 2017-2018 reporting year, the City reorganized staffing positions to better align with permit objectives. During this process, the staff position for construction site inspector was vacant. The 2009 SWMP inspection frequency will resume in 2018-2019.

County

The County had no active construction sites greater than or equal to one acre in size. Because there were no active construction sites, no inspections were necessary.

Planning and Land Development Program Element (LD)

Post-Construction BMP Maintenance Oversight

City

The City has a total of nine completed priority projects with post-construction BMPs. During 2017-2018, staffing was increased to prepare for the 2018-2019 year, when inspections will be conducted.

County

During 2017-2018, one priority project with post-construction BMPs was completed, one inspection was conducted on completed priority projects, and no enforcement actions were issued to correct improper maintenance.

5.1.2 Enforcement Actions

5.1.2.1 Illicit Discharges Program Element (ID)

City

The City tracked enforcement actions in the Illicit Discharges Database. A total of five enforcement actions were taken by the Stormwater Division and Environmental Control Division in response to 34 reports of illicit discharge, 31 of which were verified. Two illegal connections were reported and verified via AskStockton.

The number and types of enforcement actions taken by the City during the reporting period are summarized below:

Type of Enforcement Action	Number of Actions[a]
Administrative	
Violation Warning Notice	1
Notice of Violation	2
Cease and Desist Order	1
Stop Work Order	0
Administrative Citation (Fine)	1
Criminal Enforcement[b]	
Misdemeanor	0
Infraction	0
Total	**5**

[a] The total number of enforcement actions taken may be smaller than the number of verified incidents due to enforcement actions that are issued to the owners of multiple properties.

[b] This category presumes that an action turned over to the District Attorney resulted in a criminal prosecution within the year of the incident. However, data for this category can only be updated in subsequent years (i.e., after criminal prosecution has been successful).

Number of repeat offenders[21] identified: 0

Total number of complaints/problems referred to the Regional Board: 0

County

The County tracked enforcement actions in the Illicit Discharges Database. A total of five enforcement actions were taken in response to 12 reports of illicit discharge. No illegal connections were identified.

The number and types of enforcement actions taken by the County during the reporting period are summarized below:

[21] Repeat offenders were identified by tracking responsible parties for multiple incidents at the same address on different dates.

Type of Enforcement Action	Number of Actions
Verbal Warning	5
Administrative Enforcement	
Correction Order	0
Notice of Violation	0
Notice to Clean	0
Criminal Enforcement	
Misdemeanor	0
Infraction	0

Total number of complaints/problems referred to EHD: 3

Total number of complaints/problems referred to the Regional Water Board: 0

Total number of complaints/problems referred to the City of Stockton: 2

Number of repeat offenders identified: 0

5.1.2.2 Industrial and Commercial Program Element (IC)

Industrial and Commercial Facility Enforcement Actions

City

The City took a total of 74 enforcement actions against all businesses during inspections and illicit discharge responses.

- One repeat offender was identified, and no complaints/problems were referred to the Regional Water Board.

The number and types of enforcement actions taken by the County during the reporting period are summarized below:

Type of Enforcement Action	Number of Actions[a]
Administrative	
Violation Warning Notice	37
Notice of Violation	33
Cease and Desist Order	2
Stop Work Order	0
Administrative Citation (Fine)	2
Criminal Enforcement[b]	
Misdemeanor	0
Infraction	0
Total	**74**

[a] The total number of enforcement actions taken may be smaller than the number of facilities with inadequate BMPs due to enforcement actions that are issued to the owners of multiple properties.

[b] This category presumes that an action turned over to the District Attorney resulted in a criminal prosecution within the year of the incident. However, data for this section can only be updated in subsequent years (i.e., after criminal prosecution has been successful).

County

The County took no enforcement actions against any businesses during inspections and illicit discharge responses.

- No repeat offenders were identified, and no complaints/problems were referred to the Regional Water Board.

The number and types of enforcement actions taken by the County during the reporting period are summarized below:

	Administrative Remedies			Legal Action
	Verbal Warnings	Warning Notice or Notice to Clean	Notice of Violation	Type (Misdemeanor, Infraction. Etc.)
Total Number	0	0	0	0

Mobile Business Enforcement Actions

As needed, the Permittees continue to take enforcement action (in the form of "Second Notifications") against mobile businesses with regard to completion of Self-Certification forms.

5.1.2.3 Construction Program Element (CO)

Construction Site Enforcement Actions

City

The City took a total of 44 enforcement actions against construction sites during 71 regular inspections and 48 follow-up inspections. Seventeen (17) repeat offenders were identified (i.e., construction sites which failed the re-inspection).

The number and types of enforcement actions taken by the City during construction site inspections are shown below.

Type of Enforcement Action	Number of Actions
Administrative	
Violation Warning Notice	10
Notice of Violation	29
Cease and Desist Order	1
Stop Work Order	1
Administrative Citation (Fine)	3
Criminal Enforcement	
Misdemeanor	0
Infraction	0
Total	**44**

County

The County took no enforcement actions against construction sites because there were no active construction sites greater than one acre. No repeat offenders were identified.

5.1.3 Public Education Programs

The Permittees implemented a number of public education and outreach programs during the 2017-2018 reporting period. A summary of these efforts is provided below.

- **Identify and/or Create, Revise, and Distribute Educational Materials:** The Permittees distributed a total of 4,329 educational materials, including brochures and fact sheets, to the general public.
- **Conduct Mixed Media Campaigns:** The Permittees conducted a total of six (6) mixed media campaigns for the general public. These efforts included utility bill inserts, store front ads located in the retail space under the Stockton Arena, and billboards posted along three major roads. A radio message was also broadcast within the area.
- **Participate in Community-Wide Events:** The Permittees conducted a total of eight (8) community-wide events with an estimated 9,309 total attendees.
- **Reach Out to School Age Children:** SAWS held 346 events at Stockton area schools, reaching an estimated 12,013 students.
- **Distribute Educational Material to Selected Businesses:** The Permittees distributed 454 educational materials to high-priority commercial businesses.

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6. Proposed Modifications

As a part of the annual reporting process, the City and County have qualitatively evaluated the effectiveness of the stormwater program during the Permit term, as well as the experience that staff has had in implementing the program, to identify potential modifications. At this time, no program modifications have been identified. Modifications identified in the future will be incorporated into the revised SWMP and corresponding Work Plan prior to the submittal to the Regional Water Board (anticipated in late 2019).

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Appendix A
Work Plan as submitted November 1, 2016

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City of Stockton and County of San Joaquin SWMP Annual Work Plan

ID	Task Name	Q3	Q4	Q1	Q2
1	**Section 1 - Program Management**				
2	**Program Coordination**				
3	Review/revise SWMP as needed				
4	Co-permittees meet quarterly				
5	Participate in internal quarterly Stormwater Program Meetings				
6	Participate in statewide stormwater-related meetings, conferences, and stakeholder groups as needed				
7	Review/revise MOUs as necessary				
8	Establish, review, and revise cooperative agreements as needed				
9	**Fiscal Analysis**				
10	Review and revise the Fiscal Analysis reporting format as needed				
11	**Legal Authority**				
12	Review the legal authority as needed				

ID	Task Name	Q3	Q4	Q1	Q2
13	**Section 2 - Illicit Discharges Program Element (ID)**				
14	**ID1 - Detection of Illicit Discharges and Illegal Connections**				
15	Public Reporting				
16	Maintain and advertise Hotline				
17	Coordinate with other agencies and departments				
18	Field Crew Inspections				
19	Continue field observations for IDIC				
20	**ID2 - Illegal Connection Identification and Elimination**				
21	Investigate and eliminate illegal connections				
22	Coordinate with Planning and Land Development program				
23	Coordinate with Construction program				
24	**ID3 - Investigation/Inspection and Follow Up**				
25	Respond to illicit discharges				
26	Maintain contractual services for incident clean-up				
27	Maintain Illicit Discharges Database				
28	**ID4 - Enforcement**				
29	Implement progressive enforcement policy and procedures				
30	Track enforcement actions in Illicit Discharges Database				
31	**ID5 - Training**				
32	Conduct training				

ID	Task Name	Q3	Q4	Q1	Q2
33	**Section 3 - Public Outreach (PO)**				
34	**PO1 - Public Participation**				
35	Implement Storm Drain Marker Program				
36	Organize, support, and/or participate in stream cleanup events				
37	Promote Used Oil and Household Hazardous Waste Programs				
38	Coordinate with Household Hazardous Waste program for pesticide disposal				
39	**PO2 - Hotline**				
40	Maintain 24-hr hotline number				
41	Promote/publicize the 24-hr hotline				
42	**PO3 - Public Outreach Implementation**				
43	Update Website as needed				
44	Implement pet waste outreach program				
45	Track installation of pet waste bag dispensing stations				
46	Participate in community-wide events throughout the year				
47	Conduct mixed media campaigns				
48	Provide community relations				
49	Implement pesticide outreach efforts for staff, residents, retail stores, and PCOs				
50	**PO4 - Public School Education**				
51	Continue to identify opportunities to reach out to school age children				

ID	Task Name	Q3	Q4	Q1	Q2
52	**Section 4 - Municipal Operations (MO)**				
53	**MO1 - Sanitary Sewer Maintenance & Overflow and Spill Response**				
54	Implement the Sanitary Sewer Overflow Emergency Response Plan (SSOERP)				
55	Review the SSOERP and revise as changes occur				
56	**MO2 - Construction Requirements for Municipal Capital Improvement Projects**				
57	Review CIP designs to ensure specifications and notes are included				
58	Require submission of NOI for CIPs greater than or equal to one acre				
59	If a priority project, develop in conformance with the SWQCCP				
60	Improve interdepartamental communication to facilitate accurate recordkeeping and reporting of data				
61	**MO3 - Pollution Prevention at City Facilities**				
62	Assess facilities to determine if they require coverage under the General Industrial Permit				
63	Implement SWPPP/FPPP for Corporation Yard and other facilities as needed				
64	Review CIP projects for compliance with general stormwater requirements, including review for vehicle or equipment wash areas				
65	**MO4 - Landscape and Pest Management**				
66	Implement pesticide and fertilizer application protocol at park sites, landscaped medians, and golf courses				
67	Implement IPM program				
68	Maintain and expand internal inventory on pesticide use and track Parks Division reported pesticide use				
69	Implement Landscaping Standards				
70	**MO5 - Storm Drain System Maintenance**				
71	Implement storm drain system mapping				
72	Review/revise prioritization for catch basin cleaning as needed				
73	Maintain and annually update Catch Basin Database				
74	Implement catch basin maintenance program				
75	Implement pump station maintenance program				
76	Implement detention basin maintenance program				
77	Implement notification procedures for ID/IC and missing catch basin markers or illegible stencils				
78	Require large events and venues to address trash and debris removal, including containerization and street sweeping as appropriate				

ID	Task Name	Q3	Q4	Q1	Q2
79	**MO6 - Street Cleaning and Maintenance**				
80	Implement street sweeping program				
81	Review/revise prioritization of streets for street sweeping program as needed				
82	Implement green waste collection program				
83	Implement Maintenance Staff Guide -- Road Maintenance and Small Construction BMPs				
84	**MO7 - Training**				
85	Conduct training				
86	**Section 5 - Industrial and Commercial Program Element (IC)**				
87	**IC1 - Facility Inventory**				
88	Internal audit of database				
89	Maintain and annually update the inventory and database				
90	Map the industrial and commercial facilities on an annual basis				
91	Implement and track a self-certification program for carpet cleaners				
92	**IC2 - Prioritization and Inspection**				
93	Prioritization				
94	Prioritize facilities as necessary				
95	Inspections				
96	Review/revise industrial inspection checklists as needed				
97	Conduct inspections				
98	Conduct follow-up inspections as needed				
99	**IC3 - BMP Implementation**				
100	Review/revise BMP fact sheets for high priority facilities as needed				
101	Distribute BMP Fact Sheets				
102	Implement outreach efforts to carpet cleaners				
103	**IC4 - Enforcement**				
104	Implement progressive enforcement and referral policy and procedures				
105	Track enforcement actions in the industrial/commercial database				
106	Implement procedures for Regional Water Board based complaints				
107	Review and Revise Industrial General Permit referral policy as needed				
108	**IC5 - Training**				
109	Conduct training				

ID	Task Name	Q3	Q4	Q1	Q2
110	**Section 6 - Construction (CO)**				
111	**CO1 - Municipal Code for Construction Sites**				
112	**CO2 - Plan Review and Approval Process**				
113	Review grading and building permit applications for SWPPP requirements				
	Review erosion control plans				
114	Distribute the Plan & Permit Application Review Procedure handout				
115	**CO3 - Construction Projects Inventory**				
116	Maintain and update the Construction Project Database				
117	**CO4 - Construction Outreach**				
118	Distribute appropriate BMP fact sheets during inspections				
119	**CO5 - Construction Site Inspections & BMP Implementation**				
120	Inspect construction sites >=1 acre monthly				
121	**CO6 - Enforcement**				
122	Implement progressive enforcement policy				
123	Track enforcement actions using the construction database				
124	**CO7 - Training**				
125	Conduct training				

ID	Task Name	Q3	Q4	Q1	Q2
126	**Section 7 - Planning and Land Development (LD)**				
127	**LD1 - Incorporation of Water Quality Protection Principles into City Procedures and Policies**				
128	Revise General Plan as needed				
129	**LD2 - New Development Standards**				
130	Require priority projects to comply with the revised SWQCCP				
131	**LD3 - Plan Review Sign-off**				
132	Revise Post-Construction Plan Review Database as needed				
133	Use Post-Construction Plan Review Database				
134	Review project plans and grading plans for stormwater BMPs				
135	Track projects with post-construction treatment control BMPs				
136	Conduct inspections of completed priority projects to ensure that all approved control measures have been implemented and are being maintained				
137	**LD4 - Maintenance Agreement and Transfer**				
138	Require Stormwater Treatment Device Access and Maintenance Agreement				
139	Implement Post-Construction BMP Maintenance Oversight Protocols				
140	**LD5 - Training**				
141	Conduct training				
142	**Section 8 - Monitoring and Reporting Program**				
143	**Water Quality Monitoring (waterbody varies annually)**				
144	Water quality parameters as needed				
145	Sediment toxicity and sediment chemistry as needed				
146	Water column toxicity as needed				
147	**Delta Regional Monitoring Program**				
148	**Section 9 - Program Implementation, Evaluation, and Reporting**				
149	**Program Implementation**				
150	Update Work Plan as needed				
151	**Annual Report**				

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Appendix B
2017-2018 Monitoring Results

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City of Stockton and County of San Joaquin
Ambient Monitoring Program 2017-2018 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW31	DC-46R	9/11/17	E. Coli	SM 9223B	=	6.3	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	DC-66	9/11/17	E. Coli	SM 9223B	=	23.5	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	DC-69	9/11/17	E. Coli	SM 9223B	=	86	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	WK-64	9/11/17	E. Coli	SM 9223B	=	7.3	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	WK-64R	9/11/17	E. Coli	SM 9223B	=	13.5	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW32	DC-66	4/2/18	E. Coli	SM 9223B	=	1019	-	1	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW32	DC-69	4/2/18	E. Coli	SM 9223B	=	63	-	10	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW32	WK-64	4/2/18	E. Coli	SM 9223B	=	10	-	10	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW32	WK-64R	4/2/18	E. Coli	SM 9223B	=	63	-	1	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW33	DC-66	4/24/18	E. Coli	SM 9223B	=	122.3	-	1	MPN/100ml		FGL Env.	4/24/18	4/25/18
DW33	DC-69	4/24/18	E. Coli	SM 9223B	=	13.4		1	MPN/100ml		FGL Environ	4/24/18	4/25/18
DW33	WK-64	4/24/18	E. Coli	SM 9223B	=	101.4		1	MPN/100ml		FGL Environ	4/24/18	4/25/18
DW33	WK-64R	4/24/18	E. Coli	SM 9223B	=	5.2		1	MPN/100ml		FGL Environ	4/24/18	4/25/18
DW34	DC-46R	6/5/18	E. Coli	SM 9223B	=	1	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	DC-66	6/5/18	E. Coli	SM 9223B	=	36.2	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	DC-69	6/5/18	E. Coli	SM 9223B	=	16.1	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	WK-64	6/5/18	E. Coli	SM 9223B	=	727	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	WK-64R	6/5/18	E. Coli	SM 9223B	=	11	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
SE65	DC-65	11/16/17	E. Coli	SM 9223B	=	2419.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	DC-65R	11/16/17	E. Coli	SM 9223B	=	13.4		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	DC-69	11/16/17	E. Coli	SM 9223B	=	1732.9		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	WK-64	11/16/17	E. Coli	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	WK-64R	11/16/17	E. Coli	SM 9223B	=	307.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE66	DC-65	3/1/18	E. Coli	SM 9223B	=	2187	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	DC-65R	3/1/18	E. Coli	SM 9223B	=	86	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	DC-69	3/1/18	E. Coli	SM 9223B	=	591	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	WK-64	3/1/18	E. Coli	SM 9223B	=	7270	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	WK-64R	3/1/18	E. Coli	SM 9223B	=	373	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE67	DC-65	4/6/18	E. Coli	SM 9223B	=	135.4	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	DC-65R	4/6/18	E. Coli	SM 9223B	=	87.8	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	DC-69	4/6/18	E. Coli	SM 9223B	=	187.2	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	WK-64	4/6/18	E. Coli	SM 9223B	=	2419.6	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	WK-64R	4/6/18	E. Coli	SM 9223B	=	7.4	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
DW31	DC-46R	9/11/17	Fecal Coliform	SM 9221B	=	230	-	18	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	DC-66	9/11/17	Fecal Coliform	SM 9221B	=	79000	-	1800	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	DC-69	9/11/17	Fecal Coliform	SM 9221B	=	7900	-	180	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	WK-64	9/11/17	Fecal Coliform	SM 9221B	=	140	-	18	MPN/100ml		FGL Env.	9/11/17	9/14/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW31	WK-64R	9/11/17	Fecal Coliform	SM 9221B	=	170	-	18	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW32	DC-66	4/2/18	Fecal Coliform	SM 9221B	=	1300	-	1800	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	DC-69	4/2/18	Fecal Coliform	SM 9221B	=	460	-	18	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	WK-64	4/2/18	Fecal Coliform	SM 9221B	=	20	-	18	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	WK-64R	4/2/18	Fecal Coliform	SM 9221B	=	110	-	18	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW33	DC-66	4/24/18	Fecal Coliform	SM 9221B	=	7900	-	180	MPN/100ml		FGL Env.	4/24/18	4/27/18
DW33	DC-69	4/24/18	Fecal Coliform	SM 9221B	=	790		18	MPN/100ml		FGL Environ	4/24/18	4/27/18
DW33	WK-64	4/24/18	Fecal Coliform	SM 9221B	=	33000		1800	MPN/100ml		FGL Environ	4/24/18	4/27/18
DW33	WK-64R	4/24/18	Fecal Coliform	SM 9221B	=	140		18	MPN/100ml		FGL Environ	4/24/18	4/27/18
DW34	DC-46R	6/5/18	Fecal Coliform	SM 9221B	=	78	-	18	MPN/100ml		FGL Env.	6/5/18	6/8/18
DW34	DC-66	6/5/18	Fecal Coliform	SM 9221B	=	110000	-	1800	MPN/100ml		FGL Env.	6/5/18	6/8/18
DW34	DC-69	6/5/18	Fecal Coliform	SM 9221B	=	23000	-	1800	MPN/100ml		FGL Env.	6/5/18	6/9/18
DW34	WK-64	6/5/18	Fecal Coliform	SM 9221B	=	230000	-	18000	MPN/100ml		FGL Env.	6/5/18	6/8/18
DW34	WK-64R	6/5/18	Fecal Coliform	SM 9221B	=	20	-	18	MPN/100ml		FGL Env.	6/5/18	6/9/18
SE65	DC-65	11/16/17	Fecal Coliform	SM 9221B	=	330000		18000	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	DC-65R	11/16/17	Fecal Coliform	SM 9221B	=	490		18	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	DC-69	11/16/17	Fecal Coliform	SM 9221B	=	94000		1800	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	WK-64	11/16/17	Fecal Coliform	SM 9221B	=	3300		180	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	WK-64R	11/16/17	Fecal Coliform	SM 9221B	=	13000		180	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE66	DC-65	3/1/18	Fecal Coliform	SM 9221B	=	4900	-	180	MPN/100ml		FGL Env.	3/1/18	3/3/18
SE66	DC-65R	3/1/18	Fecal Coliform	SM 9221B	=	220	-	18	MPN/100ml		FGL Env.	3/1/18	3/3/18
SE66	DC-69	3/1/18	Fecal Coliform	SM 9221B	=	2300	-	180	MPN/100ml		FGL Env.	3/1/18	3/4/18
SE66	WK-64	3/1/18	Fecal Coliform	SM 9221B	=	2300	-	1800	MPN/100ml		FGL Env.	3/1/18	3/5/18
SE66	WK-64R	3/1/18	Fecal Coliform	SM 9221B	=	1300	-	18	MPN/100ml		FGL Env.	3/1/18	3/4/18
SE67	DC-65	4/6/18	Fecal Coliform	SM 9221B	=	2300	-	180	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	DC-65R	4/6/18	Fecal Coliform	SM 9221B	=	4900	-	180	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	DC-69	4/6/18	Fecal Coliform	SM 9221B	=	2300	-	180	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	WK-64	4/6/18	Fecal Coliform	SM 9221B	=	79000	-	1800	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	WK-64R	4/6/18	Fecal Coliform	SM 9221B	=	45	-	18	MPN/100ml		FGL Env.	4/6/18	4/9/18
DW31	DC-46R	9/11/17	Total Coliform	SM 9221B	=	4900	-	180	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	DC-46R	9/11/17	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	DC-66	9/11/17	Total Coliform	SM 9221B	=	460000	-	18000	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	DC-66	9/11/17	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	DC-69	9/11/17	Total Coliform	SM 9221B	=	70000	-	1800	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	DC-69	9/11/17	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW31	WK-64	9/11/17	Total Coliform	SM 9221B	=	2200	-	18	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	WK-64	9/11/17	Total Coliform	SM 9223B	=	1119.9	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW31	WK-64R	9/11/17	Total Coliform	SM 9221B	=	3300	-	180	MPN/100ml		FGL Env.	9/11/17	9/14/17
DW31	WK-64R	9/11/17	Total Coliform	SM 9223B	=	1203.3	-	1	MPN/100ml		FGL Env.	9/11/17	9/12/17
DW32	DC-66	4/2/18	Total Coliform	SM 9221B	=	700000	-	18000	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	DC-66	4/2/18	Total Coliform	SM 9223B	>	24196	-	1	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW32	DC-69	4/2/18	Total Coliform	SM 9221B	=	490000	-	18000	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	DC-69	4/2/18	Total Coliform	SM 9223B	>	24196	-	10	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW32	WK-64	4/2/18	Total Coliform	SM 9221B	=	700	-	18	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	WK-64	4/2/18	Total Coliform	SM 9223B	=	1956	-	10	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW32	WK-64R	4/2/18	Total Coliform	SM 9221B	=	2200	-	180	MPN/100ml		FGL Env.	4/2/18	4/5/18
DW32	WK-64R	4/2/18	Total Coliform	SM 9223B	=	4352	-	1	MPN/100ml		FGL Env.	4/2/18	4/3/18
DW33	DC-66	4/24/18	Total Coliform	SM 9221B	=	490000	-	18000	MPN/100ml		FGL Env.	4/24/18	4/27/18
DW33	DC-66	4/24/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	4/24/18	4/25/18
DW33	DC-69	4/24/18	Total Coliform	SM 9221B	=	17000		180	MPN/100ml		FGL Environ	4/24/18	4/27/18
DW33	DC-69	4/24/18	Total Coliform	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	4/24/18	4/25/18
DW33	WK-64	4/24/18	Total Coliform	SM 9221B	=	490000		18000	MPN/100ml		FGL Environ	4/24/18	4/27/18
DW33	WK-64	4/24/18	Total Coliform	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	4/24/18	4/25/18
DW33	WK-64R	4/24/18	Total Coliform	SM 9221B	=	4900		180	MPN/100ml		FGL Environ	4/24/18	4/27/18
DW33	WK-64R	4/24/18	Total Coliform	SM 9223B	=	184.2		1	MPN/100ml		FGL Environ	4/24/18	4/25/18
DW34	DC-46R	6/5/18	Total Coliform	SM 9221B	=	1300	-	18	MPN/100ml		FGL Env.	6/5/18	6/8/18
DW34	DC-46R	6/5/18	Total Coliform	SM 9223B	=	547.5	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	DC-66	6/5/18	Total Coliform	SM 9221B	=	2200000	-	18000	MPN/100ml		FGL Env.	6/5/18	6/8/18
DW34	DC-66	6/5/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	DC-69	6/5/18	Total Coliform	SM 9221B	=	33000	-	1800	MPN/100ml		FGL Env.	6/5/18	6/9/18
DW34	DC-69	6/5/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	WK-64	6/5/18	Total Coliform	SM 9221B	=	1700000	-	18000	MPN/100ml		FGL Env.	6/5/18	6/8/18
DW34	WK-64	6/5/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
DW34	WK-64R	6/5/18	Total Coliform	SM 9221B	=	490	-	18	MPN/100ml		FGL Env.	6/5/18	6/9/18
DW34	WK-64R	6/5/18	Total Coliform	SM 9223B	=	770.1	-	1	MPN/100ml		FGL Env.	6/5/18	6/6/18
SE65	DC-65	11/16/17	Total Coliform	SM 9221B	=	4900000		180000	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	DC-65	11/16/17	Total Coliform	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	DC-65R	11/16/17	Total Coliform	SM 9221B	=	2300		180	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	DC-65R	11/16/17	Total Coliform	SM 9223B	=	980.4		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	DC-69	11/16/17	Total Coliform	SM 9221B	=	1300000		18000	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	DC-69	11/16/17	Total Coliform	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	WK-64	11/16/17	Total Coliform	SM 9221B	=	4600000		180000	MPN/100ml		FGL Environ	11/16/17	11/19/17
SE65	WK-64	11/16/17	Total Coliform	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE65	WK-64R	11/16/17	Total Coliform	SM 9221B	=	49000		1800	MPN/100ml		FGL Environ	11/16/17	11/19/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE65	WK-64R	11/16/17	Total Coliform	SM 9223B	>	2419.6		1	MPN/100ml		FGL Environ	11/16/17	11/17/17
SE66	DC-65	3/1/18	Total Coliform	SM 9221B	=	33000	-	1800	MPN/100ml		FGL Env.	3/1/18	3/3/18
SE66	DC-65	3/1/18	Total Coliform	SM 9223B	>	24196	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	DC-65R	3/1/18	Total Coliform	SM 9221B	=	23000	-	1800	MPN/100ml		FGL Env.	3/1/18	3/3/18
SE66	DC-65R	3/1/18	Total Coliform	SM 9223B	>	24196	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	DC-69	3/1/18	Total Coliform	SM 9221B	=	330000	-	18000	MPN/100ml		FGL Env.	3/1/18	3/4/18
SE66	DC-69	3/1/18	Total Coliform	SM 9223B	>	24196	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	WK-64	3/1/18	Total Coliform	SM 9221B	=	3300000	-	180000	MPN/100ml		FGL Env.	3/1/18	3/5/18
SE66	WK-64	3/1/18	Total Coliform	SM 9223B	>	24196	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE66	WK-64R	3/1/18	Total Coliform	SM 9221B	=	330000	-	18000	MPN/100ml		FGL Env.	3/1/18	3/4/18
SE66	WK-64R	3/1/18	Total Coliform	SM 9223B	>	24196	-	10	MPN/100ml		FGL Env.	3/1/18	3/2/18
SE67	DC-65	4/6/18	Total Coliform	SM 9221B	=	33000	-	1800	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	DC-65	4/6/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	DC-65R	4/6/18	Total Coliform	SM 9221B	=	33000	-	1800	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	DC-65R	4/6/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	DC-69	4/6/18	Total Coliform	SM 9221B	=	35000	-	180	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	DC-69	4/6/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	WK-64	4/6/18	Total Coliform	SM 9221B	=	230000	-	18000	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	WK-64	4/6/18	Total Coliform	SM 9223B	>	2419.6	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
SE67	WK-64R	4/6/18	Total Coliform	SM 9221B	=	1700	-	18	MPN/100ml		FGL Env.	4/6/18	4/9/18
SE67	WK-64R	4/6/18	Total Coliform	SM 9223B	=	248.1	-	1	MPN/100ml		FGL Env.	4/6/18	4/7/18
DW31	DC-46R	9/11/17	Mercury	EPA 1631E	=	1.2	0.2	0.5	ng/L		Caltest	9/19/17	9/20/17
DW31	DC-66	9/11/17	Mercury	EPA 1631E	=	2.2	0.2	0.5	ng/L		Caltest	9/19/17	9/20/17
DW31	DC-69	9/11/17	Mercury	EPA 1631E	=	1.5	0.2	0.5	ng/L		Caltest	9/19/17	9/20/17
DW31	WK-64	9/11/17	Mercury	EPA 1631E	=	1.5	0.2	0.5	ng/L		Caltest	9/19/17	9/20/17
DW31	WK-64R	9/11/17	Mercury	EPA 1631E	=	2.2	0.2	0.5	ng/L		Caltest	9/19/17	9/20/17
DW32	DC-66	4/2/18	Mercury	EPA 1631E	=	3.8	0.2	0.5	ng/L		Caltest	4/4/18	4/5/18
DW32	DC-69	4/2/18	Mercury	EPA 1631E	=	5.1	0.2	0.5	ng/L		Caltest	4/4/18	4/5/18
DW32	WK-64	4/2/18	Mercury	EPA 1631E	=	2.7	0.2	0.5	ng/L		Caltest	4/4/18	4/5/18
DW32	WK-64R	4/2/18	Mercury	EPA 1631E	=	4.7	0.2	0.5	ng/L		Caltest	4/4/18	4/5/18
DW33	DC-66	4/24/18	Mercury	EPA 1631E	=	4.7	0.2	0.5	ng/L		Caltest	5/3/18	5/4/18
DW33	DC-69	4/24/18	Mercury	EPA 1631E	=	2.1	0.2	0.5	ng/L		Caltest	5/3/18	5/4/18
DW33	WK-64	4/24/18	Mercury	EPA 1631E	=	5	0.2	0.5	ng/L		Caltest	5/3/18	5/4/18
DW33	WK-64R	4/24/18	Mercury	EPA 1631E	=	4	0.2	0.5	ng/L		Caltest	5/3/18	5/4/18
DW34	DC-46R	6/5/18	Mercury	EPA 1631E	=	1.5	0.2	0.5	ng/L		Caltest	6/13/18	6/14/18
DW34	DC-66	6/5/18	Mercury	EPA 1631E	=	7.8	0.2	0.5	ng/L		Caltest	6/13/18	6/14/18
DW34	DC-69	6/5/18	Mercury	EPA 1631E	=	2	0.2	0.5	ng/L		Caltest	6/13/18	6/14/18

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DW34	WK-64	6/5/18	Mercury	EPA 1631E	=	4.2	0.2	0.5	ng/L		Caltest	6/13/18	6/14/18
DW34	WK-64R	6/5/18	Mercury	EPA 1631E	=	2.2	0.2	0.5	ng/L		Caltest	6/13/18	6/14/18
SE65	DC-65	11/16/17	Mercury	EPA 1631E	=	12	0.2	0.5	ng/L		Caltest	11/29/17	11/30/17
SE65	DC-65R	11/16/17	Mercury	EPA 1631E	=	2.4	0.2	0.5	ng/L		Caltest	11/29/17	11/30/17
SE65	DC-69	11/16/17	Mercury	EPA 1631E	=	12	0.2	0.5	ng/L		Caltest	11/29/17	11/30/17
SE65	NE-RAIN	11/16/17	Mercury	EPA 1631E	=	5.4	0.2	0.5	ng/L		Caltest	11/30/17	12/1/17
SE65	NW-RAIN	11/16/17	Mercury	EPA 1631E	=	5.2	0.2	0.5	ng/L		Caltest	11/30/17	12/1/17
SE65	SC-RAIN	11/16/17	Mercury	EPA 1631E	=	2.4	0.2	0.5	ng/L		Caltest	11/30/17	12/1/17
SE65	WK-64	11/16/17	Mercury	EPA 1631E	=	32	0.2	0.5	ng/L		Caltest	11/29/17	11/30/17
SE65	WK-64R	11/16/17	Mercury	EPA 1631E	=	2.7	0.2	0.5	ng/L		Caltest	11/29/17	11/30/17
SE66	DC-65	3/1/18	Mercury	EPA 1631E	=	9.4	0.2	0.5	ng/L		Caltest	3/12/18	3/13/18
SE66	DC-65R	3/1/18	Mercury	EPA 1631E	=	9.5	0.2	0.5	ng/L		Caltest	3/12/18	3/13/18
SE66	DC-69	3/1/18	Mercury	EPA 1631E	=	6.1	0.2	0.5	ng/L		Caltest	3/12/18	3/13/18
SE66	NE-RAIN	3/1/18	Mercury	EPA 1631E	=	7.3	0.2	0.5	ng/L		Caltest	3/6/18	3/7/18
SE66	NW-RAIN	3/1/18	Mercury	EPA 1631E	=	4.8	0.2	0.5	ng/L		Caltest	3/6/18	3/7/18
SE66	SC-RAIN	3/1/18	Mercury	EPA 1631E	=	5.3	0.2	0.5	ng/L		Caltest	3/6/18	3/7/18
SE66	WK-64	3/1/18	Mercury	EPA 1631E	=	12	0.2	0.5	ng/L		Caltest	3/12/18	3/13/18
SE66	WK-64R	3/1/18	Mercury	EPA 1631E	=	1.3	0.2	0.5	ng/L		Caltest	3/6/18	3/7/18
SE67	DC-65	4/6/18	Mercury	EPA 1631E	=	7.9	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	DC-65R	4/6/18	Mercury	EPA 1631E	=	2.7	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	DC-69	4/6/18	Mercury	EPA 1631E	=	6.2	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	NE-RAIN	4/6/18	Mercury	EPA 1631E	=	3.3	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	NW-RAIN	4/6/18	Mercury	EPA 1631E	=	4.7	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	SC-RAIN	4/6/18	Mercury	EPA 1631E	=	4.8	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	WK-64	4/6/18	Mercury	EPA 1631E	=	10	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
SE67	WK-64R	4/6/18	Mercury	EPA 1631E	=	4.4	0.2	0.5	ng/L		Caltest	4/12/18	4/13/18
DW31	DC-46R	9/11/17	Methyl Mercury	EPA 1630	=	0.3	0.02	0.05	ng/L		Caltest	9/19/17	9/21/17
DW31	DC-66	9/11/17	Methyl Mercury	EPA 1630	=	0.08	0.02	0.05	ng/L		Caltest	9/19/17	9/21/17
DW31	DC-69	9/11/17	Methyl Mercury	EPA 1630	=	0.06	0.02	0.05	ng/L		Caltest	9/19/17	9/21/17
DW31	WK-64	9/11/17	Methyl Mercury	EPA 1630	=	0.05	0.02	0.05	ng/L		Caltest	9/19/17	9/21/17
DW31	WK-64R	9/11/17	Methyl Mercury	EPA 1630	=	0.06	0.02	0.05	ng/L		Caltest	9/19/17	9/21/17
DW32	DC-66	4/2/18	Methyl Mercury	EPA 1630	=	0.19	0.02	0.05	ng/L		Caltest	4/10/18	4/10/18
DW32	DC-69	4/2/18	Methyl Mercury	EPA 1630	=	0.18	0.02	0.05	ng/L		Caltest	4/10/18	4/10/18
DW32	WK-64	4/2/18	Methyl Mercury	EPA 1630	=	0.15	0.02	0.05	ng/L		Caltest	4/10/18	4/10/18
DW32	WK-64R	4/2/18	Methyl Mercury	EPA 1630	=	0.13	0.02	0.05	ng/L		Caltest	4/10/18	4/10/18
DW33	DC-66	4/24/18	Methyl Mercury	EPA 1630	=	0.26	0.02	0.05	ng/L		Caltest	5/8/18	5/8/18
DW33	DC-69	4/24/18	Methyl Mercury	EPA 1630	=	0.11	0.02	0.05	ng/L		Caltest	5/8/18	5/8/18

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DW33	WK-64	4/24/18	Methyl Mercury	EPA 1630	=	0.51	0.02	0.05	ng/L		Caltest	5/8/18	5/8/18
DW33	WK-64R	4/24/18	Methyl Mercury	EPA 1630	=	0.09	0.02	0.05	ng/L		Caltest	5/8/18	5/8/18
DW34	DC-46R	6/5/18	Methyl Mercury	EPA 1630	=	0.33	0.02	0.05	ng/L		Caltest	6/7/18	6/7/18
DW34	DC-66	6/5/18	Methyl Mercury	EPA 1630	=	0.86	0.02	0.05	ng/L		Caltest	6/7/18	6/7/18
DW34	DC-69	6/5/18	Methyl Mercury	EPA 1630	=	0.12	0.02	0.05	ng/L		Caltest	6/7/18	6/7/18
DW34	WK-64	6/5/18	Methyl Mercury	EPA 1630	=	0.91	0.02	0.05	ng/L		Caltest	6/7/18	6/7/18
DW34	WK-64R	6/5/18	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	6/7/18	6/7/18
SE65	DC-65	11/16/17	Methyl Mercury	EPA 1630	=	0.13	0.02	0.05	ng/L		Caltest	11/27/17	11/28/17
SE65	DC-65R	11/16/17	Methyl Mercury	EPA 1630	=	0.04	0.02	0.05	ng/L	J	Caltest	11/27/17	11/28/17
SE65	DC-69	11/16/17	Methyl Mercury	EPA 1630	=	0.11	0.02	0.05	ng/L		Caltest	11/27/17	11/28/17
SE65	NE-RAIN	11/16/17	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	12/6/17	12/7/17
SE65	NW-RAIN	11/16/17	Methyl Mercury	EPA 1630	=	0.02	0.02	0.05	ng/L	J	Caltest	12/6/17	12/7/17
SE65	SC-RAIN	11/16/17	Methyl Mercury	EPA 1630	<	0.02	0.02	0.05	ng/L	ND	Caltest	12/6/17	12/7/17
SE65	WK-64	11/16/17	Methyl Mercury	EPA 1630	=	0.13	0.02	0.05	ng/L		Caltest	11/27/17	11/28/17
SE65	WK-64R	11/16/17	Methyl Mercury	EPA 1630	=	0.04	0.02	0.05	ng/L	J	Caltest	11/27/17	11/28/17
SE66	DC-65	3/1/18	Methyl Mercury	EPA 1630	=	0.14	0.02	0.05	ng/L		Caltest	3/7/18	3/8/18
SE66	DC-65R	3/1/18	Methyl Mercury	EPA 1630	=	0.11	0.02	0.05	ng/L		Caltest	3/7/18	3/8/18
SE66	DC-69	3/1/18	Methyl Mercury	EPA 1630	=	0.21	0.02	0.05	ng/L		Caltest	3/7/18	3/8/18
SE66	NE-RAIN	3/1/18	Methyl Mercury	EPA 1630	=	0.12	0.02	0.05	ng/L		Caltest	3/8/18	3/9/18
SE66	NW-RAIN	3/1/18	Methyl Mercury	EPA 1630	=	0.1	0.02	0.05	ng/L		Caltest	3/8/18	3/9/18
SE66	SC-RAIN	3/1/18	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	3/8/18	3/9/18
SE66	WK-64	3/1/18	Methyl Mercury	EPA 1630	=	0.88	0.02	0.05	ng/L		Caltest	3/7/18	3/8/18
SE66	WK-64R	3/1/18	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	3/7/18	3/8/18
SE67	DC-65	4/6/18	Methyl Mercury	EPA 1630	=	0.1	0.02	0.05	ng/L		Caltest	4/19/18	4/19/18
SE67	DC-65R	4/6/18	Methyl Mercury	EPA 1630	=	0.1	0.02	0.05	ng/L		Caltest	4/19/18	4/19/18
SE67	DC-69	4/6/18	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	4/19/18	4/19/18
SE67	NE-RAIN	4/6/18	Methyl Mercury	EPA 1630	<	0.02	0.02	0.05	ng/L	ND	Caltest	4/19/18	4/19/18
SE67	NW-RAIN	4/6/18	Methyl Mercury	EPA 1630	=	0.03	0.02	0.05	ng/L	J	Caltest	4/19/18	4/19/18
SE67	SC-RAIN	4/6/18	Methyl Mercury	EPA 1630	=	0.04	0.02	0.05	ng/L	J	Caltest	4/19/18	4/19/18
SE67	WK-64	4/6/18	Methyl Mercury	EPA 1630	=	0.11	0.02	0.05	ng/L		Caltest	4/19/18	4/19/18
SE67	WK-64R	4/6/18	Methyl Mercury	EPA 1630	=	0.08	0.02	0.05	ng/L		Caltest	4/19/18	4/19/18
DW31	DC-66	9/11/17	Aluminum, Dissolved	200.8	<	0.1	0.1	10	ug/L	U	FGL Env.	9/13/17	9/15/17
DW32	DC-66	4/2/18	Aluminum, Dissolved	200.8	=	16.2	0.1	10	ug/L		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Aluminum, Dissolved	200.8	=	10	0.1	10	ug/L	J	FGL Environ	4/26/17	4/26/18
DW34	DC-66	6/5/18	Aluminum, Dissolved	200.8	=	20.5	0.1	10	ug/L		FGL Env.	6/16/17	6/16/18
SE65	DC-65	11/16/17	Aluminum, Dissolved	200.8	=	94	0.071	10	ug/L		FGL Environ	11/28/17	11/28/17
SE65	DC-65R	11/16/17	Aluminum, Dissolved	200.8	=	4.08	0.071	10	ug/L	J	FGL Environ	11/28/17	11/28/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE66	DC-65	3/1/18	Aluminum, Dissolved	200.8	=	32.2	0.1	10	ug/L		FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Aluminum, Dissolved	200.8	=	16.8	0.1	10	ug/L		FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Aluminum, Dissolved	200.8	=	41.8	0.1	10	ug/L		FGL Env.	4/11/18	4/11/18
SE67	DC-65R	4/6/18	Aluminum, Dissolved	200.8	=	5.82	0.1	10	ug/L	J	FGL Env.	4/13/18	4/13/18
DW31	DC-66	9/11/17	Aluminum, Total	200.8	=	55.9	0.05	10	ug/L	I	FGL Env.	9/18/17	9/19/17
DW32	DC-66	4/2/18	Aluminum, Total	200.8	=	313	0.05	10	ug/L	P	FGL Env.	4/4/18	4/5/18
DW33	DC-66	4/24/18	Aluminum, Total	200.8	=	265	0.05	10	ug/L	hP	FGL Env.	4/26/17	4/27/18
DW34	DC-66	6/5/18	Aluminum, Total	200.8	=	14.3	0.05	10	ug/L		FGL Env.	6/21/17	6/29/18
SE65	DC-65	11/16/17	Aluminum, Total	200.8	=	2450	0.05	100	ug/L		FGL Environ	11/28/17	12/1/17
SE65	DC-65R	11/16/17	Aluminum, Total	200.8	=	2140	0.05	100	ug/L	P	FGL Environ	11/21/17	11/27/17
SE66	DC-65	3/1/18	Aluminum, Total	200.8	=	1640	0.05	50	ug/L	P	FGL Env.	3/6/18	3/7/18
SE66	DC-65R	3/1/18	Aluminum, Total	200	=	1870	8.5	100	ug/L		FGL Env.	3/20/18	3/20/18
SE67	DC-65	4/6/18	Aluminum, Total	200.8	=	2380	0.05	100	ug/L	P	FGL Env.	4/16/18	4/19/18
SE67	DC-65R	4/6/18	Aluminum, Total	200.8	=	818	0.05	20	ug/L	P	FGL Env.	4/16/18	4/19/18
DW31	DC-66	9/11/17	Copper, Dissolved	200.8	=	3.46	0.066	1	ug/L		FGL Env.	9/13/17	9/15/17
DW32	DC-66	4/2/18	Copper, Dissolved	200.8	=	3.9	0.066	1	ug/L		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Copper, Dissolved	200.8	=	4.39	0.066	1	ug/L	h	FGL Env.	4/26/17	4/26/18
DW34	DC-66	6/5/18	Copper, Dissolved	200.8	=	2.69	0.066	1	ug/L		FGL Env.	6/16/17	6/16/18
SE65	DC-65	11/16/17	Copper, Dissolved	200.8	=	5.48	0.038	1	ug/L	1	FGL Environ	11/28/17	11/28/17
SE65	DC-65R	11/16/17	Copper, Dissolved	200.8	=	2.09	0.038	1	ug/L	1	FGL Environ	11/28/17	11/28/17
SE66	DC-65	3/1/18	Copper, Dissolved	200.8	=	6.7	0.066	1	ug/L	1	FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Copper, Dissolved	200.8	=	3.48	0.066	1	ug/L	1	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Copper, Dissolved	200.8	=	4.57	0.066	1	ug/L		FGL Env.	4/13/18	4/13/18
SE67	DC-65R	4/6/18	Copper, Dissolved	200.8	=	2.46	0.066	1	ug/L		FGL Env.	4/13/18	4/13/18
DW31	DC-66	9/11/17	Copper, Total	200.8	=	5.07	0.071	1	ug/L		FGL Env.	9/18/17	9/19/17
DW32	DC-66	4/2/18	Copper, Total	200.8	=	8.18	0.071	1	ug/L	IhP	FGL Env.	4/4/18	4/5/18
DW33	DC-66	4/24/18	Copper, Total	200.8	=	10.3	0.071	1	ug/L	hP	FGL Env.	4/26/17	4/27/18
DW34	DC-66	6/5/18	Copper, Total	200.8	=	9.17	0.071	1	ug/L		FGL Env.	6/21/17	6/29/18
SE65	DC-65	11/16/17	Copper, Total	200.8	=	18.8	0.071	1	ug/L	P	FGL Environ	11/28/17	11/29/17
SE65	DC-65R	11/16/17	Copper, Total	200.8	=	5.34	0.071	1	ug/L	1	FGL Environ	11/21/17	11/23/17
SE66	DC-65	3/1/18	Copper, Total	200.8	=	12.7	0.071	1	ug/L	hP	FGL Env.	3/6/18	3/6/18
SE66	DC-65R	3/1/18	Copper, Total	200.8	=	7.26	0.071	1	ug/L	1P	FGL Env.	3/20/18	3/22/18
SE67	DC-65	4/6/18	Copper, Total	200.8	=	9.14	0.071	2	ug/L		FGL Env.	4/16/18	4/19/18
SE67	DC-65R	4/6/18	Copper, Total	200.8	=	5.05	0.071	2	ug/L		FGL Env.	4/16/18	4/19/18
DW31	DC-66	9/11/17	Iron, Total	200.7	=	614	0.97	50	ug/L		FGL Env.	9/13/17	9/15/17
DW32	DC-66	4/2/18	Iron, Total	200.7	=	957	0.97	50	ug/L		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Iron, Total	200.7	=	746	1.4	50	ug/L		FGL Env.	4/26/17	4/29/18

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DW34	DC-66	6/5/18	Iron, Total	200.7	=	2110	1.4	50	ug/L		FGL Env.	6/21/17	6/27/18
SE65	DC-65	11/16/17	Iron, Total	200.7	=	3640	0.97	50	ug/L		FGL Environ	11/28/17	11/28/17
SE65	DC-65R	11/16/17	Iron, Total	200.7	=	1960	0.97	50	ug/L		FGL Environ	11/21/17	11/27/17
SE66	DC-65	3/1/18	Iron, Total	200.7	=	1210	0.97	50	ug/L		FGL Env.	3/6/18	3/7/18
SE66	DC-65R	3/1/18	Iron, Total	200.7	=	1860	0.97	50	ug/L		FGL Env.	3/20/18	3/20/18
SE67	DC-65	4/6/18	Iron, Total	200.7	=	2170	1.4	50	ug/L		FGL Env.	4/16/18	4/17/18
SE67	DC-65R	4/6/18	Iron, Total	200.7	=	1120	1.4	50	ug/L		FGL Env.	4/16/18	4/18/18
DW31	DC-66	9/11/17	Lead, Dissolved	200.8	<	0.015	0.015	0.2	ug/L	U	FGL Env.	9/13/17	9/15/17
DW32	DC-66	4/2/18	Lead, Dissolved	200.8	=	0.24	0.015	0.2	ug/L	J	FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Lead, Dissolved	200.8	=	0.153	0.015	0.2	ug/L	Jh	FGL Env.	4/26/17	4/26/18
DW34	DC-66	6/5/18	Lead, Dissolved	200.8	=	0.511	0.015	0.2	ug/L		FGL Env.	6/16/17	6/16/18
SE65	DC-65	11/16/17	Lead, Dissolved	200.8	=	0.294	0.036	0.2	ug/L	J	FGL Environ	11/28/17	11/28/17
SE65	DC-65R	11/16/17	Lead, Dissolved	200.8	<	0.036	0.036	0.2	ug/L	U, ND	FGL Environ	11/28/17	11/28/17
SE66	DC-65	3/1/18	Lead, Dissolved	200.8	=	0.057	0.015	0.2	ug/L	J1	FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Lead, Dissolved	200.8	=	0.069	0.015	0.2	ug/L	J1	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Lead, Dissolved	200.8	=	0.046	0.015	0.2	ug/L	J	FGL Env.	4/11/18	4/11/18
SE67	DC-65R	4/6/18	Lead, Dissolved	200.8	=	0.111	0.015	0.2	ug/L	J	FGL Env.	4/13/18	4/13/18
DW31	DC-66	9/11/17	Lead, Total	200.8	=	0.466	0.013	0.2	ug/L		FGL Env.	9/18/17	9/19/17
DW32	DC-66	4/2/18	Lead, Total	200.8	=	1.14	0.013	0.2	ug/L	hP	FGL Env.	4/4/18	4/5/18
DW33	DC-66	4/24/18	Lead, Total	200.8	=	1.77	0.013	0.2	ug/L	hP	FGL Env.	4/26/17	4/27/18
DW34	DC-66	6/5/18	Lead, Total	200.8	=	2.28	0.013	0.2	ug/L		FGL Env.	6/21/17	6/29/18
SE65	DC-65	11/16/17	Lead, Total	200.8	=	2.66	0.013	0.2	ug/L		FGL Environ	11/28/17	11/29/17
SE65	DC-65R	11/16/17	Lead, Total	200.8	=	2.43	0.013	0.2	ug/L		FGL Environ	11/21/17	11/23/17
SE66	DC-65	3/1/18	Lead, Total	200.8	=	1.44	0.013	0.2	ug/L	hP	FGL Env.	3/6/18	3/6/18
SE66	DC-65R	3/1/18	Lead, Total	200.8	=	2.8	0.013	0.2	ug/L	hP	FGL Env.	3/20/18	3/22/18
SE67	DC-65	4/6/18	Lead, Total	200.8	=	2.1	0.013	0.4	ug/L		FGL Env.	4/16/18	4/19/18
SE67	DC-65R	4/6/18	Lead, Total	200.8	=	2.29	0.013	0.4	ug/L		FGL Env.	4/16/18	4/19/18
DW31	DC-66	9/11/17	Zinc, Total	200.8	=	38.5	0.1	10	ug/L	lP	FGL Env.	9/18/17	9/20/17
DW32	DC-66	4/2/18	Zinc, Total	200.8	=	70.6	0.1	10	ug/L	P	FGL Env.	4/4/18	4/5/18
DW33	DC-66	4/24/18	Zinc, Total	200.8	=	36.7	0.1	10	ug/L	P	FGL Env.	4/26/17	4/27/18
DW34	DC-66	6/5/18	Zinc, Total	200.8	=	58.7	0.1	10	ug/L	hP	FGL Env.	6/21/17	6/29/18
SE65	DC-65	11/16/17	Zinc, Total	200.8	=	228	0.1	10	ug/L		FGL Environ	11/28/17	11/29/17
SE65	DC-65R	11/16/17	Zinc, Total	200.8	=	19.4	0.1	10	ug/L		FGL Environ	11/21/17	11/23/17
SE66	DC-65	3/1/18	Zinc, Total	200.8	=	90.6	0.1	10	ug/L	1P	FGL Env.	3/6/18	3/6/18
SE66	DC-65R	3/1/18	Zinc, Total	200.8	=	42.1	0.1	10	ug/L	1	FGL Env.	3/20/18	3/22/18
SE67	DC-65	4/6/18	Zinc, Total	200.8	=	107	0.1	20	ug/L		FGL Env.	4/16/18	4/19/18
SE67	DC-65R	4/6/18	Zinc, Total	200.8	=	24.7	0.1	20	ug/L		FGL Env.	4/16/18	4/19/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW31	DC-46R	9/11/17	Chlorpyrifos	EPA 8270M_NCI	=	2.9	0.5	1	ng/L		Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Chlorpyrifos	EPA 8270M_NCI	=	1.2	0.5	1	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Chlorpyrifos	EPA 8270M_NCI	=	0.7	0.6	1.2	ng/L	J	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Chlorpyrifos	EPA 8270M_NCI	=	3.4	0.6	1.1	ng/L		Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Chlorpyrifos	EPA 8270M_NCI	=	1.2	0.6	1.1	ng/L		Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Chlorpyrifos	EPA 8270M_NCI	=	7.5	0.5	1	ng/L		Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Chlorpyrifos	EPA 8270M_NCI	=	0.8	0.6	1.1	ng/L	J	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Chlorpyrifos	EPA 8270M_NCI	=	1.1	1	2	ng/L	J	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Chlorpyrifos	EPA 8270M_NCI	=	0.7	0.5	1	ng/L	J	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Chlorpyrifos	EPA 8270M_NCI	=	4.7	1	2	ng/L		Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Chlorpyrifos	EPA 8270M_NCI	<	1	1	2	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Chlorpyrifos	EPA 8270M_NCI	=	0.6	0.5	1	ng/L	J,1	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Chlorpyrifos	EPA 8270M_NCI	<	2	2	5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Chlorpyrifos	EPA 8270M_NCI	<	1	1	2	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Chlorpyrifos	EPA 8270M_NCI	=	4.1	0.6	1.2	ng/L		Caltest	6/8/18	7/11/18
DW34	WK-64R	6/5/18	Chlorpyrifos	EPA 8270M_NCI	=	0.6	0.5	1	ng/L	J	Caltest	6/8/18	7/11/18
SE65	DC-65	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	1.4	1	2	ng/L	J	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	4.1	0.5	1	ng/L		Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	29	0.5	1	ng/L		Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	5.1	0.5	1	ng/L		Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	0.6	0.5	1	ng/L	J	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	1.6	0.6	1.2	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Chlorpyrifos	EPA 8270M_NCI	=	0.7	0.6	1.2	ng/L	J	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	1.4	0.5	1	ng/L		Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	1.5	0.5	1	ng/L		Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	1.6	0.6	1.1	ng/L		Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	6.0	0.5	1	ng/L		Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	8.7	0.5	1	ng/L		Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	4.2	0.5	1	ng/L		Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	7.8	0.5	1	ng/L		Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Chlorpyrifos	EPA 8270M_NCI	=	1.7	0.5	1	ng/L		Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	3.5	0.5	1	ng/L		Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	1.8	1	2.2	ng/L	J	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	4.8	0.5	1	ng/L		Caltest	4/9/18	4/24/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE67	NE-RAIN	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	0.9	0.5	1	ng/L	J	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	3.8	0.5	1	ng/L		Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	9.5	0.5	1	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Chlorpyrifos	EPA 8270M_NCI	=	8.7	0.5	1	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Chlorpyrifos	EPA 8270M_NCI	<	1	1	2	ng/L	ND	Caltest	4/9/18	5/2/18
SE65	NE-RAIN	11/16/17	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NW-RAIN	11/16/17	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE66	NE-RAIN	3/1/18	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Diazinon	EPA 8270M_NCI	=	6.7	0.1	0.5	ng/L		Caltest	3/2/18	3/7/18
SE67	NE-RAIN	4/6/18	Diazinon	EPA 8270M_NCI	=	2.8	0.1	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Diazinon	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
DW31	DC-46R	9/11/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 2	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 1	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 1	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 1	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND, 1	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND, 1	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND, 1	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Allethrin	EPA 8270M_NCI	<	0.5	0.5	2.5	ng/L	ND, 2	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND,2	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 3	Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND, 1	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE65	SC-RAIN	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 2	Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 2	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 1	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND, 1	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND, 2, 1	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Allethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND, 1	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Bifenthrin	EPA 8270M_NCI	=	0.6	0.1	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Bifenthrin	EPA 8270M_NCI	=	6.9	0.1	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Bifenthrin	EPA 8270M_NCI	=	1.3	0.1	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Bifenthrin	EPA 8270M_NCI	=	4	0.1	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Bifenthrin	EPA 8270M_NCI	=	1	0.1	0.6	ng/L		Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Bifenthrin	EPA 8270M_NCI	=	1.5	0.1	0.5	ng/L		Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Bifenthrin	EPA 8270M_NCI	=	0.7	0.1	0.6	ng/L		Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Bifenthrin	EPA 8270M_NCI	=	5.2	0.2	1	ng/L		Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Bifenthrin	EPA 8270M_NCI	=	3.9	0.2	1	ng/L		Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Bifenthrin	EPA 8270M_NCI	=	0.6	0.2	1	ng/L	J	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Bifenthrin	EPA 8270M_NCI	=	3.2	0.5	2.5	ng/L		Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Bifenthrin	EPA 8270M_NCI	=	0.7	0.2	1	ng/L	J	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Bifenthrin	EPA 8270M_NCI	=	14	0.1	0.6	ng/L		Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	6/8/18	6/21/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE65	DC-65	11/16/17	Bifenthrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Bifenthrin	EPA 8270M_NCI	=	13	0.1	0.5	ng/L		Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Bifenthrin	EPA 8270M_NCI	=	1.4	0.1	0.5	ng/L		Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Bifenthrin	EPA 8270M_NCI	=	0.5	0.1	0.5	ng/L		Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Bifenthrin	EPA 8270M_NCI	=	0.6	0.1	0.5	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Bifenthrin	EPA 8270M_NCI	=	22	0.1	0.6	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Bifenthrin	EPA 8270M_NCI	=	1.2	0.1	0.6	ng/L		Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Bifenthrin	EPA 8270M_NCI	=	3	0.1	0.5	ng/L		Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Bifenthrin	EPA 8270M_NCI	=	1.9	0.1	0.6	ng/L		Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Bifenthrin	EPA 8270M_NCI	=	0.5	0.1	0.6	ng/L	J	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Bifenthrin	EPA 8270M_NCI	=	1.4	0.1	0.5	ng/L		Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Bifenthrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Bifenthrin	EPA 8270M_NCI	=	4.7	0.1	0.5	ng/L		Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Bifenthrin	EPA 8270M_NCI	=	2.4	0.1	0.5	ng/L		Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Bifenthrin	EPA 8270M_NCI	=	4	0.1	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Bifenthrin	EPA 8270M_NCI	=	2.2	0.2	1.1	ng/L		Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Bifenthrin	EPA 8270M_NCI	=	2.5	0.1	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Bifenthrin	EPA 8270M_NCI	=	0.2	0.1	0.5	ng/L	J	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Bifenthrin	EPA 8270M_NCI	=	0.5	0.1	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Bifenthrin	EPA 8270M_NCI	=	0.5	0.1	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Bifenthrin	EPA 8270M_NCI	=	34	0.1	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Bifenthrin	EPA 8270M_NCI	=	0.9	0.2	1	ng/L	J	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Cyfluthrin	EPA 8270M_NCI	=	0.6	0.2	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Cyfluthrin	EPA 8270M_NCI	=	0.4	0.4	1	ng/L	J	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Cyfluthrin	EPA 8270M_NCI	=	0.3	0.2	0.5	ng/L	J	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/2/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW34	DC-46R	6/5/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Cyfluthrin	EPA 8270M_NCI	<	1	1	2.5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Cyfluthrin	EPA 8270M_NCI	=	1	0.2	0.6	ng/L		Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-65R	11/16/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Cyfluthrin	EPA 8270M_NCI	=	0.6	0.2	0.5	ng/L		Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Cyfluthrin	EPA 8270M_NCI	=	12	0.2	0.6	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Cyfluthrin	EPA 8270M_NCI	=	0.3	0.2	0.6	ng/L	J	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Cyfluthrin	EPA 8270M_NCI	=	0.4	0.2	0.5	ng/L	J	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Cyfluthrin	EPA 8270M_NCI	=	0.4	0.2	0.5	ng/L	J	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	1.1	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Cyfluthrin	EPA 8270M_NCI	=	1.5	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Cyfluthrin	EPA 8270M_NCI	=	1.8	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Cypermethrin	EPA 8270M_NCI	=	3	0.2	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Cypermethrin	EPA 8270M_NCI	=	1	0.2	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Cypermethrin	EPA 8270M_NCI	=	0.5	0.2	0.5	ng/L		Caltest	4/4/18	4/7/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW32	WK-64R	4/2/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Cypermethrin	EPA 8270M_NCI	=	2.2	0.4	1	ng/L		Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Cypermethrin	EPA 8270M_NCI	=	0.2	0.2	0.5	ng/L	J	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Cypermethrin	EPA 8270M_NCI	=	1	0.4	1	ng/L		Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Cypermethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Cypermethrin	EPA 8270M_NCI	=	1.7	1	2.5	ng/L	J	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Cypermethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Cypermethrin	EPA 8270M_NCI	=	2.3	0.2	0.6	ng/L		Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-65R	11/16/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Cypermethrin	EPA 8270M_NCI	=	2.8	0.2	0.5	ng/L		Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Cypermethrin	EPA 8270M_NCI	=	0.2	0.2	0.5	ng/L	J	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Cypermethrin	EPA 8270M_NCI	=	13	0.2	0.6	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Cypermethrin	EPA 8270M_NCI	=	0.6	0.2	0.6	ng/L	J	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Cypermethrin	EPA 8270M_NCI	=	0.3	0.2	0.6	ng/L	J	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Cypermethrin	EPA 8270M_NCI	=	1.5	0.2	0.5	ng/L		Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Cypermethrin	EPA 8270M_NCI	=	0.8	0.2	0.5	ng/L		Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Cypermethrin	EPA 8270M_NCI	=	0.6	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Cypermethrin	EPA 8270M_NCI	<	0.4	0.4	1.1	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Cypermethrin	EPA 8270M_NCI	=	0.6	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Cypermethrin	EPA 8270M_NCI	=	3.6	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Cypermethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW31	WK-64	9/11/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.2	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	1	1	5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.2	ng/L	ND	Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	=	4.4	0.2	1.2	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.2	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2.2	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	=	3.8	0.2	1	ng/L		Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE67	WK-64	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	1.5	0.2	1	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1.2	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.2	0.2	1	ng/L	J	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	1.3	0.4	2	ng/L	J	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.4	0.2	1	ng/L	J	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.4	0.4	2	ng/L	J	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	1	1	5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	1.6	0.2	1.2	ng/L		Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.4	0.2	1	ng/L	J	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	2.7	0.2	1.2	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1.2	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1.1	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.3	0.2	1.1	ng/L	J	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.7	0.2	1	ng/L	J	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.8	0.2	1	ng/L	J	Caltest	4/9/18	4/24/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE67	DC-65R	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	2.2	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.5	0.2	1	ng/L	J	Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	=	0.5	0.2	1	ng/L	J	Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	2	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND, 1	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Fenpropathrin	EPA 8270M_NCI	=	0.5	0.2	0.5	ng/L	1	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND, 1	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND, 1	Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND, 1	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Fenpropathrin	EPA 8270M_NCI	<	1	1	2.5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/7/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE66	NW-RAIN	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1.1	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Fenpropathrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.2	0.2	0.5	ng/L	J	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Lambda-Cyhalothrin	EPA 8270M_NCI	=	1.3	0.2	0.5	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.4	0.4	1	ng/L	J	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.8	0.2	0.5	ng/L		Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	2.8	0.4	1	ng/L		Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	1	1	2.5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	1	0.2	0.6	ng/L		Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.3	0.2	0.5	ng/L	J	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	=	2.8	0.2	0.6	ng/L		Caltest	11/17/17	12/10/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE65	WK-64R	11/16/17	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	1.2	0.2	0.5	ng/L		Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.3	0.2	0.6	ng/L	J	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.4	0.2	0.5	ng/L	J	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	2.1	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.4	0.4	1.1	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	0.6	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	=	3.7	0.2	0.5	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Permethrin	EPA 8270M_NCI	=	47	2	10	ng/L		Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Permethrin	EPA 8270M_NCI	<	2	2	12	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Permethrin	EPA 8270M_NCI	<	2	2	11	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Permethrin	EPA 8270M_NCI	<	2	2	11	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Permethrin	EPA 8270M_NCI	=	34	2	10	ng/L		Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Permethrin	EPA 8270M_NCI	<	2	2	11	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Permethrin	EPA 8270M_NCI	=	15	4	20	ng/L	J	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Permethrin	EPA 8270M_NCI	<	4	4	20	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Permethrin	EPA 8270M_NCI	<	4	4	20	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Permethrin	EPA 8270M_NCI	<	10	10	25	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Permethrin	EPA 8270M_NCI	<	4	4	10	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Permethrin	EPA 8270M_NCI	=	99	2	12	ng/L		Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Permethrin	EPA 8270M_NCI	<	4	4	20	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	11/17/17	12/10/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE65	DC-69	11/16/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Permethrin	EPA 8270M_NCI	=	4.1	2	10	ng/L	J	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Permethrin	EPA 8270M_NCI	=	450	2	12	ng/L		Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Permethrin	EPA 8270M_NCI	<	2	2	12	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	11	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	11	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Permethrin	EPA 8270M_NCI	=	84	2	10	ng/L		Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Permethrin	EPA 8270M_NCI	<	4	4	22	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Permethrin	EPA 8270M_NCI	=	320	2	10	ng/L		Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Permethrin	EPA 8270M_NCI	<	4	4	20	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	DC-69	4/24/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/8/18
DW33	WK-64R	4/24/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Tau-Fluvalinate	EPA 8270M_NCI	<	1	1	2.5	ng/L	ND	Caltest	6/8/18	7/11/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW34	DC-69	6/5/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1.1	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Tau-Fluvalinate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-46R	9/11/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-66	9/11/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	DC-69	9/11/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64	9/11/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	9/14/17	10/12/17
DW31	WK-64R	9/11/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	9/14/17	10/12/17
DW32	DC-66	4/2/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	DC-69	4/2/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64	4/2/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/4/18	4/7/18
DW32	WK-64R	4/2/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	4/4/18	4/7/18
DW33	DC-66	4/24/18	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/8/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW33	DC-69	4/24/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/27/18	5/2/18
DW33	WK-64	4/24/18	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/9/18
DW33	WK-64R	4/24/18	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/27/18	5/2/18
DW34	DC-46R	6/5/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	7/10/18
DW34	DC-66	6/5/18	Tetramethrin	EPA 8270M_NCI	<	1	1	2.5	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	DC-69	6/5/18	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	6/8/18	7/11/18
DW34	WK-64	6/5/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	6/8/18	6/21/18
DW34	WK-64R	6/5/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	6/8/18	6/21/18
SE65	DC-65	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	11/17/17	12/14/17
SE65	DC-65R	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	DC-69	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	NE-RAIN	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/11/17
SE65	NW-RAIN	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	SC-RAIN	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE65	WK-64R	11/16/17	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	11/17/17	12/10/17
SE66	DC-65	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-65R	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	DC-69	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	NE-RAIN	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.6	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	NW-RAIN	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	SC-RAIN	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/7/18
SE66	WK-64	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE66	WK-64R	3/1/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	3/2/18	3/6/18
SE67	DC-65	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	DC-65R	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1.1	ng/L	ND	Caltest	4/9/18	5/2/18
SE67	DC-69	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NE-RAIN	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	NW-RAIN	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	SC-RAIN	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L	ND	Caltest	4/9/18	4/24/18
SE67	WK-64R	4/6/18	Tetramethrin	EPA 8270M_NCI	<	0.4	0.4	1	ng/L	ND	Caltest	4/9/18	5/2/18
DW31	DC-66	9/11/17	Alkalinity (as CaCO3)	2320B	=	80	1.1	10	mg/L		FGL Env.	9/14/17	9/14/17
DW32	DC-66	4/2/18	Alkalinity (as CaCO3)	2320B	=	47.1	1.1	10	mg/L		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Alkalinity (as CaCO3)	2320B	=	31	1.1	10	mg/L		FGL Env.	4/25/18	4/25/18
DW34	DC-66	6/5/18	Alkalinity (as CaCO3)	2320B	=	41.7	1.1	10	mg/L	I	FGL Env.	6/8/18	6/8/18
SE65	DC-65	11/16/17	Alkalinity (as CaCO3)	2320B	=	50.3	1.1	10	mg/L		FGL Environ	11/21/17	11/21/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE65	DC-65R	11/16/17	Alkalinity (as CaCO3)	2320B	=	50.4	1.1	10	mg/L		FGL Environ	11/20/17	11/21/17
SE66	DC-65	3/1/18	Alkalinity (as CaCO3)	2320B	=	20.6	1.1	10	mg/L		FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Alkalinity (as CaCO3)	2320B	=	26	1.1	10	mg/L		FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Alkalinity (as CaCO3)	2320B	=	17.7	1.1	10	mg/L		FGL Env.	4/10/18	4/10/18
SE67	DC-65R	4/6/18	Alkalinity (as CaCO3)	2320B	=	53.1	1.1	10	mg/L		FGL Env.	4/10/18	4/10/18
DW31	DC-66	9/11/17	Ammonia Nitrogen	4500NO3F	=	0.315	0.072	0.2	mg/L	h	FGL Env.	9/13/17	9/14/17
DW32	DC-66	4/2/18	Ammonia Nitrogen	4500NH3G	=	0.413	0.072	0.2	mg/L		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Ammonia Nitrogen	4500NH3G	=	0.336	0.072	0.2	mg/L		FGL Env.	4/26/17	4/26/18
DW34	DC-66	6/5/18	Ammonia Nitrogen	4500NH3G	=	1.32	0.072	0.2	mg/L		FGL Env.	6/19/17	6/19/18
SE65	DC-65	11/16/17	Ammonia Nitrogen	4500NH3G	=	1.89	0.072	0.2	mg/L		FGL Environ	11/20/17	11/20/17
SE65	DC-65R	11/16/17	Ammonia Nitrogen	4500NH3G	<	0.072	0.072	0.2	mg/L	U, ND	FGL Environ	11/22/17	11/22/17
SE66	DC-65	3/1/18	Ammonia Nitrogen	4500NH3G	=	1.01	0.072	0.2	mg/L		FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Ammonia Nitrogen	4500NH3G	<	0.072	0.072	0.2	mg/L	U, ND	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Ammonia Nitrogen	4500NH3G	=	0.337	0.072	0.2	mg/L	h	FGL Env.	4/10/18	4/10/18
SE67	DC-65R	4/6/18	Ammonia Nitrogen	4500NH3G	<	0.072	0.072	0.2	mg/L	Uh, ND	FGL Env.	4/10/18	4/10/18
DW31	DC-66	9/11/17	Bicarbonate	2320B	=	97.6	1.1	10	mg/L		FGL Env.	9/14/17	9/14/17
DW32	DC-66	4/2/18	Bicarbonate	2320B	=	57.3	1.1	10	mg/L		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Bicarbonate	2320B	=	37.8	1.1	10	mg/L		FGL Env.	4/25/18	4/25/18
DW34	DC-66	6/5/18	Bicarbonate	2320B	=	50.8	1.1	10	mg/L	I	FGL Env.	6/8/18	6/8/18
SE65	DC-65	11/16/17	Bicarbonate	2320B	=	61.5	1.1	10	mg/L		FGL Environ	11/21/17	11/21/17
SE65	DC-65R	11/16/17	Bicarbonate	2320B	=	61.5	1.1	10	mg/L		FGL Environ	11/20/17	11/21/17
SE66	DC-65	3/1/18	Bicarbonate	2320B	=	25.1	1.1	10	mg/L		FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Bicarbonate	2320B	=	31.7	1.1	10	mg/L		FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Bicarbonate	2320B	=	21.7	1.1	10	mg/L		FGL Env.	4/10/18	4/10/18
SE67	DC-65R	4/6/18	Bicarbonate	2320B	=	64.9	1.1	10	mg/L		FGL Env.	4/10/18	4/10/18
DW31	DC-46R	9/11/17	BOD	5210B	=	2.6	0.19	2	mg/L	I	FGL Env.	9/11/17	9/16/17
DW31	DC-66	9/11/17	BOD	5210B	=	2.7	0.19	2	mg/L	I	FGL Env.	9/11/17	9/16/17
DW31	DC-69	9/11/17	BOD	5210B	=	2.8	0.19	2	mg/L	I	FGL Env.	9/11/17	9/16/17
DW31	WK-64	9/11/17	BOD	5210B	=	3	0.19	2	mg/L	I	FGL Env.	9/11/17	9/16/17
DW31	WK-64R	9/11/17	BOD	5210B	=	1.6	0.19	2	mg/L	JI	FGL Env.	9/11/17	9/16/17
DW32	DC-66	4/2/18	BOD	5210B	=	13.7	0.19	4.3	mg/L		FGL Env.	4/2/18	4/7/18
DW32	DC-69	4/2/18	BOD	5210B	=	7.17	0.19	4.3	mg/L		FGL Env.	4/2/18	4/7/18
DW32	WK-64	4/2/18	BOD	5210B	=	3.2	0.19	2	mg/L		FGL Env.	4/2/18	4/7/18
DW32	WK-64R	4/2/18	BOD	5210B	=	2.4	0.19	2	mg/L		FGL Env.	4/2/18	4/7/18
DW33	DC-66	4/24/18	BOD	5210B	=	6.5	0.19	2	mg/L		FGL Env.	4/25/18	4/30/18
DW33	DC-69	4/24/18	BOD	5210B	=	4.2	0.19	2	mg/L		FGL Environ	4/25/18	4/30/18
DW33	WK-64	4/24/18	BOD	5210B	=	8.26	0.19	4.3	mg/L		FGL Environ	4/25/18	4/30/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW33	WK-64R	4/24/18	BOD	5210B	=	1.7	0.19	2	mg/L	J	FGL Environ	4/25/18	4/30/18
DW34	DC-46R	6/5/18	BOD	5210B	=	2.2	0.19	2	mg/L	I	FGL Env.	6/6/18	6/11/18
DW34	DC-66	6/5/18	BOD	5210B	=	66.5	0.19	32	mg/L	I	FGL Env.	6/6/18	6/11/18
DW34	DC-69	6/5/18	BOD	5210B	=	2.6	0.19	2	mg/L	I	FGL Env.	6/6/18	6/11/18
DW34	WK-64	6/5/18	BOD	5210B	=	28.6	0.19	8.7	mg/L	I	FGL Env.	6/6/18	6/11/18
DW34	WK-64R	6/5/18	BOD	5210B	=	2.2	0.19	2	mg/L	I	FGL Env.	6/6/18	6/11/18
SE65	DC-65	11/16/17	BOD	5210B	=	33.5	0.19	17	mg/L		FGL Environ	11/17/17	11/22/17
SE65	DC-65R	11/16/17	BOD	5210B	=	2.5	0.19	2	mg/L		FGL Environ	11/17/17	11/22/17
SE65	DC-69	11/16/17	BOD	5210B	=	14.8	0.19	4.3	mg/L		FGL Environ	11/17/17	11/22/17
SE65	WK-64	11/16/17	BOD	5210B	=	34.7	0.19	17	mg/L		FGL Environ	11/17/17	11/22/17
SE65	WK-64R	11/16/17	BOD	5210B	=	2.8	0.19	2	mg/L		FGL Environ	11/17/17	11/22/17
SE66	DC-65	3/1/18	BOD	5210B	=	2.1	0.19	2	mg/L	I	FGL Env.	3/1/18	3/6/18
SE66	DC-65R	3/1/18	BOD	5210B	=	4.6	0.19	2	mg/L	I	FGL Env.	3/1/18	3/6/18
SE66	DC-69	3/1/18	BOD	5210B	=	10.3	0.19	4.3	mg/L	I	FGL Env.	3/1/18	3/6/18
SE66	WK-64	3/1/18	BOD	5210B	=	9.4	0.19	4.3	mg/L	I	FGL Env.	3/1/18	3/6/18
SE66	WK-64R	3/1/18	BOD	5210B	=	2.7	0.19	2	mg/L	I	FGL Env.	3/1/18	3/6/18
SE67	DC-65	4/6/18	BOD	5210B	=	10.1	0.19	4.3	mg/L	I	FGL Env.	4/6/18	4/11/18
SE67	DC-65R	4/6/18	BOD	5210B	=	3.3	0.19	2	mg/L	I	FGL Env.	4/6/18	4/11/18
SE67	DC-69	4/6/18	BOD	5210B	=	4.9	0.19	2	mg/L		FGL Env.	4/6/18	4/11/18
SE67	WK-64	4/6/18	BOD	5210B	=	20.2	0.19	8.7	mg/L		FGL Env.	4/6/18	4/11/18
SE67	WK-64R	4/6/18	BOD	5210B	=	2.6	0.19	2	mg/L	I	FGL Env.	4/6/18	4/11/18
DW31	DC-66	9/11/17	Carbonate	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	9/14/17	9/14/17
DW32	DC-66	4/2/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	4/25/18	4/25/18
DW34	DC-66	6/5/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	6/8/18	6/8/18
SE65	DC-65	11/16/17	Carbonate	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Environ	11/21/17	11/21/17
SE65	DC-65R	11/16/17	Carbonate	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Environ	11/20/17	11/21/17
SE66	DC-65	3/1/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	4/10/18	4/10/18
SE67	DC-65R	4/6/18	Carbonate	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	4/10/18	4/10/18
DW31	DC-66	9/11/17	COD	5220D	=	20.2	4.4	20	mg/L		FGL Env.	9/19/17	9/19/17
DW32	DC-66	4/2/18	COD	5220D	=	42.5	4.4	20	mg/L		FGL Env.	4/9/18	4/9/18
DW33	DC-66	4/24/18	COD	5220D	=	40.2	4.4	20	mg/L		FGL Env.	4/30/18	4/30/18
DW34	DC-66	6/5/18	COD	5220D	=	147	4.4	20	mg/L		FGL Env.	6/8/18	6/8/18
SE65	DC-65	11/16/17	COD	5220D	=	170	4.4	20	mg/L		FGL Environ	11/27/17	11/27/17
SE65	DC-65R	11/16/17	COD	5220D	=	41.9	4.4	20	mg/L		FGL Environ	11/27/17	11/27/17

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE66	DC-65	3/1/18	COD	5220D	=	56.2	4.4	20	mg/L	b	FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	COD	5220D	=	33.3	4.4	20	mg/L	b	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	COD	5220D	=	56.2	4.4	20	mg/L		FGL Env.	4/17/18	4/17/18
SE67	DC-65R	4/6/18	COD	5220D	=	28.7	4.4	20	mg/L		FGL Env.	4/17/18	4/17/18
DW31	DC-46R	9/11/17	Dissolved Oxygen	Field	=	2.44	-	0.01	mg/L		Field		
DW31	DC-66	9/11/17	Dissolved Oxygen	Field	=	3.16	-	0.01	mg/L		Field		
DW31	DC-69	9/11/17	Dissolved Oxygen	Field	=	3.48	-	0.01	mg/L		Field		
DW31	WK-64	9/11/17	Dissolved Oxygen	Field	=	3.94	-	0.01	mg/L		Field		
DW31	WK-64R	9/11/17	Dissolved Oxygen	Field	=	5.06	-	0.01	mg/L		Field		
DW32	DC-66	4/2/18	Dissolved Oxygen	Field	=	5.43	-	0.01	mg/L		Field		
DW32	DC-69	4/2/18	Dissolved Oxygen	Field	=	7.73	-	0.01	mg/L		Field		
DW32	WK-64	4/2/18	Dissolved Oxygen	Field	=	5.42	-	0.01	mg/L		Field		
DW32	WK-64R	4/2/18	Dissolved Oxygen	Field	=	6.92	-	0.01	mg/L		Field		
DW33	DC-66	4/24/18	Dissolved Oxygen	Field	=	3.63	-	0.01	mg/L		Field		
DW33	DC-69	4/24/18	Dissolved Oxygen	Field	=	5.59		0.01	mg/L		Field		
DW33	WK-64	4/24/18	Dissolved Oxygen	Field	=	3.32		0.01	mg/L		Field		
DW33	WK-64R	4/24/18	Dissolved Oxygen	Field	=	7.46		0.01	mg/L		Field		
DW34	DC-46R	6/5/18	Dissolved Oxygen	Field	=	7.55	-	0.01	mg/L		Field		
DW34	DC-66	6/5/18	Dissolved Oxygen	Field	=	1.44	-	0.01	mg/L		Field		
DW34	DC-69	6/5/18	Dissolved Oxygen	Field	=	3.69	-	0.01	mg/L		Field		
DW34	WK-64	6/5/18	Dissolved Oxygen	Field	=	2.58	-	0.01	mg/L		Field		
DW34	WK-64R	6/5/18	Dissolved Oxygen	Field	=	5.65	-	0.01	mg/L		Field		
SE65	DC-65	11/16/17	Dissolved Oxygen	Field	=	7.16		0.01	mg/L		Field		
SE65	DC-65R	11/16/17	Dissolved Oxygen	Field	=	5		0.01	mg/L		Field		
SE65	DC-69	11/16/17	Dissolved Oxygen	Field	=	6.76		0.01	mg/L		Field		
SE65	NE-RAIN	11/16/17	Dissolved Oxygen	Field	=	9.54		0.01	mg/L		Field		
SE65	NW-RAIN	11/16/17	Dissolved Oxygen	Field	=	9.11		0.01	mg/L		Field		
SE65	SC-RAIN	11/16/17	Dissolved Oxygen	Field	=	9.58		0.01	mg/L		Field		
SE65	WK-64	11/16/17	Dissolved Oxygen	Field	=	5.63		0.01	mg/L		Field		
SE65	WK-64R	11/16/17	Dissolved Oxygen	Field	=	5.96		0.01	mg/L		Field		
SE66	DC-65	3/1/18	Dissolved Oxygen	Field	=	10.2	-	0.01	mg/L		Field		
SE66	DC-65R	3/1/18	Dissolved Oxygen	Field	=	11.12	-	0.01	mg/L		Field		
SE66	DC-69	3/1/18	Dissolved Oxygen	Field	=	9.38	-	0.01	mg/L		Field		
SE66	NE-RAIN	3/1/18	Dissolved Oxygen	Field	=	16.31	-	0.01	mg/L		Field		
SE66	NW-RAIN	3/1/18	Dissolved Oxygen	Field	=	14.01	-	0.01	mg/L		Field		
SE66	SC-RAIN	3/1/18	Dissolved Oxygen	Field	=	15.12	-	0.01	mg/L		Field		
SE66	WK-64	3/1/18	Dissolved Oxygen	Field	=	7.29	-	0.01	mg/L		Field		

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SE66	WK-64R	3/1/18	Dissolved Oxygen	Field	=	8.16	-	0.01	mg/L		Field		
SE67	DC-65	4/6/18	Dissolved Oxygen	Field	=	8.66	-	0.01	mg/L		Field		
SE67	DC-65R	4/6/18	Dissolved Oxygen	Field	=	5.43	-	0.01	mg/L		Field		
SE67	DC-69	4/6/18	Dissolved Oxygen	Field	=	8.49	-	0.01	mg/L		Field		
SE67	NE-RAIN	4/6/18	Dissolved Oxygen	Field	=	8.25	-	0.01	mg/L		Field		
SE67	NW-RAIN	4/6/18	Dissolved Oxygen	Field	=	8.61	-	0.01	mg/L		Field		
SE67	SC-RAIN	4/6/18	Dissolved Oxygen	Field	=	8.33	-	0.01	mg/L		Field		
SE67	WK-64	4/6/18	Dissolved Oxygen	Field	=	7.57	-	0.01	mg/L		Field		
SE67	WK-64R	4/6/18	Dissolved Oxygen	Field	=	6.19	-	0.01	mg/L		Field		
DW31	DC-46R	9/11/17	Electrical Conductivity	Field	=	125.3	-	1	µmhos/cm		Field		
DW31	DC-66	9/11/17	Electrical Conductivity	Field	=	1238	-	1	µmhos/cm		Field		
DW31	DC-69	9/11/17	Electrical Conductivity	Field	=	182.7	-	1	µmhos/cm		Field		
DW31	WK-64	9/11/17	Electrical Conductivity	Field	=	704	-	1	µmhos/cm		Field		
DW31	WK-64R	9/11/17	Electrical Conductivity	Field	=	111.7	-	1	µmhos/cm		Field		
DW32	DC-66	4/2/18	Electrical Conductivity	Field	=	144	-	1	µmhos/cm		Field		
DW32	DC-69	4/2/18	Electrical Conductivity	Field	=	179	-	1	µmhos/cm		Field		
DW32	WK-64	4/2/18	Electrical Conductivity	Field	=	230	-	1	µmhos/cm		Field		
DW32	WK-64R	4/2/18	Electrical Conductivity	Field	=	231	-	1	µmhos/cm		Field		
DW33	DC-66	4/24/18	Electrical Conductivity	Field	=	141.4	-	1	µmhos/cm		Field		
DW33	DC-69	4/24/18	Electrical Conductivity	Field	=	-		1	µmhos/cm		Field		
DW33	WK-64	4/24/18	Electrical Conductivity	Field	=	136.9		1	µmhos/cm		Field		
DW33	WK-64R	4/24/18	Electrical Conductivity	Field	=	163.6		1	µmhos/cm		Field		
DW34	DC-46R	6/5/18	Electrical Conductivity	Field	=	152	-	1	µmhos/cm		Field		
DW34	DC-66	6/5/18	Electrical Conductivity	Field	=	201	-	1	µmhos/cm		Field		
DW34	DC-69	6/5/18	Electrical Conductivity	Field	=	151	-	1	µmhos/cm		Field		
DW34	WK-64	6/5/18	Electrical Conductivity	Field	=	328	-	1	µmhos/cm		Field		
DW34	WK-64R	6/5/18	Electrical Conductivity	Field	=	304	-	1	µmhos/cm		Field		
SE65	DC-65	11/16/17	Electrical Conductivity	Field	=	228.5		1	µmhos/cm		Field		
SE65	DC-65R	11/16/17	Electrical Conductivity	Field	=	236.1		1	µmhos/cm		Field		
SE65	DC-69	11/16/17	Electrical Conductivity	Field	=	136		1	µmhos/cm		Field		
SE65	NE-RAIN	11/16/17	Electrical Conductivity	Field	=	11.8		1	µmhos/cm		Field		
SE65	NW-RAIN	11/16/17	Electrical Conductivity	Field	=	5		1	µmhos/cm		Field		
SE65	SC-RAIN	11/16/17	Electrical Conductivity	Field	=	5	-	1	µmhos/cm		Field		
SE65	WK-64	11/16/17	Electrical Conductivity	Field	=	172		1	µmhos/cm		Field		
SE65	WK-64R	11/16/17	Electrical Conductivity	Field	=	232.8		1	µmhos/cm		Field		
SE66	DC-65	3/1/18	Electrical Conductivity	Field	=	118	-	1	µmhos/cm		Field		
SE66	DC-65R	3/1/18	Electrical Conductivity	Field	=	113.5	-	1	µmhos/cm		Field		

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SE66	DC-69	3/1/18	Electrical Conductivity	Field	=	98.3	-	1	µmhos/cm		Field		
SE66	NE-RAIN	3/1/18	Electrical Conductivity	Field	=	19	-	1	µmhos/cm		Field		
SE66	NW-RAIN	3/1/18	Electrical Conductivity	Field	=	12	-	1	µmhos/cm		Field		
SE66	SC-RAIN	3/1/18	Electrical Conductivity	Field	=	28	-	1	µmhos/cm		Field		
SE66	WK-64	3/1/18	Electrical Conductivity	Field	=	111	-	1	µmhos/cm		Field		
SE66	WK-64R	3/1/18	Electrical Conductivity	Field	=	117	-	1	µmhos/cm		Field		
SE67	DC-65	4/6/18	Electrical Conductivity	Field	=	71.6	-	1	µmhos/cm		Field		
SE67	DC-65R	4/6/18	Electrical Conductivity	Field	=	200.5	-	1	µmhos/cm		Field		
SE67	DC-69	4/6/18	Electrical Conductivity	Field	=	30.6	-	1	µmhos/cm		Field		
SE67	NE-RAIN	4/6/18	Electrical Conductivity	Field	=	3	-	1	µmhos/cm		Field		
SE67	NW-RAIN	4/6/18	Electrical Conductivity	Field	=	3	-	1	µmhos/cm		Field		
SE67	SC-RAIN	4/6/18	Electrical Conductivity	Field	=	4	-	1	µmhos/cm		Field		
SE67	WK-64	4/6/18	Electrical Conductivity	Field	=	108.6	-	1	µmhos/cm		Field		
SE67	WK-64R	4/6/18	Electrical Conductivity	Field	=	159.6	-	1	µmhos/cm		Field		
DW31	DC-66	9/11/17	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	9/14/17	9/14/17
DW32	DC-66	4/2/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	4/25/18	4/25/18
DW34	DC-66	6/5/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U	FGL Env.	6/8/18	6/8/18
SE65	DC-65	11/16/17	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Environ	11/21/17	11/21/17
SE65	DC-65R	11/16/17	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Environ	11/20/17	11/21/17
SE66	DC-65	3/1/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	4/10/18	4/10/18
SE67	DC-65R	4/6/18	Hydroxide	2320B	<	1.1	1.1	10	mg/L	U, ND	FGL Env.	4/10/18	4/10/18
DW31	DC-66	9/11/17	Nitrogen, Total Kjeldahl	EPA351.2	=	0.747	0.19	0.5	mg/L		FGL Env.	9/20/17	9/21/17
DW32	DC-66	4/2/18	Nitrogen, Total Kjeldahl	EPA351.2	=	1.06	0.32	0.5	mg/L		FGL Env.	4/4/18	4/5/18
DW33	DC-66	4/24/18	Nitrogen, Total Kjeldahl	EPA351.2	=	1.26	0.32	0.5	mg/L		FGL Env.	4/30/18	4/30/18
DW34	DC-66	6/5/18	Nitrogen, Total Kjeldahl	EPA351.2	=	4	0.32	0.5	mg/L		FGL Env.	6/18/18	6/18/18
SE65	DC-65	11/16/17	Nitrogen, Total Kjeldahl	EPA351.2	=	4.77	0.32	0.5	mg/L	b	FGL Environ	11/20/17	11/27/17
SE65	DC-65R	11/16/17	Nitrogen, Total Kjeldahl	EPA351.2	=	0.419	0.32	0.5	mg/L	Jb	FGL Environ	11/20/17	11/27/17
SE66	DC-65	3/1/18	Nitrogen, Total Kjeldahl	EPA351.2	<	0.32	0.32	0.5	mg/L	U	FGL Env.	3/7/18	3/8/18
SE66	DC-65R	3/1/18	Nitrogen, Total Kjeldahl	EPA351.2	=	11.4	0.32	0.5	mg/L		FGL Env.	3/7/18	3/8/18
SE67	DC-65	4/6/18	Nitrogen, Total Kjeldahl	EPA351.2	=	0.582	0.32	0.5	mg/L		FGL Env.	4/13/18	4/17/18
SE67	DC-65R	4/6/18	Nitrogen, Total Kjeldahl	EPA351.2	<	0.32	0.32	0.5	mg/L	U, ND	FGL Env.	4/13/18	4/17/18
DW31	DC-66	9/11/17	Oil and Grease	1664A	=	3.57	1.5	3.3	mg/L		FGL Env.	9/14/17	9/18/17
DW32	DC-66	4/2/18	Oil and Grease	1664A	=	5.05	1.5	3	mg/L		FGL Env.	4/10/18	4/11/18
DW33	DC-66	4/24/18	Oil and Grease	1664A	=	6.09	1.5	3	mg/L		FGL Env.	5/2/18	5/3/18

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DW34	DC-66	6/5/18	Oil and Grease	1664A	=	4.51	1.5	3	mg/L		FGL Env.	6/14/18	6/14/18
SE65	DC-65	11/16/17	Oil and Grease	1664A	=	2.69	1.5	3.2	mg/L	J	FGL Environ	12/4/17	12/4/17
SE65	DC-65R	11/16/17	Oil and Grease	1664A	=	2.69	1.5	3.2	mg/L	J	FGL Environ	12/4/17	12/4/17
SE66	DC-65	3/1/18	Oil and Grease	1664A	=	2.09	1.5	3	mg/L	J	FGL Env.	3/19/18	3/20/18
SE66	DC-65R	3/1/18	Oil and Grease	1664A	<	1.5	1.5	3	mg/L	UL, ND	FGL Env.	3/15/18	3/15/18
SE67	DC-65	4/6/18	Oil and Grease	1664A	=	4.95	1.5	3	mg/L		FGL Env.	4/24/18	4/24/18
SE67	DC-65R	4/6/18	Oil and Grease	1664A	=	3.8	1.5	3	mg/L		FGL Env.	4/24/18	4/25/18
DW31	DC-46R	9/11/17	pH	Field	=	6.95	-	0-14	pH Units		Field		
DW31	DC-66	9/11/17	pH	Field	=	7.03	-	0-14	pH Units		Field		
DW31	DC-69	9/11/17	pH	Field	=	7.29	-	0-14	pH Units		Field		
DW31	WK-64	9/11/17	pH	Field	=	7.56	-	0-14	pH Units		Field		
DW31	WK-64R	9/11/17	pH	Field	=	7.51	-	0-14	pH Units		Field		
DW32	DC-66	4/2/18	pH	Field	=	7.28	-	0-14	pH Units		Field		
DW32	DC-69	4/2/18	pH	Field	=	7.25	-	0-14	pH Units		Field		
DW32	WK-64	4/2/18	pH	Field	=	6.74	-	0-14	pH Units		Field		
DW32	WK-64R	4/2/18	pH	Field	=	6.93	-	0-14	pH Units		Field		
DW33	DC-66	4/24/18	pH	Field	=	6.56	-	0-14	pH Units		Field		
DW33	DC-69	4/24/18	pH	Field	=	6.66		0-14	pH Units		Field		
DW33	WK-64	4/24/18	pH	Field	=	6.92		0-14	pH Units		Field		
DW33	WK-64R	4/24/18	pH	Field	=	7.09		0-14	pH Units		Field		
DW34	DC-46R	6/5/18	pH	Field	=	7.15	-	0-14	pH Units		Field		
DW34	DC-66	6/5/18	pH	Field	=	6.35	-	0-14	pH Units		Field		
DW34	DC-69	6/5/18	pH	Field	=	7.44	-	0-14	pH Units		Field		
DW34	WK-64	6/5/18	pH	Field	=	6.87	-	0-14	pH Units		Field		
DW34	WK-64R	6/5/18	pH	Field	=	7.72	-	0-14	pH Units		Field		
SE65	DC-65	11/16/17	pH	Field	=	8.66		0-14	pH Units		Field		
SE65	DC-65R	11/16/17	pH	Field	=	7.33		0-14	pH Units		Field		
SE65	DC-69	11/16/17	pH	Field	=	7.69		0-14	pH Units		Field		
SE65	NE-RAIN	11/16/17	pH	Field	=	8.2		0-14	pH Units		Field		
SE65	NW-RAIN	11/16/17	pH	Field	=	6.92		0-14	pH Units		Field		
SE65	SC-RAIN	11/16/17	pH	Field	=	6.53		0-14	pH Units		Field		
SE65	WK-64	11/16/17	pH	Field	=	7.81		0-14	pH Units		Field		
SE65	WK-64R	11/16/17	pH	Field	=	7.29		0-14	pH Units		Field		
SE66	DC-65	3/1/18	pH	Field	=	7.32	-	0-14	pH Units		Field		
SE66	DC-65R	3/1/18	pH	Field	=	7	-	0-14	pH Units		Field		
SE66	DC-69	3/1/18	pH	Field	=	7.79	-	0-14	pH Units		Field		
SE66	NE-RAIN	3/1/18	pH	Field	=	7.45	-	0-14	pH Units		Field		

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SE66	NW-RAIN	3/1/18	pH	Field	=	7.87	-	0-14	pH Units		Field		
SE66	SC-RAIN	3/1/18	pH	Field	=	7.72	-	0-14	pH Units		Field		
SE66	WK-64	3/1/18	pH	Field	=	7.38	-	0-14	pH Units		Field		
SE66	WK-64R	3/1/18	pH	Field	=	6.71	-	0-14	pH Units		Field		
SE67	DC-65	4/6/18	pH	Field	=	7.18	-	0-14	pH Units		Field		
SE67	DC-65R	4/6/18	pH	Field	=	6.82	-	0-14	pH Units		Field		
SE67	DC-69	4/6/18	pH	Field	=	8.01	-	0-14	pH Units		Field		
SE67	NE-RAIN	4/6/18	pH	Field	=	7.1	-	0-14	pH Units		Field		
SE67	NW-RAIN	4/6/18	pH	Field	=	7.01	-	0-14	pH Units		Field		
SE67	SC-RAIN	4/6/18	pH	Field	=	6.98	-	0-14	pH Units		Field		
SE67	WK-64	4/6/18	pH	Field	=	7.56	-	0-14	pH Units		Field		
SE67	WK-64R	4/6/18	pH	Field	=	7.42	-	0-14	pH Units		Field		
DW31	DC-66	9/11/17	Solids, Total Suspended (TSS)	2540D	=	6.29	0.019	1.1	mg/L		FGL Env.	9/11/17	9/12/17
DW32	DC-66	4/2/18	Solids, Total Suspended (TSS)	2540D	=	9.05	0.019	1.1	mg/L		FGL Env.	4/2/18	4/3/18
DW33	DC-66	4/24/18	Solids, Total Suspended (TSS)	2540D	=	9.91	0.019	1.9	mg/L		FGL Env.	4/24/18	4/25/18
DW34	DC-66	6/5/18	Solids, Total Suspended (TSS)	2540D	=	9.32	0.019	2	mg/L		FGL Env.	6/6/18	6/7/18
SE65	DC-65	11/16/17	Solids, Total Suspended (TSS)	2540D	=	61.3	0.019	10	mg/L	b	FGL Environ	11/20/17	11/21/17
SE65	DC-65R	11/16/17	Solids, Total Suspended (TSS)	2540D	=	92.5	0.019	5	mg/L	b	FGL Environ	11/20/17	11/21/17
SE66	DC-65	3/1/18	Solids, Total Suspended (TSS)	2540D	=	24	0.019	2	mg/L		FGL Env.	3/6/18	3/7/18
SE66	DC-65R	3/1/18	Solids, Total Suspended (TSS)	2540D	=	67.8	0.019	2.9	mg/L		FGL Env.	3/6/18	3/7/18
SE67	DC-65	4/6/18	Solids, Total Suspended (TSS)	2540D	=	55.8	0.019	4	mg/L		FGL Env.	4/9/18	4/10/18
SE67	DC-65R	4/6/18	Solids, Total Suspended (TSS)	2540D	=	16.5	0.019	2.2	mg/L	b	FGL Env.	4/9/18	4/10/18
DW31	DC-66	9/11/17	Specific Conductance	2510B	=	1250	0.16	1	µmhos/cm	b	FGL Env.	9/13/17	9/13/17
DW32	DC-66	4/2/18	Specific Conductance	2510B	=	139	0.16	1	µmhos/cm		FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Specific Conductance	2510B	=	130	0.16	1	µmhos/cm		FGL Env.	4/26/18	4/26/18
DW34	DC-66	6/5/18	Specific Conductance	2510B	=	193	0.16	1	µmhos/cm		FGL Env.	6/7/18	6/7/18
SE65	DC-65	11/16/17	Specific Conductance	2510B	=	193	0.16	1	µmhos/cm	b	FGL Environ	11/18/17	11/18/17
SE65	DC-65R	11/16/17	Specific Conductance	2510B	=	232	0.16	1	µmhos/cm	b	FGL Environ	11/18/17	11/18/17
SE66	DC-65	3/1/18	Specific Conductance	2510B	=	111	0.16	1	µmhos/cm	b	FGL Env.	3/5/18	3/5/18
SE66	DC-65R	3/1/18	Specific Conductance	2510B	=	110	0.16	1	µmhos/cm	b	FGL Env.	3/5/18	3/5/18
SE67	DC-65	4/6/18	Specific Conductance	2510B	=	62.4	0.16	1	µmhos/cm		FGL Env.	4/10/18	4/10/18
SE67	DC-65R	4/6/18	Specific Conductance	2510B	=	201	0.16	1	µmhos/cm		FGL Env.	4/10/18	4/10/18
DW31	DC-46R	9/11/17	Temperature	Field	=	28	-	0.01	°C		Field		
DW31	DC-66	9/11/17	Temperature	Field	=	23.6	-	0.01	°C		Field		
DW31	DC-69	9/11/17	Temperature	Field	=	25	-	0.01	°C		Field		
DW31	WK-64	9/11/17	Temperature	Field	=	21.9	-	0.01	°C		Field		
DW31	WK-64R	9/11/17	Temperature	Field	=	24.7	-	0.01	°C		Field		

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW32	DC-66	4/2/18	Temperature	Field	=	15.3	-	0.01	°C		Field		
DW32	DC-69	4/2/18	Temperature	Field	=	15.9	-	0.01	°C		Field		
DW32	WK-64	4/2/18	Temperature	Field	=	15.3	-	0.01	°C		Field		
DW32	WK-64R	4/2/18	Temperature	Field	=	19	-	0.01	°C		Field		
DW33	DC-66	4/24/18	Temperature	Field	=	17.7	-	0.01	°C		Field		
DW33	DC-69	4/24/18	Temperature	Field	=	17.4		0.01	°C		Field		
DW33	WK-64	4/24/18	Temperature	Field	=	18.1		0.01	°C		Field		
DW33	WK-64R	4/24/18	Temperature	Field	=	23.5		0.01	°C		Field		
DW34	DC-46R	6/5/18	Temperature	Field	=	28	-	0.01	°C		Field		
DW34	DC-66	6/5/18	Temperature	Field	=	19.2	-	0.01	°C		Field		
DW34	DC-69	6/5/18	Temperature	Field	=	20	-	0.01	°C		Field		
DW34	WK-64	6/5/18	Temperature	Field	=	18.3	-	0.01	°C		Field		
DW34	WK-64R	6/5/18	Temperature	Field	=	23	-	0.01	°C		Field		
SE65	DC-65	11/16/17	Temperature	Field	=	17.8		0.01	°C		Field		
SE65	DC-65R	11/16/17	Temperature	Field	=	15.5		0.01	°C		Field		
SE65	DC-69	11/16/17	Temperature	Field	=	17.8		0.01	°C		Field		
SE65	NE-RAIN	11/16/17	Temperature	Field	=	13.9		0.01	°C		Field		
SE65	NW-RAIN	11/16/17	Temperature	Field	=	14.3		0.01	°C		Field		
SE65	SC-RAIN	11/16/17	Temperature	Field	=	14.1	-	0.01	°C		Field		
SE65	WK-64	11/16/17	Temperature	Field	=	18.3		0.01	°C		Field		
SE65	WK-64R	11/16/17	Temperature	Field	=	15		0.01	°C		Field		
SE66	DC-65	3/1/18	Temperature	Field	=	11.6	-	0.01	°C		Field		
SE66	DC-65R	3/1/18	Temperature	Field	=	10	-	0.01	°C		Field		
SE66	DC-69	3/1/18	Temperature	Field	=	10.6	-	0.01	°C		Field		
SE66	NE-RAIN	3/1/18	Temperature	Field	=	8.4	-	0.01	°C		Field		
SE66	NW-RAIN	3/1/18	Temperature	Field	=	8.4	-	0.01	°C		Field		
SE66	SC-RAIN	3/1/18	Temperature	Field	=	8.8	-	0.01	°C		Field		
SE66	WK-64	3/1/18	Temperature	Field	=	9.6	-	0.01	°C		Field		
SE66	WK-64R	3/1/18	Temperature	Field	=	9.9	-	0.01	°C		Field		
SE67	DC-65	4/6/18	Temperature	Field	=	15.9	-	0.01	°C		Field		
SE67	DC-65R	4/6/18	Temperature	Field	=	15.9	-	0.01	°C		Field		
SE67	DC-69	4/6/18	Temperature	Field	=	15.9	-	0.01	°C		Field		
SE67	NE-RAIN	4/6/18	Temperature	Field	=	17.2	-	0.01	°C		Field		
SE67	NW-RAIN	4/6/18	Temperature	Field	=	17.8	-	0.01	°C		Field		
SE67	SC-RAIN	4/6/18	Temperature	Field	=	17.8	-	0.01	°C		Field		
SE67	WK-64	4/6/18	Temperature	Field	=	16.2	-	0.01	°C		Field		
SE67	WK-64R	4/6/18	Temperature	Field	=	16.6	-	0.01	°C		Field		

City of Stockton and County of San Joaquin
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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW31	DC-66	9/11/17	TOC	5310C	=	2.89	0.15	0.5	mg/L		FGL Env.	9/18/17	9/18/17
DW32	DC-66	4/2/18	TOC	5310C	=	7.6	0.15	0.5	mg/L		FGL Env.	4/16/18	4/17/18
DW33	DC-66	4/24/18	TOC	5310C	=	12.2	0.15	0.5	mg/L		FGL Env.	5/6/18	5/7/18
DW34	DC-66	6/5/18	TOC	5310C	=	61.4	0.15	5	mg/L		FGL Env.	6/18/18	6/18/18
SE65	DC-65	11/16/17	TOC	5310C	=	58.7	0.15	2.5	mg/L		FGL Environ	12/6/17	12/6/17
SE65	DC-65R	11/16/17	TOC	5310C	=	4.1	0.15	0.5	mg/L		FGL Environ	11/29/17	11/30/17
SE66	DC-65	3/1/18	TOC	5310C	=	13.5	0.15	0.5	mg/L	b	FGL Env.	3/12/18	3/12/18
SE66	DC-65R	3/1/18	TOC	5310C	=	5.4	0.15	0.5	mg/L	b	FGL Env.	3/12/18	3/12/18
SE67	DC-65	4/6/18	TOC	5310C	=	8.93	0.15	0.5	mg/L		FGL Env.	4/25/18	4/26/18
SE67	DC-65R	4/6/18	TOC	5310C	=	7.64	0.15	0.5	mg/L		FGL Env.	4/25/18	4/26/18
DW31	DC-66	9/11/17	Total Dissolved Solids (TFR)	2540C	=	1070	5.8	20	mg/L		FGL Env.	9/12/17	9/13/17
DW32	DC-66	4/2/18	Total Dissolved Solids (TFR)	2540C	=	84.1	5.8	20	mg/L		FGL Env.	4/4/18	4/5/18
DW33	DC-66	4/24/18	Total Dissolved Solids (TFR)	2540C	=	70.8	5.8	20	mg/L		FGL Env.	4/27/18	4/30/18
DW34	DC-66	6/5/18	Total Dissolved Solids (TFR)	2540C	=	137	5.8	20	mg/L		FGL Env.	6/7/18	6/8/18
SE65	DC-65	11/16/17	Total Dissolved Solids (TFR)	2540C	=	137	5.8	20	mg/L		FGL Environ	11/20/17	11/21/17
SE65	DC-65R	11/16/17	Total Dissolved Solids (TFR)	2540C	=	113	5.8	20	mg/L	b	FGL Environ	11/20/17	11/21/17
SE66	DC-65	3/1/18	Total Dissolved Solids (TFR)	2540C	=	71.4	5.8	20	mg/L		FGL Env.	3/5/18	3/6/18
SE66	DC-65R	3/1/18	Total Dissolved Solids (TFR)	2540C	=	59.2	5.8	20	mg/L		FGL Env.	3/5/18	3/6/18
SE67	DC-65	4/6/18	Total Dissolved Solids (TFR)	2540C	=	16.5	5.8	20	mg/L		FGL Env.	4/11/18	4/12/18
SE67	DC-65R	4/6/18	Total Dissolved Solids (TFR)	2540C	=	95.5	5.8	20	mg/L		FGL Env.	4/11/18	4/12/18
DW31	DC-66	9/11/17	Total Hardness as CaCO3	200.7	=	363	0.0075	2.5	mg/L	Ph	FGL Env.	9/13/17	9/15/17
DW32	DC-66	4/2/18	Total Hardness as CaCO3	200.7	=	43.8	0.0075	2.5	mg/L	P	FGL Env.	4/4/18	4/4/18
DW33	DC-66	4/24/18	Total Hardness as CaCO3	200.7	=	29.4	0.018	2.5	mg/L		FGL Env.	4/26/17	4/29/18
DW34	DC-66	6/5/18	Total Hardness as CaCO3	200.7	=	59.3	0.018	2.5	mg/L		FGL Env.	6/21/17	6/27/18
SE65	DC-65	11/16/17	Total Hardness as CaCO3	200.7	=	75.4	0.0075	2.5	mg/L	P	FGL Environ	11/28/17	11/28/17
SE65	DC-65R	11/16/17	Total Hardness as CaCO3	200.7	=	56.5	0.0075	2.5	mg/L		FGL Environ	11/21/17	11/27/17
SE66	DC-65	3/1/18	Total Hardness as CaCO3	200.7	=	25	0.0075	2.5	mg/L	1P	FGL Env.	3/6/18	3/7/18
SE66	DC-65R	3/1/18	Total Hardness as CaCO3	200.7	=	35	0.0075	2.5	mg/L	hP	FGL Env.	3/20/18	3/20/18
SE67	DC-65	4/6/18	Total Hardness as CaCO3	200.7	=	19.3	0.018	2.5	mg/L		FGL Env.	4/16/18	4/17/18
SE67	DC-65R	4/6/18	Total Hardness as CaCO3	200.7	=	54.3	0.018	2.5	mg/L		FGL Env.	4/16/18	4/17/18
DW31	DC-66	9/11/17	Turbidity	2130B	=	0.206	0.021	0.2	NTU		FGL Env.	9/11/17	9/11/17
DW32	DC-66	4/2/18	Turbidity	2130B	=	7.54	0.021	0.2	NTU		FGL Env.	4/3/18	4/3/18
DW33	DC-66	4/24/18	Turbidity	2130B	=	9.92	0.021	0.2	NTU		FGL Env.	4/25/18	4/25/18
DW34	DC-66	6/5/18	Turbidity	2130B	=	24.4	0.021	0.2	NTU		FGL Env.	6/5/18	6/5/18
SE65	DC-65	11/16/17	Turbidity	2130B	=	82.2	0.021	0.2	NTU		FGL Environ	11/17/17	11/17/17
SE65	DC-65R	11/16/17	Turbidity	2130B	=	17	0.021	0.2	NTU		FGL Environ	11/17/17	11/17/17
SE66	DC-65	3/1/18	Turbidity	2130B	=	44.1	0.021	0.2	NTU		FGL Env.	3/1/18	3/1/18

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE66	DC-65R	3/1/18	Turbidity	2130B	=	64.8	0.021	0.2	NTU		FGL Env.	3/1/18	3/1/18
SE67	DC-65	4/6/18	Turbidity	2130B	=	63.5	0.021	0.2	NTU		FGL Env.	4/6/18	4/6/18
SE67	DC-65R	4/6/18	Turbidity	2130B	=	18.7	0.021	0.2	NTU		FGL Env.	4/6/18	4/6/18

Appendix C
2017-2018 Data Summary Tables

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DUCK CREEK 2017-2018 DATA FOR POLLUTANTS OF CONCERN

Fecal Indicator Bacteria

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	WQO
***E. Coli* (MPN/100mL)**									
DW31	6.3	[a]	23.5	[a]	No flow	86	7.3	13.5	235
DW32	-	[a]	1019	[a]	No flow	63	10	63	235
DW33	-	[a]	122.3	[a]	No flow	13.4	101.4	5.2	235
DW34	1.00	[a]	36.2	[a]	No flow	16.1	727	11	235
SE65	-	2419.6	[b]	13.4	[b]	1732.9	2419.6	307.6	235
SE66	-	2187	[b]	86	[b]	591	7270	373	235
SE67	-	135.4	[b]	87.8	[b]	187.2	2419.6	7.4	235
Fecal Coliform (MPN/100mL)									
DW31	230	[a]	79000	[a]	No flow	7900	140	170	400
DW32	-	[a]	1300	[a]	No flow	460	20	110	400
DW33	-	[a]	7900	[a]	No flow	790	33000	140	400
DW34	78	[a]	110000	[a]	No flow	23000	230000	20	400
SE65	-	330000	[b]	490	[b]	94000	3300	13000	400
SE66	-	4900	[b]	220	[b]	2300	2300	1300	400
SE67	-	2300	[b]	4900	[b]	2300	79000	45	400

[a] This location is only sampled during wet weather.
[b] This location is only sampled during dry weather.

Mercury

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN
Methyl Mercury, Total (ng/L)											
DW31	0.3	[a]	0.08	[a]	No flow	0.06	0.05	0.06	-	-	-
DW32	-	[a]	0.19	[a]	No flow	0.18	0.15	0.13	-	-	-
DW33	-	[a]	0.26	[a]	No flow	0.11	0.51	0.09	-	-	-
DW34	0.33	[a]	0.86	[a]	No flow	0.12	0.91	0.07	-	-	-
SE65	-	0.13	[b]	0.04	[b]	0.11	0.13	0.04	0.07	0.02	<0.02
SE66	-	0.14	[b]	0.11	[b]	0.21	0.88	0.07	0.12	0.1	0.07
SE67	-	0.10	[b]	0.10	[b]	0.07	0.11	0.08	<0.02	0.03	0.04
Mercury, Total (ng/L)											
DW31	1.2	[a]	2.2	[a]	No flow	1.5	1.5	2.2	-	-	-
DW32	-	[a]	3.8	[a]	No flow	5.1	2.7	4.7	-	-	-
DW33	-	[a]	4.7	[a]	No flow	2.1	5.0	4.0	-	-	-
DW34	1.5	[a]	7.8	[a]	No flow	2.0	4.2	2.2	-	-	-
SE65	-	12	[b]	2.4	[b]	12	32	2.7	5.4	5.2	2.4
SE66	-	9.4	[b]	9.5	[b]	6.1	12	1.3	7.3	4.8	5.3
SE67	-	7.9	[b]	2.7	[b]	6.2	10	4.4	3.3	4.7	4.8

[a] This location is only sampled during wet weather.
[b] This location is only sampled during dry weather.

Dissolved Oxygen

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN	WQO
Dissolved Oxygen (mg/L)												
DW31	2.44	[a]	3.16	[a]	No flow	3.48	3.94	5.06	-	-	-	>6
DW32	-	[a]	5.43	[a]	No flow	7.73	5.42	6.92	-	-	-	>5
DW33	-	[a]	3.63	[a]	No flow	5.59	3.32	7.46	-	-	-	>5
DW34	7.55	[a]	1.44	[a]	No flow	3.69	2.58	5.65	-	-	-	>5
SE65	-	7.16	[b]	5.00	[b]	6.76	5.63	5.96	9.54	9.11	9.58	>6
SE66	-	10.2	[b]	11.12	[b]	9.38	7.29	8.16	16.31	14.01	15.12	>5
SE67	-	8.66	[b]	5.43	[b]	8.49	7.57	6.19	8.25	8.61	8.33	>5

[a] This location is only sampled during wet weather.
[b] This location is only sampled during dry weather.

Chlorpyrifos

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN	WQO
Chlorpyrifos (ng/L)												
DW31	2.9	[a]	<0.5	[a]	No flow	1.2	<0.5	0.7	-	-	-	15
DW32	-	[a]	3.4	[a]	No flow	1.2	7.5	0.8	-	-	-	15
DW33	-	[a]	1.1	[a]	No flow	0.7	4.7	<1	-	-	-	15
DW34	0.6	[a]	<2	[a]	No flow	<1	4.1	0.6	-	-	-	15
SE65	-	1.4	[b]	<0.5	[b]	4.1	1.6	0.7	29	5.1	0.6	15
SE66	-	1.4	[b]	1.5	[b]	1.6	7.8	1.7	6.0	8.7	4.2	15
SE67	-	3.5	[b]	1.8	[b]	4.8	8.7	<1	0.9	3.8	9.5	15

[a] This location is only sampled during wet weather.
[b] This location is only sampled during dry weather.

Pyrethroids

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN
Allethrin (ng/L)											
DW31	<0.1	[a]	<0.1	[a]	No flow	<0.1	<0.1	<0.1	-	-	-
DW32	-	[a]	<0.1	[a]	No flow	<0.1	<0.1	<0.1	-	-	-
DW33	-	[a]	<0.2	[a]	No flow	<0.1	<0.2	<0.2	-	-	-
DW34	<0.1	[a]	<0.5	[a]	No flow	<0.2	<0.1	<0.1	-	-	-
SE65	-	<0.2	[b]	<0.1	[b]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE66	-	<0.1	[b]	<0.1	[b]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SE67	-	<0.1	[b]	<0.2	[b]	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1
Bifenthrin (ng/L)											
DW31	0.6	[a]	6.9	[a]	No flow	1.3	4	1	-	-	-
DW32	-	[a]	<0.1	[a]	No flow	<0.1	1.5	0.7	-	-	-
DW33	-	[a]	5.2	[a]	No flow	<0.1	3.9	0.6	-	-	-
DW34	<0.1	[a]	3.2	[a]	No flow	0.7	14	<0.1	-	-	-
SE65	-	<0.2	[b]	<0.1	[b]	13	22	1.2	1.4	0.5	0.6
SE66	-	<0.1	[b]	3.0	[b]	1.9	4.7	2.4	0.5	1.4	<0.1
SE67	-	4.0	[b]	2.2	[b]	2.5	34	0.9	0.2	0.5	0.5
Cyfluthrin (ng/L)											
DW31	<0.2	[a]	<0.2	[a]	No flow	<0.2	0.6	<0.2	-	-	-
DW32	-	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW33	-	[a]	0.4	[a]	No flow	0.3	<0.4	<0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	1.0	<0.2	-	-	-
SE65	-	<0.2	[b]	<0.2	[b]	0.6	12	<0.2	<0.2	<0.2	<0.2
SE66	-	<0.2	[b]	<0.2	[b]	0.3	0.4	0.4	<0.2	<0.2	<0.2
SE67	-	<0.2	[b]	<0.4	[b]	1.5	1.8	<0.4	<0.2	<0.2	<0.2
Cypermethrin (ng/L)											
DW31	<0.2	[a]	3.00	[a]	No flow	<0.2	1.00	<0.2	-	-	-

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN
DW32	-	[a]	<0.2	[a]	No flow	<0.2	0.5	<0.2	-	-	-
DW33	-	[a]	2.2	[a]	No flow	0.2	1.00	<0.4	-	-	-
DW34	<0.2	[a]	1.7	[a]	No flow	<0.4	2.3	<0.2	-	-	-
SE65	-	<0.2	[b]	<0.2	[b]	2.8	13	0.6	<0.2	<0.2	0.2
SE66	-	<0.2	[b]	<0.2	[b]	<0.2	1.5	0.8	0.3	<0.2	<0.2
SE67	-	0.6	[b]	<0.4	[b]	0.6	3.6	<0.4	<0.2	<0.2	<0.2
Deltamethrin:Tralomethrin (ng/L)											
DW31	<0.2	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW32	-	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW33	-	[a]	<0.4	[a]	No flow	<0.2	<0.4	<0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	<0.2	<0.2	-	-	-
SE65	-	<0.4	[b]	<0.2	[b]	<0.2	4.4	<0.2	<0.2	<0.2	<0.2
SE66	-	<0.2	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SE67	-	<0.2	[b]	<0.4	[b]	3.8	<0.2	<0.4	<0.2	<0.2	<0.2
Esfenvalerate:Fenvalerate (ng/L)											
DW31	<0.2	[a]	<0.2	[a]	No flow	<0.2	1.5	<0.2	-	-	-
DW32	-	[a]	<0.2	[a]	No flow	<0.2	0.2	<0.2	-	-	-
DW33	-	[a]	1.3	[a]	No flow	0.4	<0.4	0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	1.6	<0.2	-	-	-
SE65	-	<0.4	[b]	<0.2	[b]	0.4	2.7	<0.2	<0.2	<0.2	<0.2
SE66	-	<0.2	[b]	<0.2	[b]	<0.2	0.7	<0.2	0.3	<0.2	<0.2
SE67	-	0.8	[b]	<0.4	[b]	0.5	0.5	<0.4	<0.2	<0.2	<0.2
Fenpropathrin (ng/L)											
DW31	<0.2	[a]	0.5	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW32	-	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW33	-	[a]	<0.4	[a]	No flow	<0.2	<0.4	<0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	<0.2	<0.2	-	-	-
SE65	-	<0.4	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN
SE66	-	<0.2	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SE67	-	<0.2	[b]	<0.4	[b]	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2
Lambda-Cyhalothrin (ng/L)											
DW31	<0.2	[a]	<0.2	[a]	No flow	0.2	1.3	<0.2	-	-	-
DW32	-	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW33	-	[a]	0.4	[a]	No flow	0.8	2.8	<0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	1	<0.2	-	-	-
SE65	-	<0.4	[b]	<0.2	[b]	<0.2	2.8	<0.2	0.3	<0.2	<0.2
SE66	-	1.2	[b]	<0.2	[b]	<0.2	0.4	<0.2	0.3	<0.2	<0.2
SE67	-	2.1	[b]	<0.4	[b]	0.6	3.7	<0.4	<0.2	<0.2	<0.2
Permethrin (ng/L)											
DW31	<2	[a]	<2	[a]	No flow	<2	47	<2	-	-	-
DW32	-	[a]	<2	[a]	No flow	<2	34	<2	-	-	-
DW33	-	[a]	15	[a]	No flow	<2	<4	<4	-	-	-
DW34	<2	[a]	<10	[a]	No flow	<4	99	<2	-	-	-
SE65	-	<4	[b]	<2	[b]	<2	450	<2	4.1	<2	<2
SE66	-	<2	[b]	<2	[b]	<2	84	<2	<2	<2	<2
SE67	-	<2	[b]	<4	[b]	<2	320	<4	<2	<2	<2
Tau-Fluvalinate (ng/L)											
DW31	<0.2	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW32	-	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW33	-	[a]	<0.4	[a]	No flow	<0.2	<0.4	<0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	<0.2	<0.2	-	-	-
SE65	-	<0.4	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SE66	-	<0.2	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SE67	-	<0.2	[b]	<0.4	[b]	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2
Tetramethrin (ng/L)											
DW31	<0.2	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-

Event	DC-46R	DC-65	DC-66	DC-65R	DC-66R	DC-69	WK-64	WK-64R	NE-RAIN	NW-RAIN	SC-RAIN
DW32	-	[a]	<0.2	[a]	No flow	<0.2	<0.2	<0.2	-	-	-
DW33	-	[a]	<0.4	[a]	No flow	<0.2	<0.4	<0.4	-	-	-
DW34	<0.2	[a]	<1	[a]	No flow	<0.4	<0.2	<0.2	-	-	-
SE65	-	<0.4	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SE66	-	<0.2	[b]	<0.2	[b]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
SE67	-	<0.2	[b]	<0.4	[b]	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2

[a] This location is only sampled during wet weather.
[b] This location is only sampled during dry weather.

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Appendix D
2017-2018 Sediment Toxicity Results

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Sediment Toxicity Lab Report
November 17, 2018 at WK-64R
After Storm Event

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Micheline Kipf
Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

December 14, 2017

Dear Micheline:

I have enclosed a copy of our report "An Evaluation of the Toxicity of a City of Stockton Stormwater Program Sediment Samples" for the samples that were collected November 17, 2017. The results of this testing are summarized below:

Summary of Stockton Stormwater Program sediment effects on *Hyalella azteca*.		
Sample Station	Toxicity Present Relative to Lab Control?	
	Survival	Growth
WK-64R	No	No
FD	No	**YES**

If you have any questions regarding the performance and interpretation of this testing, please contact my colleague Stephen Clark or myself at (707) 207-7760.

Sincerely,

com.apple.idms.appleid.prd.7753723579335a574e33535557416f57566b736273413d3d
2017.12.14 10:36:41 -08'00'

Michael McElroy
Project Manager

An Evaluation of the Toxicity of a City of Stockton Stormwater Program Sediment Samples

Samples collected November 17, 2017

Prepared For:

Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

Prepared By:

Pacific EcoRisk
2250 Cordelia Rd.
Fairfield, CA 94534
(707) 207-7760

December 2017

PACIFIC ECORISK
ENVIRONMENTAL CONSULTING & TESTING

An Evaluation of the Toxicity of a City of Stockton Stormwater Program Sediment Samples

Samples collected November 17, 2017

Table of Contents

Appendices

1. INTRODUCTION

In compliance with the City of Stockton Stormwater Program NPDES permit monitoring requirements, Condor Earth Technologies, Inc., has contracted Pacific EcoRisk (PER) to perform evaluations of the toxicity of selected ambient water and sediment samples. The current testing event was designed to meet the sediment monitoring requirements using sediment samples that were collected on November 17, 2017. This evaluation consisted of performing the US EPA 10-day survival and growth test with the amphipod *Hyalella azteca*. This report describes the performance and results of this testing.

2. SEDIMENT TOXICITY TEST PROCEDURES

This testing followed the guidelines established by the EPA manual "Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition" (EPA/600/R-99/064).

2.1 Receipt and Handling of the Sediment Samples

On November 17, sediment samples were collected into appropriately cleaned sample containers. These samples were transported on ice and under chain-of-custody, to the PER laboratory in Fairfield, CA (Table 1). The samples were then stored at ≤6˚C until being used to initiate toxicity tests within 14 days of collection. The chain-of-custody record for the collection and delivery of the samples is presented in Appendix A.

Table 1. Sampling station and date of sediment collection for the Stockton Stormwater Program monitoring.

Sample Station	Date Collected	Date Received
WK-64R	11/17/17	11/20/17
FD	11/17/17	11/20/17

2.2 Solid-Phase Sediment Toxicity Testing with *Hyalella azteca*

The sediment toxicity test with *H. azteca* consists of exposing the amphipods to the sediment for 10 days, after which effects on survival and growth are evaluated. The specific procedures used in this testing are described below.

The *H. azteca* used in this testing were obtained from a commercial supplier (Aquatic BioSystems, Fort Collins, CO). Upon receipt at the laboratory, the amphipods were maintained in tanks containing Lab Water Control medium at 23˚C, and were fed a commercial Yeast-Cerophyll®-Trout chow (YCT) food amended with freeze-dried *Spirulina*.

The Control treatment sediment for this testing consisted of a composite of reference site sediments that have been maintained under culture at the PER lab for >3 months. The sediment samples were tested at the 100% concentration only. There were eight replicates for each test treatment, each replicate container consisting of a 300-mL tall-form glass beaker with a 3-cm ribbon of 540 μm mesh NITEX attached to the top of the beaker with silicone sealant. Each sediment sample was homogenized prior to loading of sediment into the test replicates. For each sediment, approximately 100 mL of sediment was then loaded into each of the test replicate containers. Each test replicate was then carefully filled with clean Lab Water Control medium (Standard Artificial Medium [SAM-5S] water [Borgmann 1996]). The test replicates with sediments and clean overlying water were established ~24 hrs prior to the introduction of the amphipods, and were placed in a temperature-controlled room at 23˚C during this pre-test period.

After this initial 24 hr period, the overlying water in each replicate was flushed with one volume (approximately 150 mL) of fresh overlying water. For each test treatment, a small aliquot of the renewed overlying water was then collected from each of the eight replicates and composited for measurement of "initial" water quality characteristics (pH, dissolved oxygen [D.O.], conductivity, alkalinity, hardness, and total ammonia). The testing was then initiated with the random allocation of ten 11-12 day-old amphipods into each replicate, followed by the addition of 1.0 mL of *Spirulina*-amended YCT food. The test replicates were then placed in a temperature-controlled room at 23˚C. At the time of test initiation, eight replicates of 10 randomly-selected organisms were collected, dried, and weighed (described below) to determine the mean dry weight of the test organisms at test initiation (T_0).

Each day, for the following nine days, each test replicate was examined and any dead amphipods were removed via pipette and the mortality recorded. A small aliquot of the overlying water in each of the eight replicates for each test treatment was then collected and composited as before for measurement of "old" D.O., after which each replicate was flushed with one volume of fresh water. Another small aliquot of the overlying water in each of the eight replicates was then collected and composited as before for measurement of "new" D.O., after which each replicate was fed 1.0 mL of *Spirulina*-amended YCT.

After 10 days exposure, testing was terminated. An aliquot of overlying water was collected from each replicate and composited for analysis of the "final" water quality characteristics. The sediments in each replicate container were then carefully sorted and sieved and the number of surviving amphipods determined. The surviving organisms were euthanized in methanol, rinsed in de-ionized water, and transferred to small pre-tared weighing pans, which were placed into a drying oven at 100˚C. After drying for ~24 hrs, the pans were transferred to a desiccator to cool, and then weighed to the nearest 0.01 mg to determine the mean dry weight per surviving organism for each replicate. The resulting survival and growth (mean dry weight) data were then analyzed to evaluate any impairment due to the sediments; all statistical analyses were performed using the CETIS® statistical software (TidePool Scientific, McKinleyville, CA).

3. RESULTS

Test results are summarized in Table 2. There were no significant reductions in survival in either of the sediment samples. There was no significant reduction in growth in the WK-64R sediment sample. However, there was a significant reduction in growth in the FD sediment sample, primarily due to less inter-replicate variability than was observed for the WK-64R sediment sample. The test data and summary of statistical analyses for this testing are presented in Appendix B.

Table 2. Data summary for the Stockton Stormwater Program sediment samples.

Test Treatment	% Survival	% Reduction	Toxic? (Y/N)	Mean dry weight (mg)	% Reduction	Toxic? (Y/N)
Control	97.5	N/A	N/A	0.103	N/A	N/A
WK-64R	98.8	-1.28%	N	0.085	17.6%	N
FD	86.2	11.5%	N	**0.086***	16.1%	**Y[a]**

* The response at this test treatment was significantly less than the Control sediment response (at $p<0.05$).
a - Growth statistically toxic due to low inter-replicate variability observed for the sample.

4. SUMMARY AND CONCLUSIONS

The results of this testing are summarized below. There were no significant reductions in survival in either of the sediment samples. There was no significant reduction in growth in the WK-64R sediment sample. However, there was a significant reduction in growth in the FD sediment sample.

Summary of Stockton Stormwater Program sediment effects on *Hyalella azteca*.

Sample Station	Toxicity Present Relative to Lab Control?	
	Survival	Growth
WK-64R	No	No
FD	No	**YES**

4.1 QA/QC Summary

Test Conditions – All test conditions (pH, D.O., temperature, etc.) were within acceptable limits. All analyses were performed according to laboratory Standard Operating Procedures.

Negative Control – The biological responses for the test organisms at the Lab Control treatment were within acceptable limits.

Appendix A

Chain-of-Custody Record for the Collection and Delivery of the Stockton Stormwater Program Sediment Samples

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CHAIN-OF-CUSTODY

17271

Sample Results TAT: ☐ Rush ☒ Standard 10 Day (discount)

Condor Earth Technologies, Inc.

☐ P.O. Box 3905/21663 Brian Lane, Sonora, CA 95370, 209.532.0361, 209.532.0773 (fax), condor.sonora@condorearth.com

☐ 188 Frank West Circle, Suite I, Stockton, CA 95206, 209.234.0518, 209.234.0538 (fax), condor.stockton@condorearth.com

☐ 1739 Ashby Road, Suite B, Merced, CA 95348, 209.388.9601, 209.388.1778 (fax), condor.merced@condorearth.com

SHIPPED TO:

PACIFIC ECORISK (707) 207-7760

2250 CORDELIA RD. FAIRFIELD, CA 94534

SEND RESULTS TO:

NAME: MICHELINE KIPF

E-MAIL: mkipf@condorearth.com

☒ PLEASE E-MAIL (preferred) / OR FAX RESULTS TO ADDRESS MARKED ABOVE

PROJECT NAME/LOCATION: COS URBAN DISCHARGE

EDF RESULTS REQUIRED YES (NO)

SITE GLOBAL ID: —

PROJECT NO.: 6066J-05-01

SAMPLED BY: (Signature)

Date	Time	Sample Site Name	Sample ID (if different)	Matrix	# of containers	Preservatives (see below)	ANALYSIS/METHOD: Field Filtered	HYALELLA AZTECA *	TOC	GRAIN SIZE	REMARKS	LAB ID #
11-17-17	1330	WK-64R	~~DC-65ROT~~	S		1	N	X	X	X	* CHRONIC FRESHWATER	
11-17-17	1315		FD	S		1	N	X	X	X	EPA 600/4-91/003) HYALELLA AZTECA SURVIVAL/GROWTH	
											CONDUCT ADDITIONAL PYRETHROIDS ANALYSIS IF TOXICITY IS OBSERVED	
											SUB SAMPLES TO BE COLLECTED FOR CAL TEST	
											TOC R.L. – 1 mg/L	

	Date:	Time:		Date:	Time:
Relinquished By: (Signature)	11-20-2017	1007	Received By: (Signature)	11/20/17	1007
Relinquished By: (Signature)			Received By: (Signature)		

Matrix: DW Drinking Water; WW Waste Water; HWW Hazardous Waste (Water); S Soil/Solid; SW Storm Water; GW Groundwater

Preservative: 1 4°C; 2 HCL; 3 NaOH; 4 $Na_2S_2O_3$; 5 HNO_3; 6 H_2SO_4; 7 Other _____

Original - Send | Yellow - File | Pink - Log Book

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Appendix B

Test Data and Summary of Statistics for the Evaluation of the Toxicity of the Stockton Stormwater Program Sediment Samples to *Hyalella azteca*

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CETIS Summary Report

Hyalella 10-d Survival and Growth Sediment Test — Pacific EcoRisk

Batch ID:	07-6531-7651	**Test Type:**	Survival-Growth (10 day)	**Analyst:**	Jessica Okutsu
Start Date:	25 Nov-17 11:40	**Protocol:**	EPA/600/R-99/064 (2000)	**Diluent:**	Not Applicable
Ending Date:	05 Dec-17 11:10	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Duration:	10d	**Source:**	Aquatic Biosystems, CO	**Age:**	12

Sample Code	Sample ID	Sample Date	Receipt Date	Sample Age	Client Name	Project
CE_1117_C1_sed	16-5507-7284	25 Nov-17 11:40	25 Nov-17 11:40	n/a (22.7 °C)	Condor Earth Technologi	28107
WK-64R	05-9056-2879	17 Nov-17 13:30	20 Nov-17 10:07	7d 22h (3.2 °C)		
FD	07-6957-0314	17 Nov-17 13:15	20 Nov-17 10:07	7d 22h (3.2 °C)		

Sample Code	Material Type	Sample Source	Station Location	Lat/Long
CE_1117_C1_sed	Control Sediment	Condor Earth Technologies	LABQA	
WK-64R	Sediment	Condor Earth Technologies	WK-64R	
FD	Sediment	Condor Earth Technologies	FD	

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
00-2932-2886	Mean Dry Weight-mg	Equal Variance t Two-Sample Test	0.0772	WK-64R passed mean dry weight-mg
19-1066-0664	Mean Dry Weight-mg	Equal Variance t Two-Sample Test	0.0306	FD failed mean dry weight-mg
11-2590-6025	Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.7667	WK-64R passed survival rate
00-2949-9170	Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.0501	FD passed survival rate

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_1117_C1_sed	CS	8	0.103	0.0874	0.119	0.08	0.14	0.0066	0.0187	18.13%	0.00%
WK-64R		8	0.0848	0.061	0.109	0.026	0.12	0.0101	0.0285	33.63%	17.62%
FD		8	0.0864	0.0751	0.0977	0.067	0.106	0.00478	0.0135	15.66%	16.11%

Survival Rate Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_1117_C1_sed	CS	8	0.975	0.916	1.000	0.800	1.000	0.025	0.071	7.25%	0.00%
WK-64R		8	0.988	0.958	1.000	0.900	1.000	0.013	0.035	3.58%	-1.28%
FD		8	0.862	0.722	1.000	0.500	1.000	0.060	0.169	19.54%	11.54%

Mean Dry Weight-mg Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_1117_C1_sed	CS	0.14	0.083	0.107	0.08	0.111	0.106	0.096	0.101
WK-64R		0.083	0.109	0.089	0.0678	0.026	0.12	0.093	0.091
FD		0.104	0.106	0.08	0.0922	0.067	0.085	0.0837	0.074

Survival Rate Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_1117_C1_sed	CS	1.000	1.000	1.000	0.800	1.000	1.000	1.000	1.000
WK-64R		1.000	1.000	1.000	0.900	1.000	1.000	1.000	1.000
FD		0.800	0.900	1.000	0.900	1.000	1.000	0.800	0.500

Survival Rate Binomials

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_1117_C1_sed	CS	10/10	10/10	10/10	8/10	10/10	10/10	10/10	10/10
WK-64R		10/10	10/10	10/10	9/10	10/10	10/10	10/10	10/10
FD		8/10	9/10	10/10	9/10	10/10	10/10	8/10	5/10

10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: Condor Earth Project#: 28107 Organism Log #: 10642(A) Age: 4-12 days

Species: *Hyalella azteca* Test ID#: - Organism Supplier: ABS

Day	Date	Test Material: Lab Control	Water Quality Measurements: Parameter	Value	Meter ID	Sign-off:
0	11/25/17	# Live Organisms: A 10 B 10 C 10 D 10 / E 10 F 10 G 10 H 10	pH	7.87	PH23	AM Change: RAP
			D.O. (mg/L)	8.3	RD11	WQ: RAP
			Conductivity (µS/cm)	431	EC10	Initiation Time: 1140
			Alkalinity (mg/L)	~~47.6~~ 47.6		Initiation Counts: MD
			Hardness (mg/L)	122		Confirmation Counts: TR
			Ammonia (mg/L)	<1.00	DR35(2)	PM Feed: NL
			Temp. (°C)	22.7	48A	
1	11/26/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.9	RD12	AM Change: FT WQ: FT
			New D.O. (mg/L)	7.9	RD12	Mortality Counts: FT
			Temp. (°C)	23.0	48A	PM Change: FT PM Feed: FT
2	11/27/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.6	RD11	AM Change: KJ WQ: KJ
			New D.O. (mg/L)	7.7	RD11	Mortality Counts: KJ
			Temp. (°C)	22.8	48A	PM Change: KJ PM Feed: KJ
3	11/28/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.6	RD09	AM Change: SB WQ: SB
			New D.O. (mg/L)	7.3	RD09	Mortality Counts: SB
			Temp. (°C)	22.8	48A	PM Change: JN PM Feed: JN
4	11/29/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.2	RD09	AM Change: KJ WQ: KJ
			New D.O. (mg/L)	~~7.8~~ 7.5	RD09	Mortality Counts: KJ
			Temp. (°C)	22.9	48A	PM Change: KJ PM Feed: KJ
5	11/30/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.1	RD11	AM Change: KJ WQ: KJ
			New D.O. (mg/L)	7.6	RD11	Mortality Counts: KJ
			Temp. (°C)	22.9	48A	PM Change: RAP PM Feed: RAP
6	12/1/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.4	RD11	AM Change: FT WQ: FT
			New D.O. (mg/L)	7.8	RD11	Mortality Counts: FT
			Temp. (°C)	22.4	48A	PM Change: FT PM Feed: FT
7	12/2/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	7.9	RD11	AM Change: SB WQ: SB
			New D.O. (mg/L)	8.1	RD11	Mortality Counts: SB
			Temp. (°C)	22.7	48A	PM Change: SB PM Feed: SB
8	12/3/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.9	RD12	AM Change: TF WQ: TF
			New D.O. (mg/L)	7.6	RD12	Mortality Counts: TF
			Temp. (°C)	22.6	48A	PM Change: TF PM Feed: TF
9	12/4/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.5	RD14	AM Change: FT WQ: FT
			New D.O. (mg/L)	8.2	RD12	Mortality Counts: FT
			Temp. (°C)	22.4	48A	PM Change: FT PM Feed: FT
10	12/5/17	# Alive: A 10 B 10 C 10 D 8 / E 10 F 10 G 10 H 10	pH	7.53	PH23	WQ: SJJ
			D.O. (mg/L)	5.6	RD12	Termination Counts: SMC
			Conductivity (µS/cm)	437	EC12	Termination Time: 1110
			Alkalinity (mg/L)	58		
			Hardness (mg/L)	118		
			Ammonia (mg/L)	<1.00	DR350	
			Temp. (°C)	22.4	48A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	11-2590-6025	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	08 Dec-17 14:10	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	WK-64R passed survival rate	4.89%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R	68.5	n/a	1	14	Exact	0.7667	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0012584	0.0012584	1	0.168	0.6877	Non-Significant Effect
Error	0.104566	0.007469	14			
Total	0.105824		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	3.5	8.89	0.1205	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.493	0.841	1.8E-06	Non-Normal Distribution

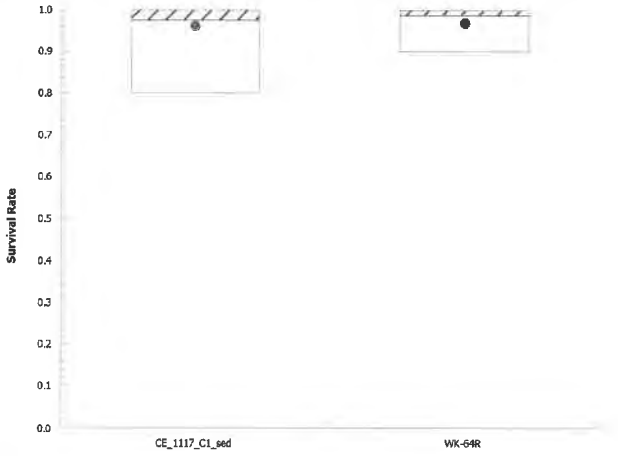
Survival Rate Summary

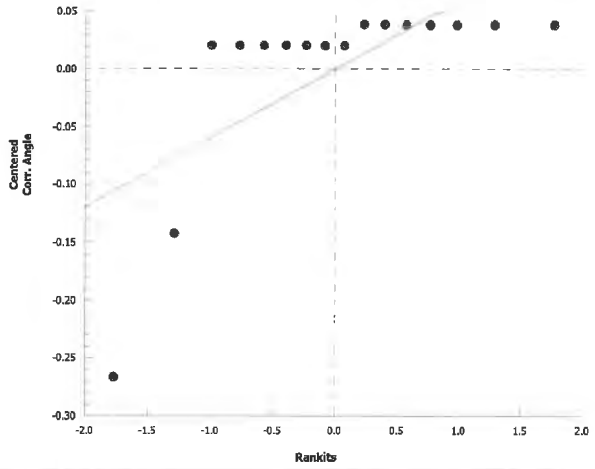
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117_C1_sed	CS	8	0.975	0.916	1.000	1.000	0.800	1.000	0.025	7.25%	0.00%
WK-64R		8	0.987	0.958	1.000	1.000	0.900	1.000	0.013	3.58%	-1.28%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117_C1_sed	CS	8	1.37	1.28	1.46	1.41	1.11	1.41	0.0381	7.85%	0.00%
WK-64R		8	1.39	1.34	1.44	1.41	1.25	1.41	0.0204	4.14%	-1.29%

Graphics





10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: Condor Earth Project#: 28107 Organism Log #: 10642(A) Age: 11-12 days

Species: *Hyalella azteca* Test ID#: 75571 Organism Supplier: ABS

Day	Date	Test Material: WK-64R	Water Quality Measurements: Parameter	Value	Meter ID	Sign-off:
0	11/25/17	# Live Organisms: A 10 B 10 C 10 D 10 / E 10 F 10 G 10 H 10	pH	7.75	PH23	AM Change: RAP
			D.O. (mg/L)	8.3	RD11	WQ: RAP
			Conductivity (µS/cm)	405	EC10	Initiation Time: 1140
			Alkalinity (mg/L)	43.6		Initiation Counts: MS
			Hardness (mg/L)	118		Confirmation Counts: TK
			Ammonia (mg/L)	<1.00	DR3800	PM Feed: ML
			Temp. (°C)	22.7	48A	
1	11/26/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	7.3	RD12	AM Change: FT WQ: FT
			New D.O. (mg/L)	8.0	RD12	Mortality Counts: FT
			Temp. (°C)	23.0	48A	PM Change: FT PM Feed: FT
2	11/27/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.4	RD11	AM Change: KJ WQ: KJ
			New D.O. (mg/L)	7.6	RD11	Mortality Counts: KJ
			Temp. (°C)	22.8	48A	PM Change: KJ PM Feed: KJ
3	11/28/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.4	RD09	AM Change: SB WQ: SB
			New D.O. (mg/L)	7.2	RD09	Mortality Counts: SB
			Temp. (°C)	22.9	48A	PM Change: JN PM Feed: JN
4	11/29/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.5	RD09	AM Change: KJ WQ: KJ
			New D.O. (mg/L)	7.4	RD09	Mortality Counts: KJ
			Temp. (°C)	22.9	48A	PM Change: KJ PM Feed: KJ
5	11/30/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.1	RD11	AM Change: KJ WQ: KJ
			New D.O. (mg/L)	7.7	RD11	Mortality Counts: KJ
			Temp. (°C)	22.9	48A	PM Change: RAP PM Feed: RAP
6	12/1/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.8	RD11	AM Change: FT WQ: FT
			New D.O. (mg/L)	8.0	RD11	Mortality Counts: FT
			Temp. (°C)	22.4	48A	PM Change: FT PM Feed: FT
7	12/2/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	7.6	RD11	AM Change: SB WQ: SB
			New D.O. (mg/L)	8.2	RD11	Mortality Counts: SB
			Temp. (°C)	22.7	48A	PM Change: SB PM Feed: SB
8	12/3/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.5	RD12	AM Change: TF WQ: TF
			New D.O. (mg/L)	7.4	RD12	Mortality Counts: TF
			Temp. (°C)	22.6	48A	PM Change: TF PM Feed: TF
9	12/4/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.6	RD12	AM Change: FT WQ: FT
			New D.O. (mg/L)	8.1	RD12	Mortality Counts: FT
			Temp. (°C)	22.4	48A	PM Change: FT PM Feed: FT
10	12/5/17	# Alive: A 10 B 10 C 10 D 9 / E 10 F 10 G 10 H 10	pH	7.20	PH23	WQ: SJB
			D.O. (mg/L)	4.1	RD12	Termination Counts: SMC
			Conductivity (µS/cm)	433	EC12	Termination Time: 1110
			Alkalinity (mg/L)	59		
			Hardness (mg/L)	113.2		
			Ammonia (mg/L)	1.25	DR3300	
			Temp. (°C)	22.4	48A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	00-2932-2886	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	08 Dec-17 14:10	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	WK-64R passed mean dry weight-mg	20.61%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R	1.51	1.76	0.021	14	CDF	0.0772	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0013181	0.0013181	1	2.27	0.1543	Non-Significant Effect
Error	0.0081385	0.0005813	14			
Total	0.0094566		15			

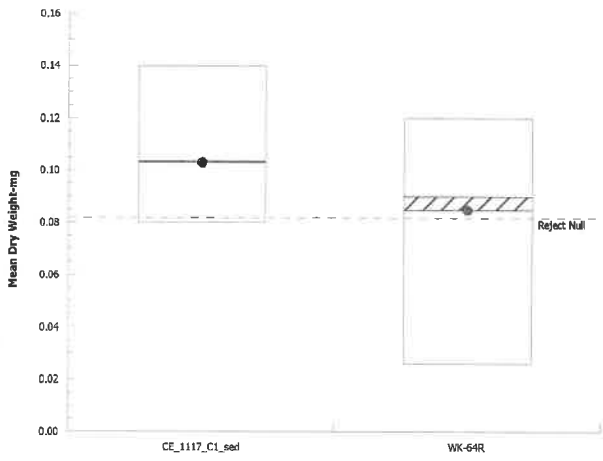
Distributional Tests

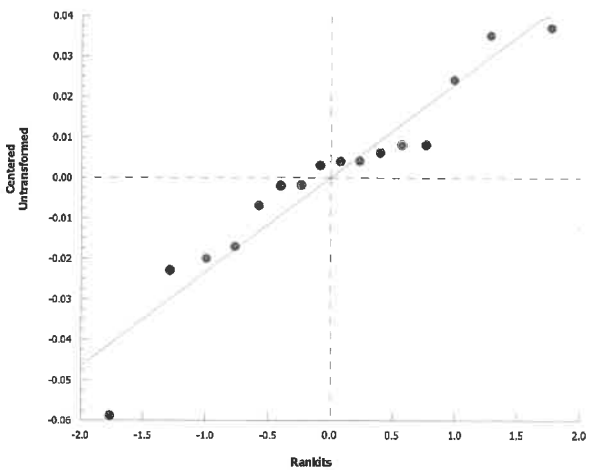
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.34	8.89	0.2856	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.93	0.841	0.2401	Normal Distribution

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117_C1_sed	CS	8	0.103	0.0874	0.119	0.103	0.08	0.14	0.0066	18.13%	0.00%
WK-64R		8	0.0848	0.061	0.109	0.09	0.026	0.12	0.0101	33.63%	17.62%

Graphics





Hyalella azteca Weight Data Sheets

Client: **Condor Earth** Project #: **28107** Balance ID: BAL04

Sample ID: **WK-64R** Tare Wt Date: 11/27/17 Sign-Off: HR

Test ID #: **75571** Final Wt Date: 12/6/17 Sign-Off: LT

Pan	Concentration Replicate		Initial Weight. (mg)	Final Weight. (mg)	# organisms	Ave Weight (mg)
1	Control	A	69.58	70.98	10	0.140
2	Sediment	B	69.92	70.75	10	0.083
3		C	65.32	66.39	10	0.107
4		D	69.36	70.00	8	0.080
5		E	64.05	65.16	10	0.111
6		F	66.30	67.36	10	0.106
7		G	66.03	66.99	10	0.096
8		H	60.37	61.38	10	0.101
9	WK-64R	A	61.15	61.98	10	0.083
10		B	63.69	64.78	10	0.109
11		C	64.28	65.17	10	0.089
12		D	62.21	62.82	9	0.068
13		E	66.94 ~~66.17~~ HR 11/28/17	67.20	10	0.026
14		F	6550 ~~66.94~~ * 11/27/17	66.70	10	0.120
15		G	62.79 ~~65.50~~ HR 11/27/17	63.72	10	0.093
16		H	65.02	65.93	10	0.091
QA 1			61.40	61.38		

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	00-2949-9170	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	08 Dec-17 14:10	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	FD passed survival rate	9.31%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		FD	52.5	n/a	2	14	Exact	0.0501	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.09882	0.09882	1	3.39	0.0868	Non-Significant Effect
Error	0.407888	0.0291349	14			
Total	0.506708		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	4.02	8.89	0.0868	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.813	0.841	0.0040	Non-Normal Distribution

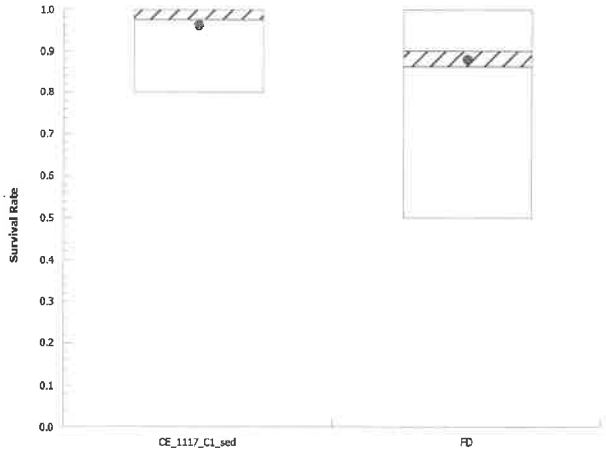
Survival Rate Summary

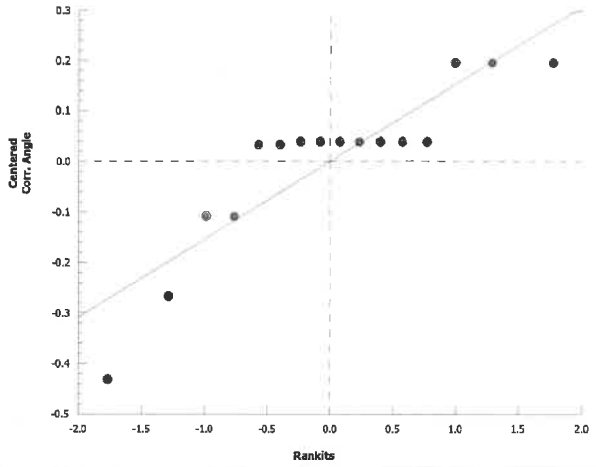
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117_C1_sed	CS	8	0.975	0.916	1.000	1.000	0.800	1.000	0.025	7.25%	0.00%
FD		8	0.862	0.722	1.000	0.900	0.500	1.000	0.060	19.54%	11.54%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117_C1_sed	CS	8	1.37	1.28	1.46	1.41	1.11	1.41	0.0381	7.85%	0.00%
FD		8	1.22	1.04	1.4	1.25	0.785	1.41	0.0764	17.75%	11.44%

Graphics





10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: **Condor Earth** Project#: **28107** Organism Log #: 10642 (A) Age: 11-12 days

Species: *Hyalella azteca* Test ID#: **75572** Organism Supplier: **ABS**

Day	Date	Test Material: WK-64R-FD	Water Quality Measurements: Parameter	Value	Meter ID	Sign-off:
0	11/25/17	# Live Organisms: A 10 B 10 C 10 D 10 / E 10 F 10 G 10 H 10	pH	7.61	PH23	AM Change: RAP
			D.O. (mg/L)	8.3	RD11	WQ: RAP
			Conductivity (µS/cm)	405	EC10	Initiation Time: 1140
			Alkalinity (mg/L)	42.8		Initiation Counts: MS
			Hardness (mg/L)	122		Confirmation Counts: TK
			Ammonia (mg/L)	<1.00	DR3800	PM Feed: NL
			Temp. (°C)	22.7	48A	
1	11/26/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.4	RD12	AM Change: FT WQ: FT
			New D.O. (mg/L)	7.7	RD12	Mortality Counts: FT
			Temp. (°C)	23.0	48A	PM Change: FT PM Feed: FT
2	11/27/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.2	RD11	AM Change: ZG WQ: ZG
			New D.O. (mg/L)	7.7	RD11	Mortality Counts: ZG
			Temp. (°C)	22.8	48A	PM Change: ZG PM Feed: ZG
3	11/28/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.3	RD09	AM Change: SB WQ: SB
			New D.O. (mg/L)	7.2	RD09	Mortality Counts: SB
			Temp. (°C)	22.9	48A	PM Change: JN PM Feed: JN
4	11/29/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.0	RD09	AM Change: ZG WQ: ZG
			New D.O. (mg/L)	7.6	RD09	Mortality Counts: ZG
			Temp. (°C)	22.9	48A	PM Change: ZG PM Feed: ZG
5	11/30/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.2	RD11	AM Change: ZG WQ: ZG
			New D.O. (mg/L)	7.6	RD11	Mortality Counts: ZG
			Temp. (°C)	22.7	48A	PM Change: RAP PM Feed: RAP
6	12/1/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.8	RD11	AM Change: FT WQ: FT
			New D.O. (mg/L)	7.5	RD11	Mortality Counts: FT
			Temp. (°C)	22.4	48A	PM Change: FT PM Feed: FT
7	12/2/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	7.4	RD11	AM Change: SB WQ: SB
			New D.O. (mg/L)	8.3	RD11	Mortality Counts: SB
			Temp. (°C)	22.7	48A	PM Change: SB PM Feed: SB
8	12/3/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	4.4	RD12	AM Change: TF WQ: TF
			New D.O. (mg/L)	7.4	RD12	Mortality Counts: TF
			Temp. (°C)	22.6	48A	PM Change: TF PM Feed: TF
9	12/4/17	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.9	RD12	AM Change: FT WQ: FT
			New D.O. (mg/L)	7.9	RD12	Mortality Counts: FT
			Temp. (°C)	22.4	48A	PM Change: FT PM Feed: FT
10	12/5/17	# Alive: A 8 B 9 C 10 D 9 / E 10 F 10 G 8 H 5	pH	7.13	PH23	WQ: SB
			D.O. (mg/L)	3.5	RD12	Termination Counts: SMC
			Conductivity (µS/cm)	439	EC12	Termination Time: 1110
			Alkalinity (mg/L)	57		
			Hardness (mg/L)	104.4		
			Ammonia (mg/L)	1.21	DR3800	
			Temp. (°C)	22.4	48A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	19-1066-0664	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	08 Dec-17 14:10	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	FD failed mean dry weight-mg	13.94%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		FD*	2.04	1.76	0.014	14	CDF	0.0306	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.001101	0.001101	1	4.14	0.0612	Non-Significant Effect
Error	0.0037219	0.0002659	14			
Total	0.0048229		15			

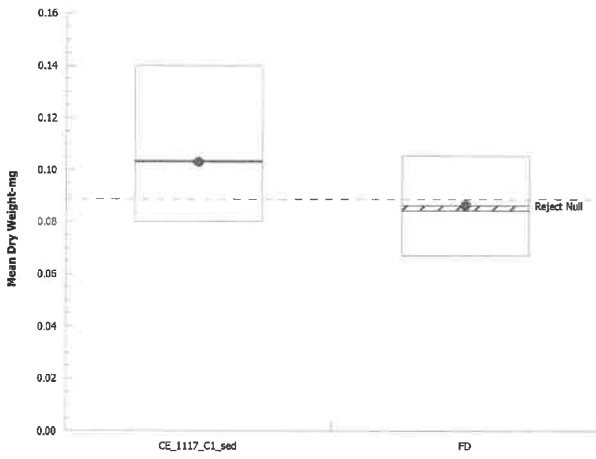
Distributional Tests

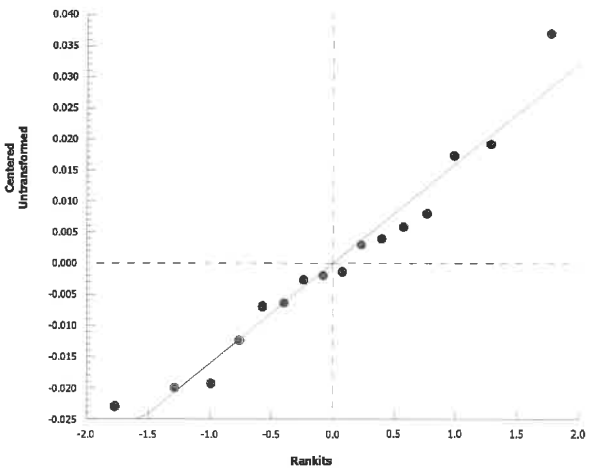
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.9	8.89	0.4151	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.957	0.841	0.6077	Normal Distribution

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117_C1_sed	CS	8	0.103	0.0874	0.119	0.103	0.08	0.14	0.0066	18.13%	0.00%
FD		8	0.0864	0.0751	0.0977	0.0844	0.067	0.106	0.00478	15.66%	16.11%

Graphics





Hyalella azteca Weight Data Sheets

Client: **Condor Earth** Project #: **28107** Balance ID: BAL04

Sample ID: **WK-64R-FD** Tare Wt Date: 11/27/17 Sign-Off: HR

Test ID #: **75572** Final Wt Date: 12/6/17 Sign-Off: CE

Pan	Concentration	Replicate	Initial Weight. (mg)	Final Weight. (mg)	# organisms	Ave Weight (mg)
1	Control	A	69.58	70.98	10	0.140
2	Sediment	B	69.92	70.75	10	0.083
3		C	65.32	66.39	10	0.107
4		D	69.36	70.00	8	0.080
5		E	64.05	65.16	10	0.111
6		F	66.30	67.36	10	0.106
7		G	66.03	66.99	10	0.096
8		H	60.37	61.38	10	0.101
17	WK-64R-FD	A	64.15	64.98	8	0.104
18		B	65.47	66.42	9	0.106
19		C	67.15	67.95	10	0.080
20		D	65.39	66.22	9	0.092
21		E	61.63	62.30	10	0.067
22		F	69.97	70.82	10	0.085
23		G	62.84 ~~64.79~~ HR 11/29/17	63.51	8	0.084
24		H	64.79	65.16	5	0.074
QA 2			66.16	66.24		

Sediment Toxicity Lab Report
April 2, 2018 at WK-64R
Dry Weather Event

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Micheline Kipf
Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

May 4, 2018

Dear Micheline:

I have enclosed a copy of our report "An Evaluation of the Toxicity of City of Stockton Stormwater Program Sediment Samples" for the samples that were collected April 2, 2018. The results of this testing are summarized below:

Summary of Stockton Stormwater Program sediment effects on *Hyalella azteca*.		
Sample Station	Toxicity Present Relative to Lab Control?	
	Survival	Growth
WK-64R	**YES**	**YES**
FD	**YES**	No

If you have any questions regarding the performance and interpretation of this testing, please contact my colleague Stephen Clark or myself at (707) 207-7760.

Sincerely,

Michael McElroy
Project Manager

Pacific EcoRisk is accredited in accordance with NELAP (ORELAP ID 4043). Pacific EcoRisk certifies that the test results reported herein conform to the most current NELAP requirements for parameters for which accreditation is required and available. Any exceptions to NELAP requirements are noted, where applicable, in the body of the report. This report shall not be reproduced, except in full, without the written consent of Pacific EcoRisk. This testing was performed under Lab Order 28676.

An Evaluation of the Toxicity of City of Stockton Stormwater Program Sediment Samples

Samples collected April 2, 2018

Prepared For:

Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

Prepared By:

Pacific EcoRisk
2250 Cordelia Rd.
Fairfield, CA 94534
(707) 207-7760

May 2018

PACIFIC ECORISK
ENVIRONMENTAL CONSULTING & TESTING

An Evaluation of the Toxicity of City of Stockton Stormwater Program Sediment Samples

Samples collected April 2, 2018

Table of Contents

Appendices

1. INTRODUCTION

In compliance with the City of Stockton Stormwater Program NPDES permit monitoring requirements, Condor Earth Technologies, Inc., has contracted Pacific EcoRisk (PER) to perform evaluations of the toxicity of selected ambient water and sediment samples. The current testing event was designed to meet the sediment monitoring requirements using sediment samples that were collected on April 2, 2018. This evaluation consisted of performing the US EPA 10-day survival and growth test with the amphipod *Hyalella azteca*. This report describes the performance and results of this testing.

2. SEDIMENT TOXICITY TEST PROCEDURES

This testing followed the guidelines established by the EPA manual "Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition" (EPA/600/R-99/064).

2.1 Receipt and Handling of the Sediment Samples

On April 2, sediment samples were collected into appropriately cleaned sample containers. These samples were transported on ice and under chain-of-custody, to the PER laboratory in Fairfield, CA (Table 1). The samples were then stored at ≤6˚C until being used to initiate toxicity tests within 14 days of collection. The chain-of-custody record for the collection and delivery of the samples is presented in Appendix A.

Table 1. Sampling station and date of sediment collection for the Stockton Stormwater Program.

Sample Station	Date Collected	Date Received
WK-64R	4/2/18	4/3/18
FD	4/2/18	4/3/18

2.2 Solid-Phase Sediment Toxicity Testing with *Hyalella azteca*

The sediment toxicity test with *H. azteca* consists of exposing the amphipods to the sediment for 10 days, after which effects on survival and growth are evaluated. The specific procedures used in this testing are described below.

The *H. azteca* used in this testing were obtained from a commercial supplier (Aquatic BioSystems, Fort Collins, CO). Upon receipt at the laboratory, the amphipods were maintained in tanks containing Lab Water Control medium at 23˚C and were fed a commercial Yeast-Cerophyll®-Trout chow (YCT) food amended with freeze-dried *Spirulina*.

The Control treatment sediment for this testing consisted of a composite of reference site sediments that have been maintained under culture at the PER lab for >3 months. The sediment samples were tested at the 100% concentration only. There were eight replicates for each test treatment, each replicate container consisting of a 300-mL tall-form glass beaker with a 3-cm ribbon of 540 µm mesh NITEX attached to the top of the beaker with silicone sealant. Each sediment sample was homogenized prior to loading of sediment into the test replicates. For each sediment, approximately 100 mL of sediment was then loaded into each of the test replicate containers. Each test replicate was then carefully filled with clean Lab Water Control medium (Standard Artificial Medium [SAM-5S] water). The test replicates with sediments and clean overlying water were established ~24 hrs prior to the introduction of the amphipods, and were placed in a temperature-controlled room at 23˚C during this pre-test period.

After this initial 24 hr period, the overlying water in each replicate was flushed with one volume (approximately 150 mL) of fresh overlying water. For each test treatment, a small aliquot of the renewed overlying water was then collected from each of the eight replicates and composited for measurement of "initial" water quality characteristics (pH, dissolved oxygen [D.O.], conductivity, alkalinity, hardness, and total ammonia). The testing was then initiated with the random allocation of ten 8-9 day-old amphipods into each replicate, followed by the addition of 1.0 mL of *Spirulina*-amended YCT food. The test replicates were then placed in a temperature-controlled room at 23˚C. At the time of test initiation, eight replicates of 10 randomly-selected organisms were collected, dried, and weighed (described below) to determine the mean dry weight of the test organisms at test initiation (T_0).

Each day, for the following nine days, each test replicate was examined and any dead amphipods were removed via pipette and the mortality recorded. A small aliquot of the overlying water in each of the eight replicates for each test treatment was then collected and composited as before for measurement of "old" D.O., after which each replicate was flushed with one volume of fresh water. Another small aliquot of the overlying water in each of the eight replicates was then collected and composited as before for measurement of "new" D.O., after which each replicate was fed 1.0 mL of *Spirulina*-amended YCT.

After 10 days exposure, testing was terminated. An aliquot of overlying water was collected from each replicate and composited for analysis of the "final" water quality characteristics. The sediments in each replicate container were then carefully sorted and sieved and the number of surviving amphipods determined. The surviving organisms were euthanized in methanol, rinsed in de-ionized water, and transferred to small pre-tared weighing pans, which were placed into a drying oven at 100˚C. After drying for ~24 hrs, the pans were transferred to a desiccator to cool, and then weighed to the nearest 0.01 mg to determine the mean dry weight per surviving organism for each replicate. The resulting survival and growth (mean dry weight) data were then analyzed to evaluate any impairment due to the sediments; all statistical analyses were performed using the CETIS® statistical software (TidePool Scientific, McKinleyville, CA).

3. RESULTS

Test results are summarized in Table 2. There were significant reductions in survival in both of the sediment samples. There was no significant reduction in growth in the FD sediment sample. However, there was a significant reduction in growth in the WK-64R sediment sample. The test data and summary of statistical analyses for this testing are presented in Appendix B.

Table 2. Data summary for the Stockton Stormwater Program sediment samples.

Test Treatment	% Survival	% Reduction	Toxic? (Y/N)	Mean dry weight (mg)	% Reduction	Toxic? (Y/N)
Control	100	N/A	N/A	0.049	N/A	N/A
WK-64R	**92.5***	7.5%	**Y**	**0.040***	17.6%	**Y**
FD	**92.5***	7.5%	**Y**	0.043	11.4%	N

* The response at this test treatment was significantly less than the Control sediment response (at $p<0.05$).

4. SUMMARY AND CONCLUSIONS

The results of this testing are summarized below. There were no significant reductions in survival in either of the sediment samples. There was no significant reduction in growth in the WK-64R sediment sample. However, there was a significant reduction in growth in the FD sediment sample.

Summary of Stockton Stormwater Program sediment effects on *Hyalella azteca*.

Sample Station	Toxicity Present Relative to Lab Control?	
	Survival	Growth
WK-64R	**YES**	**YES**
FD	**YES**	No

4.1 QA/QC Summary

Test Conditions – All test conditions (pH, D.O., temperature, etc.) were within acceptable limits. All analyses were performed according to laboratory Standard Operating Procedures.

Negative Control – The biological responses for the test organisms at the Lab Control treatment were within acceptable limits.

Appendix A

Chain-of-Custody Record for the Collection and Delivery of the Stockton Stormwater Program Sediment Samples

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Condor Earth Technologies, Inc.

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☑ 188 Frank West Circle, Suite I, Stockton, CA 95206, 209.234.0518, 209.234.0538 fax
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☐ 1739 Ashby Road, Suite B, Merced, CA 95348, 209.388.9601, 209.388.1778 fax

Sample Results TAT: ☐ Rush ☑ Standard

SHIPPED TO:

Pacific EcoRisk
2250 Cordelia Road
Fairfield, CA 94534 (707) 207-7760

SEND RESULTS TO:

NAME: Micheline Doyle Kipf
E-MAIL: mkipf@condorearth.com
E-MAIL:

☑ PLEASE FAX/EMAIL RESULTS TO ADDRESS MARKED ABOVE

PROJECT NAME/LOCATION: COS Urban Discharge | EDF RESULTS REQUIRED ☐ YES ☑ NO | SITE GLOBAL ID:

PROJECT NO.: 6066J-05-01

SAMPLED BY: (Signature) MDR/ZAS

Date	Time	Sample Site Name	Sample ID (if different)	Matrix	# of containers	Preservatives (see below)	ANALYSIS /METHOD:	Field Filtered	Hyalella azteca*	TOC	Grain size						REMARKS	LAB ID#
4/2/18	1550	1718-DW32-	WK-64R	S		1		N	✓	✓	✓						*chronic freshwater (EPA/600/4-91/003)	
4/2/18	1550	1718-DW32-	FD	S		1		N	✓	✓	✓						Hyalella azteca survival & growth	
																	Conduct additional pyrethroids	
																	analysis if toxicity is observed.	
																	Sub samples to be	
																	collected for Caltest	
																	TOC RL= 1 mg/L	

Relinquished By: (Signature) Matt Rea — Date: 4/3/18 — Time: 1010 — Received By: (Signature) — Date: 4/3/18 — Time: 1010

Relinquished By: (Signature) — Received By: (Signature)

Matrix: DW Drinking Water; WW Waste Water; HWW Hazardous Waste (Water); S Soil/Solid; SW Storm Water; GW Ground Water

Preservative: 1 4°C; 2 HCL; 3 NaOH; 4 $Na_2S_2O_3$; 5 HNO_3; 6 H_2SO_4; 7 Other____

Original – Send | Yellow – File | Pink – Log Book

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Appendix B

Test Data and Summary of Statistics for the Evaluation of the Toxicity of the Stockton Stormwater Program Sediment Samples to *Hyalella azteca*

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CETIS Summary Report

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Batch ID:	13-3897-1280	**Test Type:**	Survival-Growth (10 day)	**Analyst:**	Simin Delijani
Start Date:	07 Apr-18 14:30	**Protocol:**	EPA/600/R-99/064 (2000)	**Diluent:**	Not Applicable
Ending Date:	17 Apr-18 11:45	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Duration:	9d 21h	**Source:**	Aquatic Biosystems, CO	**Age:**	9

Sample Code	Sample ID	Sample Date	Receipt Date	Sample Age	Client Name	Project
CE_0418HA_C1	00-7074-5325	07 Apr-18 14:30	07 Apr-18 14:30	n/a (22.6 °C)	Condor Earth Technologi	28676
WK-64R	17-4680-1307	02 Apr-18 15:50	03 Apr-18 10:10	4d 23h		
FD	02-0631-8992	02 Apr-18 15:50	03 Apr-18 10:10	4d 23h		

Sample Code	Material Type	Sample Source	Station Location	Lat/Long
CE_0418HA_C1	Control Sediment	Condor Earth Technologies	LABQA	
WK-64R	Sediment	Condor Earth Technologies	WK-64R	
FD	Sediment	Condor Earth Technologies	WK-64R-FD	

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
16-1784-7961	Mean Dry Weight-mg	Equal Variance t Two-Sample Test	0.0101	WK-64R failed mean dry weight-mg
08-5843-2231	Mean Dry Weight-mg	Equal Variance t Two-Sample Test	0.0505	FD passed mean dry weight-mg
14-7757-1732	Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.0385	WK-64R failed survival rate
01-2189-8423	Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.0385	FD failed survival rate

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_0418HA_C1	CS	8	0.0486	0.0425	0.0547	0.041	0.06	0.00258	0.00729	14.99%	0.00%
WK-64R		8	0.0401	0.0354	0.0448	0.03	0.046	0.002	0.00565	14.10%	17.58%
FD		8	0.0431	0.0387	0.0474	0.035	0.05	0.00184	0.00522	12.11%	11.44%

Survival Rate Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_0418HA_C1	CS	8	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	0.00%
WK-64R		8	0.925	0.838	1.000	0.700	1.000	0.037	0.104	11.19%	7.50%
FD		8	0.925	0.851	0.999	0.800	1.000	0.031	0.089	9.58%	7.50%

Mean Dry Weight-mg Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_0418HA_C1	CS	0.06	0.044	0.059	0.044	0.05	0.048	0.041	0.043
WK-64R		0.042	0.0378	0.0444	0.0411	0.046	0.03	0.0343	0.045
FD		0.043	0.042	0.047	0.0475	0.05	0.035	0.0367	0.0433

Survival Rate Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_0418HA_C1	CS	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
WK-64R		1.000	0.900	0.900	0.900	1.000	1.000	0.700	1.000
FD		1.000	1.000	1.000	0.800	1.000	0.800	0.900	0.900

Survival Rate Binomials

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_0418HA_C1	CS	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10
WK-64R		10/10	9/10	9/10	9/10	10/10	10/10	7/10	10/10
FD		10/10	10/10	10/10	8/10	10/10	8/10	9/10	9/10

10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: **Condor Earth** Project#: **28676** Organism Log #: 10880 Age: 8-9 d

Species: *Hyalella azteca* Test ID#: **77569-70** Organism Supplier: **ABS**

Day	Date	Test Material: Lab Control	Water Quality Measurements: Parameter	Value	Meter ID	Sign-off:
0	4/7/18	# Live Organisms: A 10 B 10 C 10 D 10 / E 10 F 10 G 10 H 10	pH	7.96	PH21	AM Change: JR
			D.O. (mg/L)	8.3	RD11	WQ: JR
			Conductivity (µS/cm)	414	EC11	Initiation Time: 1430
			Alkalinity (mg/L)	✓ 57		Initiation Counts: NB
			Hardness (mg/L)	✓ 139		Confirmation Counts: SMC
			Ammonia (mg/L)	<1.00	DR3800	PM Feed: NB
			Temp. (°C)	22.6	48A	
1	4/8/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.3	RD13	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.4	RD13	Mortality Counts: JR
			Temp. (°C)	22.4	48A	PM Change: JR PM Feed: JR
2	4/9/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	7.4	RD11	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.9	RD11	Mortality Counts: JR
			Temp. (°C)	22.6	48A	PM Change: TC PM Feed: TC
3	4/10/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.9	RD12	AM Change: KG WQ: KG
			New D.O. (mg/L)	6.5	RD12	Mortality Counts: KG
			Temp. (°C)	22.8	48A	PM Change: KG PM Feed: KG
4	4/11/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L) DM 4-11-18	6.3	RD10	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.6	RD10	Mortality Counts: DM
			Temp. (°C)	22.8	48A	PM Change: DM PM Feed: DM
5	4/12/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.8	RD10	AM Change: RAP WQ: RAP
			New D.O. (mg/L)	7.6	RD10	Mortality Counts: RAP
			Temp. (°C)	23.1	48A	PM Change: MJL PM Feed: MJL
6	4/13/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.6	RD10	AM Change: FT WQ: FT
			New D.O. (mg/L)	8.2	RD10	Mortality Counts: FT
			Temp. (°C)	23.4	48A	PM Change: FT PM Feed: FT
7	4/14/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.1	RD10	AM Change: MJL WQ: MJL
			New D.O. (mg/L)	7.6	RD10	Mortality Counts: MJL
			Temp. (°C)	23.4	48A	PM Change: MJL PM Feed: MJL
8	4/15/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.6	RD12	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.3	RD12	Mortality Counts: DM
			Temp. (°C)	23.4	48A	PM Change: DM PM Feed: DM
9	4/16/18	# of Mortalities: A 0 B 0 C 0 D 0 / E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.7	RD11	AM Change: KG WQ: KG
			New D.O. (mg/L)	7.5	RD11	Mortality Counts: KG
			Temp. (°C)	23.3	48A	PM Change: KG PM Feed: KG
10	4/17/18	# Alive: A 10 B 10 C 10 D 10 / E 10 F 10 G 10 H 10	pH	7.48	PH21	WQ: NB
			D.O. (mg/L)	5.2	RD13	Termination Counts: NB
			Conductivity (µS/cm)	424	EC11	Termination Time: 1145
			Alkalinity (mg/L)	✓ 58		
			Hardness (mg/L)	✓ 127		
			Ammonia (mg/L)	<1.00	DR3800	
			Temp. (°C)	23.2	48A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	14-7757-1732	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	01 May-18 15:00	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	WK-64R failed survival rate	6.17%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R*	52	n/a	1	14	Exact	0.0385	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0517302	0.0517302	1	4.72	0.0474	Significant Effect
Error	0.15334	0.0109529	14			
Total	0.205071		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	8.63E+13	8.89	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.75	0.841	6.3E-04	Non-Normal Distribution

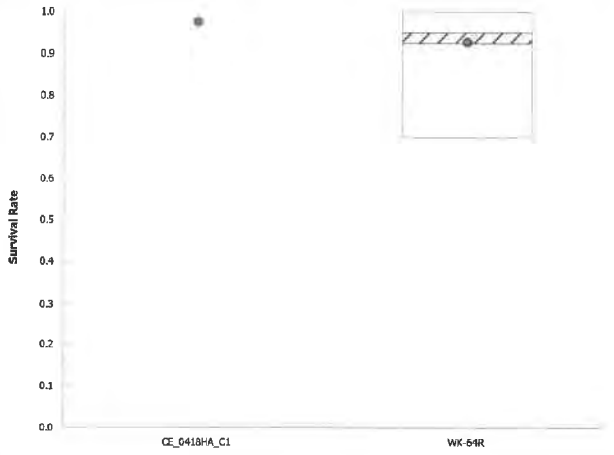
Survival Rate Summary

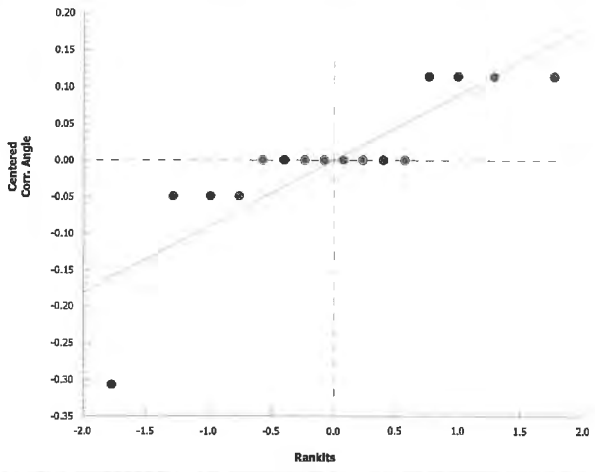
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0418HA_C1	CS	8	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.00%	0.00%
WK-64R		8	0.925	0.838	1.000	0.950	0.700	1.000	0.037	11.19%	7.50%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0418HA_C1	CS	8	1.41	1.41	1.41	1.41	1.41	1.41	0	0.00%	0.00%
WK-64R		8	1.3	1.17	1.42	1.33	0.991	1.41	0.0523	11.40%	8.05%

Graphics





10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: **Condor Earth** Project#: **28676** Organism Log #: 10880 Age: 8-9d

Species: *Hyalella azteca* Test ID#: **77569** Organism Supplier: **ABS**

Day	Date	Test Material	Water Quality Measurements			Sign-off:
		WK-64R	Parameter	Value	Meter ID	
0	4/7/18	# Live Organisms A 10 B 10 C 10 D 10 E 10 F 10 G 10 H 10	pH	7.74	PH21	AM Change: JR
			D.O. (mg/L)	8.0	RD11	WQ: JR
			Conductivity (µS/cm)	437	EC11	Initiation Time: 1430
			Alkalinity (mg/L)	✓ 56		Initiation Counts: MB
			Hardness (mg/L)	✓ 134		Confirmation Counts: SMC
			Ammonia (mg/L)	<1.00	DR3800	PM Feed: MB
			Temp. (°C)	22.6	48A	
1	4/8/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.5	RD13	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.7	RD13	Mortality Counts: JR
			Temp. (°C)	22.4	48A	PM Change: JR PM Feed: JR
2	4/9/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.0	RD11	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.1	RD11	Mortality Counts: JR
			Temp. (°C)	22.6	48A	PM Change: TK PM Feed: TK
3	4/10/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.8	RD12	AM Change: MM WQ: MM
			New D.O. (mg/L)	6.9	RD12	Mortality Counts: MM
			Temp. (°C)	22.8	48A	PM Change: MM PM Feed: MM
4	4/11/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.2	RD10	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.3	RD10	Mortality Counts: DM
			Temp. (°C)	22.8	48A	PM Change: DM PM Feed: DM
5	4/12/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.4	RD10	AM Change: RAP WQ: RAP
			New D.O. (mg/L)	7.7	RD10	Mortality Counts: RAP
			Temp. (°C)	23.1	48A	PM Change: MM PM Feed: MM
6	4/13/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.5	RD10	AM Change: FT WQ: FT
			New D.O. (mg/L)	8.0	RD10	Mortality Counts: FT
			Temp. (°C)	23.4	48A	PM Change: FT PM Feed: FT
7	4/14/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	4.4	RD10	AM Change: MM WQ: MM
			New D.O. (mg/L)	7.2	RD10	Mortality Counts: MM
			Temp. (°C)	23.4	48A	PM Change: MM PM Feed: MM
8	4/15/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	4.5	RD12	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.5	RD12	Mortality Counts: DM
			Temp. (°C)	23.4	48A	PM Change: DM PM Feed: DM
9	4/16/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.7	RD11	AM Change: KG WQ: KG
			New D.O. (mg/L)	7.9	RD11	Mortality Counts: KG
			Temp. (°C)	23.3	48A	PM Change: KG PM Feed: KG
10	4/17/18	# Alive A 10 B 9 C 9 D 9 E 10 F 10 G 7 H 10	pH	7.37	PH21	WQ: SMB
			D.O. (mg/L)	4.6	RD13	Termination Counts: RG
			Conductivity (µS/cm)	412	EC11	Termination Time: 1115
			Alkalinity (mg/L)	✓ 56		
			Hardness (mg/L)	✓ 133		
			Ammonia (mg/L)	<1.00	DR3800	
			Temp. (°C)	23.2	48A	

Hyalella 10-d Survival and Growth Sediment Test — Pacific EcoRisk

Analysis ID:	16-1784-7961	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	01 May-18 15:00	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	WK-64R failed mean dry weight-mg	11.81%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R*	2.62	1.76	0.006	14	CDF	0.0101	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0002922	0.0002922	1	6.87	0.0201	Significant Effect
Error	0.0005954	4.253E-05	14			
Total	0.0008876		15			

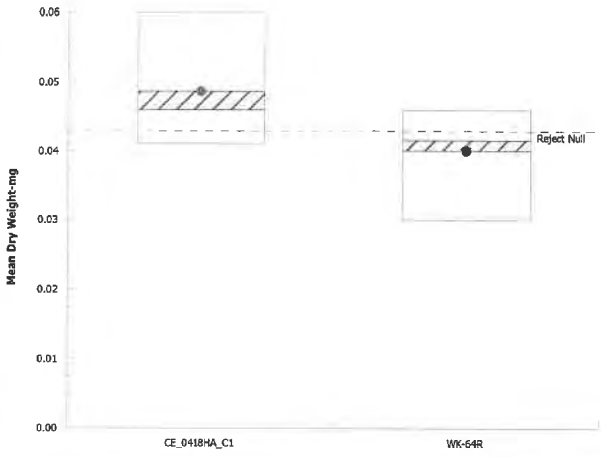
Distributional Tests

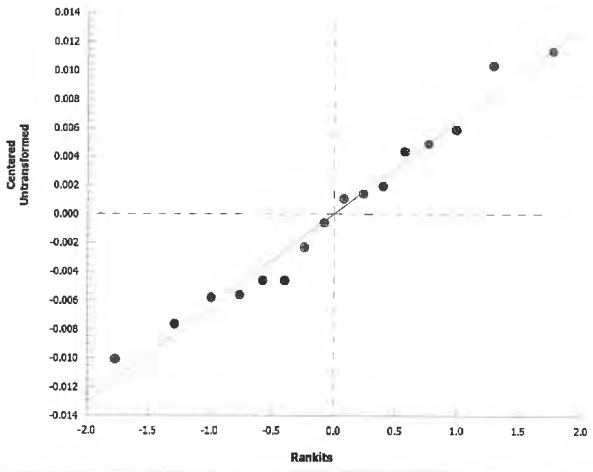
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.66	8.89	0.5180	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.966	0.841	0.7656	Normal Distribution

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0418HA_C1	CS	8	0.0486	0.0425	0.0547	0.046	0.041	0.06	0.00258	14.99%	0.00%
WK-64R		8	0.0401	0.0354	0.0448	0.0416	0.03	0.046	0.002	14.10%	17.58%

Graphics





Hyalella azteca Weight Data Sheets

Client: **Condor Earth** Project #: **28676** Balance ID: Bal04

Sample ID: WK-64R Tare Wt Date: 4/14/18 Sign-Off: RAP

Test ID #: **77569** Final Wt Date: 4/20/18 Sign-Off: FT

Pan	Concentration	Replicate	Initial Weight. (mg)	Final Weight. (mg)	# organisms	Ave Weight (mg)
1	Control	A	69.96	70.56	10	0.0600
2	Sediment	B	61.43	61.87	10	0.0440
3		C	59.34	59.93	10	0.0590
4		D	60.98	61.42	10	0.0440
5		E	64.60	65.10	10	0.0500
6		F	61.54	62.02	10	0.0480
7		G	59.69	60.10	10	0.0410
8		H	61.21	61.64	10	0.0430
9		A	62.89	63.31	10	0.0420
10		B	59.43	59.77	9	0.0378
11		C	61.88	62.28	9	0.0444
12		D	65.50	65.87	9	0.0411
13		E	63.23	63.69	10	0.0460
14		F	59.91	59.41	10	0.0300
15		G	59.46	59.70	7	0.0343
16		H	56.66	57.11	10	0.0450
QA1			65.19	65.19		0.0

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	01-2189-8423	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	01 May-18 15:00	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	FD failed survival rate	5.81%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		FD*	52	n/a	1	14	Exact	0.0385	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.054718	0.054718	1	5.91	0.0291	Significant Effect
Error	0.129571	0.0092551	14			
Total	0.184289		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	7.29E+13	8.89	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.826	0.841	0.0062	Non-Normal Distribution

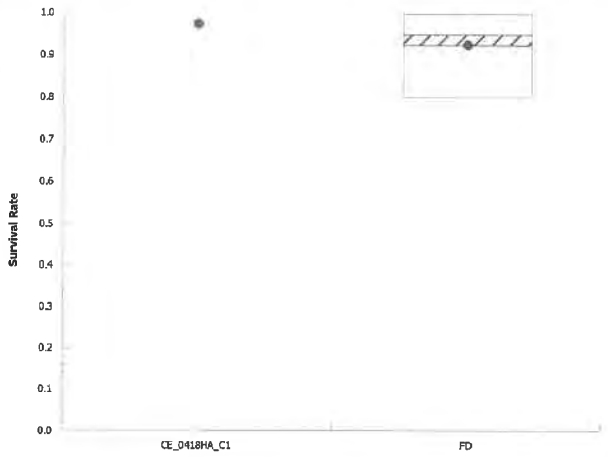
Survival Rate Summary

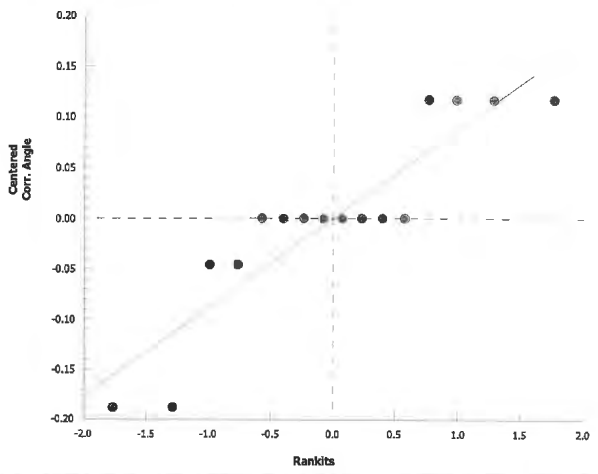
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0418HA_C1	CS	8	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.00%	0.00%
FD		8	0.925	0.851	0.999	0.950	0.800	1.000	0.031	9.58%	7.50%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0418HA_C1	CS	8	1.41	1.41	1.41	1.41	1.41	1.41	0	0.00%	0.00%
FD		8	1.3	1.18	1.41	1.33	1.11	1.41	0.0481	10.51%	8.28%

Graphics





10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: **Condor Earth** Project#: **28676** Organism Log #: 10880 Age: 8-9 d

Species: *Hyalella azteca* Test ID#: **77570** Organism Supplier: **ABS**

Day	Date	Test Material: FD	Water Quality Measurements: Parameter	Value	Meter ID	Sign-off:
0	4/7/18	# Live Organisms: A 10, B 10, C 10, D 10, E 10, F 10, G 10, H 10	pH	7.68	PH21	AM Change: JR
			D.O. (mg/L)	8.0	RD11	WQ: JR
			Conductivity (µS/cm)	432	EC11	Initiation Time: 1430
			Alkalinity (mg/L)	✓ 55		Initiation Counts: NB
			Hardness (mg/L)	✓ 131		Confirmation Counts: SMC
			Ammonia (mg/L)	<1.00	DR3800	PM Feed: NB
			Temp. (°C)	22.6	48A	
1	4/8/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.5	RD13	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.6	RD13	Mortality Counts: JR
			Temp. (°C)	22.4	48A	PM Change: JR PM Feed: JR
2	4/9/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	5.8	RD11	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.0	RD11	Mortality Counts: JR
			Temp. (°C)	22.6	48A	PM Change: TK PM Feed: TK
3	4/10/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	5.9	RD12	AM Change: MC WQ: MC
			New D.O. (mg/L)	6.6	RD12	Mortality Counts: MC
			Temp. (°C)	23.8	48A	PM Change: MC PM Feed: MC
4	4/11/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	4.1	RD10	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.2	RD10	Mortality Counts: DM
			Temp. (°C)	22.8	48A	PM Change: DM PM Feed: DM
5	4/12/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	4.0	RD10	AM Change: RAP WQ: RAP
			New D.O. (mg/L)	7.5	RD10	Mortality Counts: RAP
			Temp. (°C)	23.1	48A	PM Change: MJL PM Feed: MJL
6	4/13/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	5.3	RD16	AM Change: FT WQ: FT
			New D.O. (mg/L)	7.6	RD10	Mortality Counts: FT
			Temp. (°C)	23.4	48A	PM Change: FT PM Feed: FT
7	4/14/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	4.3	RD10	AM Change: MJL WQ: MJL
			New D.O. (mg/L)	7.1	RD10	Mortality Counts: MJL
			Temp. (°C)	23.4	48A	PM Change: MJL PM Feed: MJL
8	4/15/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	4.2	RD12	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.2	RD12	Mortality Counts: DM
			Temp. (°C)	23.4	48A	PM Change: DM PM Feed: DM
9	4/16/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	4.5	RD11	AM Change: KD WQ: KD
			New D.O. (mg/L)	7.5	RD11	Mortality Counts: KD
			Temp. (°C)	23.3	48A	PM Change: JL PM Feed: JL
10	4/17/18	# Alive: A 10, B 10, C 10, D 8, E 10, F 8, G 9, H 9	pH	7.17	PH21	WQ: SMB
			D.O. (mg/L)	3.1	RD13	Termination Counts: RD
			Conductivity (µS/cm)	411	EC11	Termination Time: 1115
			Alkalinity (mg/L)	✓ 53		
			Hardness (mg/L)	✓ 120		
			Ammonia (mg/L)	1.00	DR3800	
			Temp. (°C)	23.2	48A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	08-5843-2231	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	01 May-18 15:00	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	FD passed mean dry weight-mg	11.48%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		FD	1.76	1.76	0.006	14	CDF	0.0505	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0001238	0.0001238	1	3.08	0.1010	Non-Significant Effect
Error	0.0005623	4.016E-05	14			
Total	0.0006861		15			

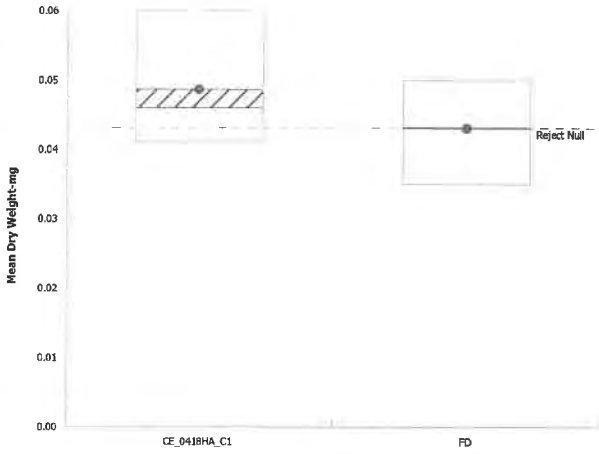
Distributional Tests

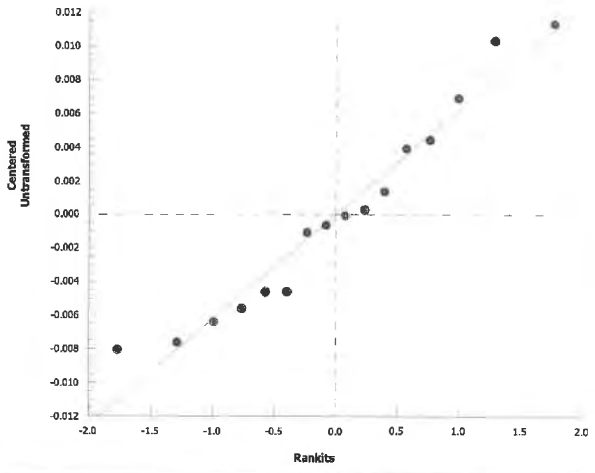
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.95	8.89	0.3970	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.94	0.841	0.3537	Normal Distribution

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0418HA_C1	CS	8	0.0486	0.0425	0.0547	0.046	0.041	0.06	0.00258	14.99%	0.00%
FD		8	0.0431	0.0387	0.0474	0.0432	0.035	0.05	0.00184	12.11%	11.44%

Graphics





Hyalella azteca Weight Data Sheets

Client: **Condor Earth** Project #: **28676** Balance ID: Bal04

Sample ID: FD Tare Wt Date: 4/14/18 Sign-Off: RAP

Test ID #: **77570** Final Wt Date: 4/20/18 Sign-Off: FT

Pan	Concentration Replicate		Initial Weight. (mg)	Final Weight. (mg)	# organisms	Ave Weight (mg)
1	Control	A	69.96	70.56	10	0.0600
2	Sediment	B	61.43	61.87	10	0.0440
3		C	59.34	59.93	10	0.0590
4		D	60.98	61.42	10	0.0440
5		E	61.60	62.10	10	0.0500
6		F	61.54	62.02	10	0.0480
7		G	59.69	60.10	10	0.0410
8		H	61.21	61.64	10	0.0430
17		A	62.26	62.69	10	0.0430
18		B	66.56	66.98	10	0.0420
19		C	60.72	61.19	10	0.0470
20		D	63.38	63.76	8	0.0475
21		E	61.07	61.57	10	0.0500
22		F	63.58	64.16	8	0.0350
23		G	58.07	58.40	9	0.0367
24		H	66.81	67.20	9	0.0433
QA2			64.75	64.78		0.0

Sediment Toxicity Lab Report
June 5, 2018 at WK-64R
Dry Weather Event

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Micheline Kipf
Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

June 26, 2018

Dear Micheline:

I have enclosed a copy of our report "An Evaluation of the Toxicity of City of Stockton Stormwater Program Sediment Samples" for the samples that were collected June 5, 2018. The results of this testing are summarized below:

Summary of Stockton Stormwater Program sediment effects on *Hyalella azteca*.		
Sample Station	Toxicity Present Relative to Lab Control?	
	Survival	Growth
WK-64R	No	**YES**
FD	No	**YES**

If you have any questions regarding the performance and interpretation of this testing, please contact my colleague Stephen Clark or myself at (707) 207-7760.

Sincerely,

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d.prd.7753723579335
a574e3353557416f5
7566b736273413d3d
2018.06.26 10:40:48
-08'00'

Michael McElroy
Senior Project Manager

Pacific EcoRisk is accredited in accordance with NELAP (ORELAP ID 4043). Pacific EcoRisk certifies that the test results reported herein conform to the most current NELAP requirements for parameters for which accreditation is required and available. Any exceptions to NELAP requirements are noted, where applicable, in the body of the report. This report shall not be reproduced, except in full, without the written consent of Pacific EcoRisk. This testing was performed under Lab Order 28974.

An Evaluation of the Toxicity of City of Stockton Stormwater Program Sediment Samples

Samples collected June 5, 2018

Prepared For:

Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

Prepared By:

Pacific EcoRisk
2250 Cordelia Rd.
Fairfield, CA 94534
(707) 207-7760

June 2018

PACIFIC ECORISK
ENVIRONMENTAL CONSULTING & TESTING

An Evaluation of the Toxicity of City of Stockton Stormwater Program Sediment Samples

Samples collected June 5, 2018

Table of Contents

Appendices

1. INTRODUCTION

In compliance with the City of Stockton Stormwater Program NPDES permit monitoring requirements, Condor Earth Technologies, Inc., has contracted Pacific EcoRisk (PER) to perform evaluations of the toxicity of selected ambient water and sediment samples. The current testing event was designed to meet the sediment monitoring requirements using sediment samples that were collected on June 5, 2018. This evaluation consisted of performing the US EPA 10-day survival and growth test with the amphipod *Hyalella azteca*. This report describes the performance and results of this testing.

2. SEDIMENT TOXICITY TEST PROCEDURES

This testing followed the guidelines established by the EPA manual "Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition" (EPA/600/R-99/064).

2.1 Receipt and Handling of the Sediment Samples

On June 5, sediment samples were collected into appropriately cleaned sample containers. These samples were transported on ice and under chain-of-custody, to the PER laboratory in Fairfield, CA (Table 1). The samples were then stored at ≤6˚C until being used to initiate toxicity tests within 14 days of collection. The chain-of-custody record for the collection and delivery of the samples is presented in Appendix A.

Table 1. Sampling station and date of sediment collection for the Stockton Stormwater Program.

Sample Station	Date Collected	Date Received
WK-64R	6/5/18	6/6/18
FD	6/5/18	6/6/18

2.2 Solid-Phase Sediment Toxicity Testing with *Hyalella azteca*

The sediment toxicity test with *H. azteca* consists of exposing the amphipods to the sediment for 10 days, after which effects on survival and growth are evaluated. The specific procedures used in this testing are described below.

The *H. azteca* used in this testing were obtained from a commercial supplier (Aquatic BioSystems, Fort Collins, CO). Upon receipt at the laboratory, the amphipods were maintained in tanks containing Lab Water Control medium at 23˚C and were fed a commercial Yeast-Cerophyll®-Trout chow (YCT) food amended with freeze-dried *Spirulina*.

The Control treatment sediment for this testing consisted of a composite of reference site sediments that have been maintained under culture at the PER lab for >3 months. The sediment samples were tested at the 100% concentration only. There were eight replicates for each test treatment, each replicate container consisting of a 300-mL tall-form glass beaker with a 3-cm ribbon of 540 µm mesh NITEX attached to the top of the beaker with silicone sealant. Each sediment sample was homogenized prior to loading of sediment into the test replicates. For each sediment, approximately 100 mL of sediment was then loaded into each of the test replicate containers. Each test replicate was then carefully filled with clean Lab Water Control medium (Standard Artificial Medium [SAM-5S] water). The test replicates with sediments and clean overlying water were established ~24 hrs prior to the introduction of the amphipods, and were placed in a temperature-controlled room at 23˚C during this pre-test period.

After this initial 24 hr period, the overlying water in each replicate was flushed with one volume (approximately 150 mL) of fresh overlying water. For each test treatment, a small aliquot of the renewed overlying water was then collected from each of the eight replicates and composited for measurement of "initial" water quality characteristics (pH, dissolved oxygen [D.O.], conductivity, alkalinity, hardness, and total ammonia). The testing was then initiated with the random allocation of ten 12-13 day-old amphipods into each replicate, followed by the addition of 1.0 mL of *Spirulina*-amended YCT food. The test replicates were then placed in a temperature-controlled room at 23˚C. At the time of test initiation, eight replicates of 10 randomly-selected organisms were collected, dried, and weighed (described below) to determine the mean dry weight of the test organisms at test initiation (T_0).

Each day, for the following nine days, each test replicate was examined and any dead amphipods were removed via pipette and the mortality recorded. A small aliquot of the overlying water in each of the eight replicates for each test treatment was then collected and composited as before for measurement of "old" D.O., after which each replicate was flushed with one volume of fresh water. Another small aliquot of the overlying water in each of the eight replicates was then collected and composited as before for measurement of "new" D.O., after which each replicate was fed 1.0 mL of *Spirulina*-amended YCT.

After 10 days exposure, testing was terminated. An aliquot of overlying water was collected from each replicate and composited for analysis of the "final" water quality characteristics. The sediments in each replicate container were then carefully sorted and sieved and the number of surviving amphipods determined. The surviving organisms were euthanized in methanol, rinsed in de-ionized water, and transferred to small pre-tared weighing pans, which were placed into a drying oven at 100˚C. After drying for ~24 hrs, the pans were transferred to a desiccator to cool, and then weighed to the nearest 0.01 mg to determine the mean dry weight per surviving organism for each replicate. The resulting survival and growth (mean dry weight) data were then analyzed to evaluate any impairment due to the sediments; all statistical analyses were performed using the CETIS® statistical software (TidePool Scientific, McKinleyville, CA).

3. RESULTS

Test results are summarized in Table 2. There were no significant reductions in survival in either of the sediment samples. There were significant reductions in growth in the WK-64R sediment sample and field duplicate (FD) samples. The test data and summary of statistical analyses for this testing are presented in Appendix B.

Table 2. Data summary for the Stockton Stormwater Program sediment samples.

Test Treatment	% Survival	% Reduction	Toxic? (Y/N)	Mean dry weight (mg)	% Reduction	Toxic? (Y/N)
Control	98.8	N/A	N/A	0.142	N/A	N/A
WK-64R	97.5	1.3%	N	**0.127***	10.3%	**Y**
FD	93.8	5.1%	N	**0.120***	15.3%	**Y**

* The response at this test treatment was significantly less than the Control sediment response (at $p<0.05$).

4. SUMMARY AND CONCLUSIONS

The results of this testing are summarized below. There were no significant reductions in survival in either of the sediment samples. There were significant reductions in growth in the WK-64R sediment sample and field duplicate (FD) samples.

Summary of Stockton Stormwater Program sediment effects on *Hyalella azteca*.

Sample Station	Toxicity Present Relative to Lab Control?	
	Survival	Growth
WK-64R	No	**YES**
FD	No	**YES**

4.1 QA/QC Summary

Test Conditions – All test conditions (pH, D.O., temperature, etc.) were within acceptable limits. All analyses were performed according to laboratory Standard Operating Procedures.

Negative Control – The biological responses for the test organisms at the Lab Control treatment were within acceptable limits.

Appendix A

Chain-of-Custody Record for the Collection and Delivery of the Stockton Stormwater Program Sediment Samples

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Condor Earth Technologies, Inc.

CONDOR

☐ PO Box 3905/21663 Brian Lane, Sonora, CA 95370, 209.532.0361, 209.532.0773 fax
☑ 188 Frank West Circle, Suite I, Stockton, CA 95206, 209.234.0518, 209.234.0538 fax
☐ 2941 Sunrise Blvd, Suite 150, Rancho Cordova, CA 95742, 916.783.2060, 916.783.2464 fax
☐ 1739 Ashby Road, Suite B, Merced, CA 95348, 209.388.9601, 209.388.1778 fax

Sample Results TAT: ☐ Rush ☑ Standard

SHIPPED TO:

Pacific EcoRisk
2250 Cordelia Road
Fairfield, CA 94534 (707) 207-7760

SEND RESULTS TO:

NAME: Micheline Doyle Kipf
E-MAIL: mkipf@condorearth.com
E-MAIL:

☑ PLEASE FAX/EMAIL RESULTS TO ADDRESS MARKED ABOVE

PROJECT NAME/LOCATION: COS Urban Discharge | EDF RESULTS REQUIRED ☐YES ☑NO | SITE GLOBAL ID:

PROJECT NO.: 6066J-05-01
SAMPLED BY: (Signature) MDR/ARA

Date	Time	Sample Site Name	Sample ID (if different)	Matrix	# of containers	Preservatives (see below)	ANALYSIS /METHOD:	Field Filtered	Hyalella azteca*	TOC	Grain size						REMARKS	LAB ID#
6-5-18	1645	1718-DW34-	WK-64R	S		1		N	✓	✓	✓						*chronic freshwater (EPA/600/4-91/003)	
6-5-18	1745	1718-DW34-	FD	S		1		N	✓	✓	✓						Hyalella azteca survival & growth	
																	Conduct additional pyrethroids	
																	analysis if toxicity is observed.	
																	Sub samples to be	
																	collected for Caltest	
																	TOC RL= 1 mg/L	

Relinquished By: (Signature) Matt Ree	Date: 6/6/18	Time: 10:40	Received By: (Signature) David Marcks
Relinquished By: (Signature)			Received By: (Signature)

Date: 6/6/18 Time: 1040

Matrix: WW Waste Water; S Soil/Solid; GW Ground Water; DW Drinking Water; HWW Hazardous Waste (Water); SW Storm Water

Preservative: 1 4°C; 2 HCL; 3 NaOH; 4 $Na_2S_2O_3$; 5 HNO_3; 6 H_2SO_4; 7 Other_____

Original – Send | Yellow – File | Pink – Log Book

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Appendix B

Test Data and Summary of Statistics for the Evaluation of the Toxicity of the Stockton Stormwater Program Sediment Samples to *Hyalella azteca*

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CETIS Summary Report

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Batch ID:	02-8031-3418	**Test Type:**	Survival-Growth (10 day)	**Analyst:**	Bella Volpatti
Start Date:	09 Jun-18 14:42	**Protocol:**	EPA/600/R-99/064 (2000)	**Diluent:**	Not Applicable
Ending Date:	19 Jun-18 09:12	**Species:**	Hyalella azteca	**Brine:**	Not Applicable
Duration:	9d 18h	**Source:**	Aquatic Biosystems, CO	**Age:**	13

Sample Code	Sample ID	Sample Date	Receipt Date	Sample Age	Client Name	Project
CE_0618HA_C1	16-7767-0746	09 Jun-18 14:42	09 Jun-18 14:42	n/a (23.2 °C)	Condor Earth Technologi	28974
WK-64R	05-9308-7993	05 Jun-18 16:45	06 Jun-18 10:40	94h		
WK-64R-FD	01-8736-5141	05 Jun-18 17:45	06 Jun-18 10:40	93h		

Sample Code	Material Type	Sample Source	Station Location	Lat/Long
CE_0618HA_C1	Sediment	Condor Earth Technologies	LABQA	
WK-64R	Sediment	Condor Earth Technologies	WK-64R	
WK-64R-FD	Sediment	Condor Earth Technologies	WK-64R-FD	

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
14-9040-3249	Mean Dry Weight-mg	Equal Variance t Two-Sample Test	0.0245	WK-64R failed mean dry weight-mg
02-3595-9304	Mean Dry Weight-mg	Equal Variance t Two-Sample Test	0.0236	WK-64R-FD failed mean dry weight-mg
12-8262-9342	Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.5000	WK-64R passed survival rate
05-5347-0094	Survival Rate	Equal Variance t Two-Sample Test	0.0533	WK-64R-FD passed survival rate

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_0618HA_C1	CS	8	0.142	0.133	0.15	0.131	0.156	0.0035	0.00991	7.00%	0.00%
WK-64R		8	0.127	0.113	0.141	0.109	0.159	0.00578	0.0164	12.89%	10.31%
WK-64R-FD		8	0.12	0.0978	0.142	0.0756	0.149	0.00932	0.0264	21.99%	15.30%

Survival Rate Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_0618HA_C1	CS	8	0.988	0.958	1.000	0.900	1.000	0.013	0.035	3.58%	0.00%
WK-64R		8	0.975	0.936	1.000	0.900	1.000	0.016	0.046	4.75%	1.27%
WK-64R-FD		8	0.938	0.875	1.000	0.800	1.000	0.026	0.074	7.94%	5.06%

Mean Dry Weight-mg Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_0618HA_C1	CS	0.136	0.154	0.147	0.131	0.135	0.156	0.131	0.142
WK-64R		0.124	0.123	0.159	0.111	0.124	0.109	0.123	0.142
WK-64R-FD		0.138	0.125	0.144	0.131	0.149	0.101	0.0756	0.095

Survival Rate Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_0618HA_C1	CS	1.000	1.000	1.000	0.900	1.000	1.000	1.000	1.000
WK-64R		1.000	0.900	1.000	0.900	1.000	1.000	1.000	1.000
WK-64R-FD		1.000	1.000	0.900	1.000	0.900	1.000	0.900	0.800

Survival Rate Binomials

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
CE_0618HA_C1	CS	10/10	10/10	10/10	9/10	10/10	10/10	10/10	10/10
WK-64R		10/10	9/10	10/10	9/10	10/10	10/10	10/10	10/10
WK-64R-FD		10/10	10/10	9/10	10/10	9/10	10/10	9/10	8/10

10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: Condor Earth - Stockton Project#: 28974 (78050-) Organism Log #: 11004 Age: 12-13 days

Species: *Hyalella azteca* Test ID#: 78637 Organism Supplier: ABS

Day	Date	Test Material: Lab Control	Water Quality Measurements: Parameter	Value	Meter ID	Sign-off:
0	6/9/18	# Live Organisms: A 10, B 10, C 10, D 10, E 10, F 10, G 10, H 10	pH	7.83	PH21	AM Change: MJL
			D.O. (mg/L)	8.1	RD13	WQ: MJL
			Conductivity (µS/cm)	650	EC13	Initiation Time: 1442
			Alkalinity (mg/L)	√ 50.4		Initiation Counts: JO
			Hardness (mg/L)	√ 126.4		Confirmation Counts: NB
			Ammonia (mg/L)	<1.00	DR3800	PM Feed: JO
			Temp. (°C)	23.2	48A	
1	6/10/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	7.4	RD11	AM Change: DM WQ: DM
			New D.O. (mg/L)	8.2	RD11	Mortality Counts: DM
			Temp. (°C)	23.1	48A	PM Change: DM PM Feed: DM
2	6/11/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.3	RD13	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.8	RD13	Mortality Counts: JR
			Temp. (°C)	23.2	48A	PM Change: JR PM Feed: JR
3	6/12/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.2	RD12	AM Change: STB WQ: STB
			New D.O. (mg/L)	6.9	RD12	Mortality Counts: STB
			Temp. (°C)	23.1	48A	PM Change: STB PM Feed: STB
4	6/13/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.1	RD13	AM Change: DM WQ: DM
			New D.O. (mg/L)	7.7	RD13	Mortality Counts: DM
			Temp. (°C)	23.2	48A	PM Change: DM PM Feed: DM
5	6/14/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	7.7	RD10	AM Change: JR WQ: JR
			New D.O. (mg/L)	7.8	RD10	Mortality Counts: JR
			Temp. (°C)	22.8	48A	PM Change: JR PM Feed: JR
6	6/15/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.7	RD11	AM Change: TA WQ: TA
			New D.O. (mg/L)	7.9	RD11	Mortality Counts: TA
			Temp. (°C)	23.3	48A	PM Change: TA PM Feed: TA
7	6/16/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.3	RD12	AM Change: TA WQ: TA
			New D.O. (mg/L)	8.0	RD12	Mortality Counts: TA
			Temp. (°C)	23.4	48A	PM Change: TA PM Feed: TA
8	6/17/18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	7.1	RD12	AM Change: DH WQ: DH
			New D.O. (mg/L)	7.9	RD12	Mortality Counts: DH
			Temp. (°C)	23.1	48A	PM Change: DH PM Feed: DH
9	6-18-18	# of Mortalities: A 0, B 0, C 0, D 0, E 0, F 0, G 0, H 0	Old D.O. (mg/L)	6.7	RD13	AM Change: KM WQ: KM
			New D.O. (mg/L)	~~5.7~~ NM	RD13 NM	Mortality Counts: KM
			Temp. (°C)	22.6	48A	PM Change: KM PM Feed: KM
10	6/19/18	# Alive: A 10, B 10, C 10 10, D 9, E 10, F 10, G 10, H 10	pH	7.51	PH19	WQ: DM
			D.O. (mg/L)	6.7	RD11	Termination Counts: SMC
			Conductivity (µS/cm)	521	EC11	Termination Time: 0912
			Alkalinity (mg/L)	√ 60.4		
			Hardness (mg/L)	√ 126		
			Ammonia (mg/L)	<1.00	DR3800	
			Temp. (°C)	22.9	110A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	12-8262-9342	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	24 Jun-18 8:53	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	WK-64R passed survival rate	4.38%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R	64	n/a	2	14	Exact	0.5000	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.00166	0.00166	1	0.368	0.5536	Non-Significant Effect
Error	0.0630784	0.0045056	14			
Total	0.0647384		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.71	8.89	0.4939	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.611	0.841	2.1E-05	Non-Normal Distribution

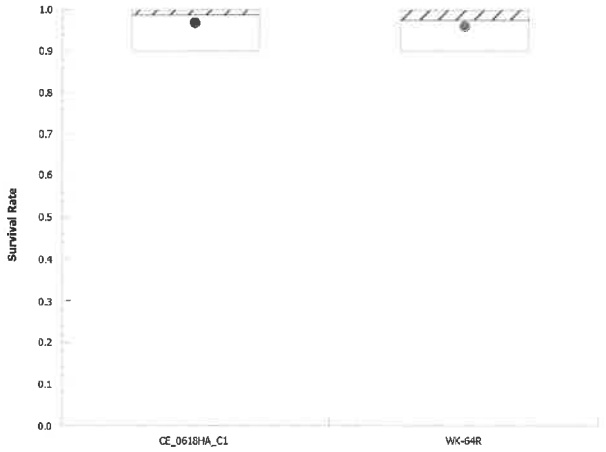
Survival Rate Summary

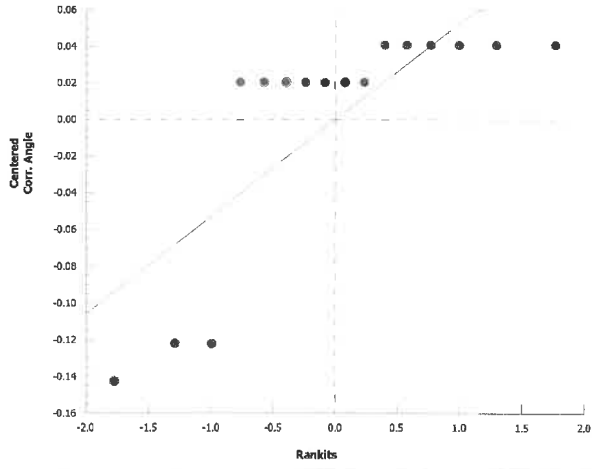
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0618HA_C1	CS	8	0.987	0.958	1.000	1.000	0.900	1.000	0.013	3.58%	0.00%
WK-64R		8	0.975	0.936	1.000	1.000	0.900	1.000	0.016	4.75%	1.27%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0618HA_C1	CS	8	1.39	1.34	1.44	1.41	1.25	1.41	0.0204	4.14%	0.00%
WK-64R		8	1.37	1.31	1.43	1.41	1.25	1.41	0.0267	5.50%	1.46%

Graphics





Hyalella 10-d Survival and Growth Sediment Test — Pacific EcoRisk

Analysis ID:	14-9040-3249	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	24 Jun-18 8:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	WK-64R failed mean dry weight-mg	8.42%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R*	2.16	1.76	0.012	14	CDF	0.0245	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0008507	0.0008507	1	4.65	0.0489	Significant Effect
Error	0.0025606	0.0001829	14			
Total	0.0034112		15			

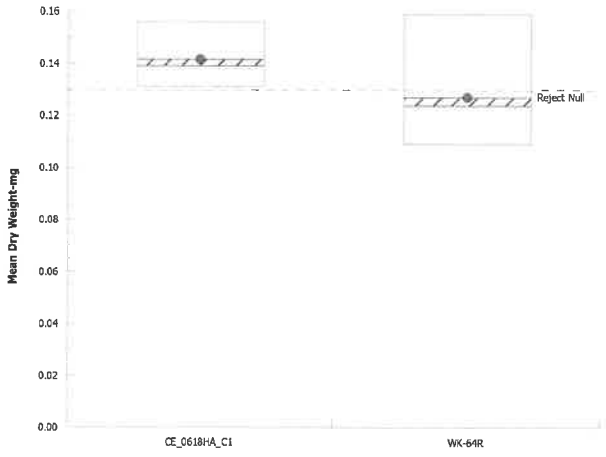
Distributional Tests

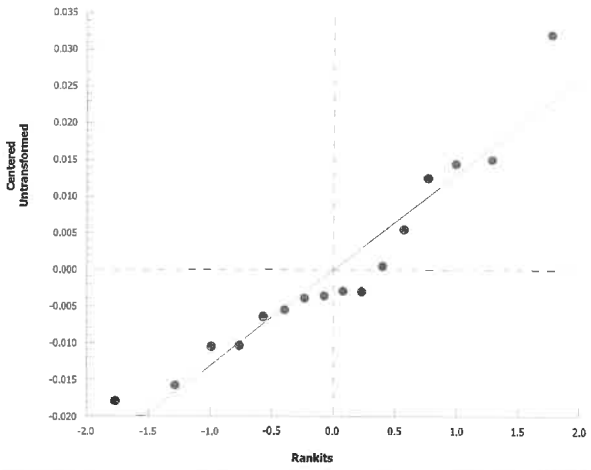
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	2.72	8.89	0.2096	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.922	0.841	0.1831	Normal Distribution

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0618HA_C1	CS	8	0.142	0.133	0.15	0.139	0.131	0.156	0.0035	7.00%	0.00%
WK-64R		8	0.127	0.113	0.141	0.124	0.109	0.159	0.00578	12.89%	10.31%

Graphics





10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: **Condor Earth - Stockton** Project#: **28974** Organism Log #: 11004 Age: 12-13 days

Species: *Hyalella azteca* Test ID#: **78636** Organism Supplier: **ABS**

Day	Date	Test Material	Water Quality Measurements			Sign-off:
		WK-64R+	Parameter	Value	Meter ID	
0	6/9/18	# Live Organisms A 10 B 10 C 10 D 10 E 10 F 10 G 10 H 10	pH	7.44	PH21	AM Change: MM WQ: MM Initiation Time: 1445 Initiation Counts: JO Confirmation Counts: NB PM Feed: JO
			D.O. (mg/L)	7.7	RD13	
			Conductivity (µS/cm)	399	EC13	
			Alkalinity (mg/L)	40.8		
			Hardness (mg/L)	112.4		
			Ammonia (mg/L)	<1.00	DR3800	
			Temp. (°C)	23.3	48A	
1	6/10/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	7.4	RD11	AM Change: DM WQ: DM Mortality Counts: DM PM Change: DM PM Feed: DM
			New D.O. (mg/L)	8.3	RD11	
			Temp. (°C)	23.1	48A	
2	6/14/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.0	RD13	AM Change: JR WQ: JR Mortality Counts: JR PM Change: JR PM Feed: JR
			New D.O. (mg/L)	7.4	RD13	
			Temp. (°C)	23.2	48A	
3	6/12/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	4.4	RD12	AM Change: SMB WQ: SMB Mortality Counts: SMB PM Change: SMB PM Feed: SMB
			New D.O. (mg/L)	5.9	RD12	
			Temp. (°C)	23.1	48A	
4	6/13/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	6.8	RD13	AM Change: DM WQ: DM Mortality Counts: DM PM Change: DM PM Feed: DM
			New D.O. (mg/L)	7.3	RD13	
			Temp. (°C)	23.2	48A	
5	6/14/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	~~7.~~ 5.0 DM 6/14/18	RD10	AM Change: HR WQ: HR Mortality Counts: HR PM Change: HR PM Feed: HR
			New D.O. (mg/L)	6.7	RD10	
			Temp. (°C)	22.8	48A	
6	6/15/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.2	RD11	AM Change: ~~TA~~ WQ: ~~TA~~ Mortality Counts: TA PM Change: ~~TA~~ PM Feed: TA
			New D.O. (mg/L)	7.3	RD11	
			Temp. (°C)	23.3	48A	
7	6/16/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	4.6	RD12	AM Change: ~~TA~~ WQ: ~~TA~~ Mortality Counts: TA PM Change: ~~TA~~ PM Feed: ~~TA~~
			New D.O. (mg/L)	7.5	RD12	
			Temp. (°C)	23.5	48A	
8	6/17/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.5	RD12	AM Change: DH WQ: DH Mortality Counts: DH PM Change: DH PM Feed: DH
			New D.O. (mg/L)	7.5	RD12	
			Temp. (°C)	23.1	48A	
9	6/18/18	# of Mortalities A 0 B 0 C 0 D 0 E 0 F 0 G 0 H 0	Old D.O. (mg/L)	5.0	RD13	AM Change: KM WQ: KM Mortality Counts: KM PM Change: KM PM Feed: KM
			New D.O. (mg/L)	N/M	N/M	
			Temp. (°C)	22.7	48A	
10	6/19/18	# Alive A 10 B 9 C 10 D 9 E 10 F 10 G 10 H 10	pH	7.26	PH19	WQ: DM Termination Counts: SMC Termination Time: 0912
			D.O. (mg/L)	4.6	RD11	
			Conductivity (µS/cm)	458	EC11	
			Alkalinity (mg/L)	58.4		
			Hardness (mg/L)	no		
			Ammonia (mg/L)	<1.00	DR3800	
			Temp. (°C)	22.5	48A	

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	05-5347-0094	**Endpoint:**	Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	24 Jun-18 8:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	WK-64R-FD passed survival rate	5.41%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R-FD	1.72	1.76	0.081	14	CDF	0.0533	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0248699	0.0248699	1	2.97	0.1066	Non-Significant Effect
Error	0.117101	0.0083644	14			
Total	0.141971		15			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	4.04	8.89	0.0856	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.867	0.841	0.0241	Normal Distribution

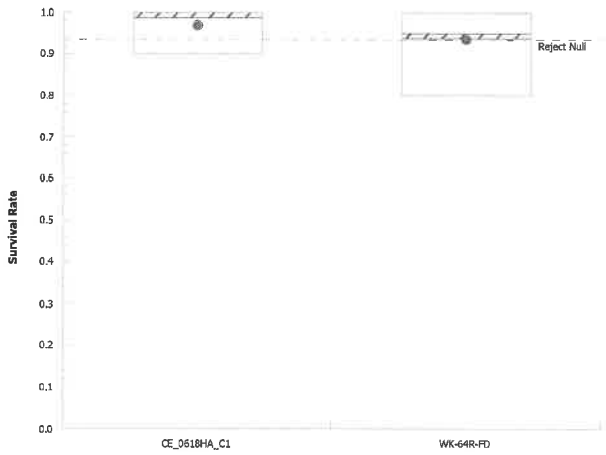
Survival Rate Summary

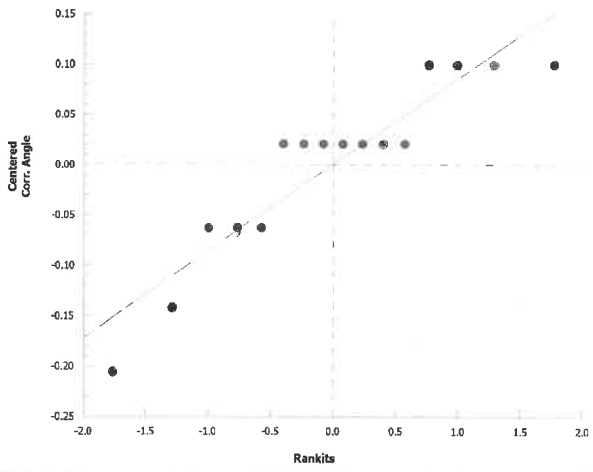
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0618HA_C1	CS	8	0.987	0.958	1.000	1.000	0.900	1.000	0.013	3.58%	0.00%
WK-64R-FD		8	0.937	0.875	1.000	0.950	0.800	1.000	0.026	7.94%	5.06%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0618HA_C1	CS	8	1.39	1.34	1.44	1.41	1.25	1.41	0.0204	4.14%	0.00%
WK-64R-FD		8	1.31	1.22	1.41	1.33	1.11	1.41	0.0409	8.82%	5.67%

Graphics





Hyalella azteca Weight Data Sheets

Client: **Condor Earth - Stockton** Project #: **28974** Balance ID: BAL04

Sample ID: WK-64R Tare Wt Date: 6/15/18 Sign-Off: FT

Test ID #: **78636** Final Wt Date: 6/20/18 Sign-Off: ZZ

Pan	Concentration	Replicate	Initial Weight. (mg)	Final Weight. (mg)	# organisms	Ave Weight (mg)
1	Control	A	62.15	63.51	10	0.136
2	Sediment	B	65.30	66.84	10	0.154
3		C	64.27	65.74	10	0.147
4		D	59.39	60.57	Saw 6/19/18 ~~10~~ 9	0.1311
5		E	59.16	60.51	10	0.135
6		F	59.10	60.66	10	0.156
7		G	59.87	61.18	10	0.131
8		H	61.90	63.32	10	0.142
9		A	65.42	66.66	10	0.124
10		B	69.55	70.66	9	0.1233
11		C	67.49	69.08	10	0.159
12		D	60.21	61.21	9	0.1111
13		E	60.58	61.82	10	0.124
14		F	62.69	63.78	10	0.109
15		G	64.07	65.30	10	0.123
16		H	74.70	76.12	10	0.142
QA3			66.78	66.80		

Hyalella 10-d Survival and Growth Sediment Test — **Pacific EcoRisk**

Analysis ID:	02-3595-9304	**Endpoint:**	Mean Dry Weight-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	24 Jun-18 8:53	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	WK-64R-FD failed mean dry weight-mg	12.39%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Control Sed		WK-64R-FD*	2.17	1.76	0.018	14	CDF	0.0236	Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0018754	0.0018754	1	4.73	0.0473	Significant Effect
Error	0.0055509	0.0003965	14			
Total	0.0074263		15			

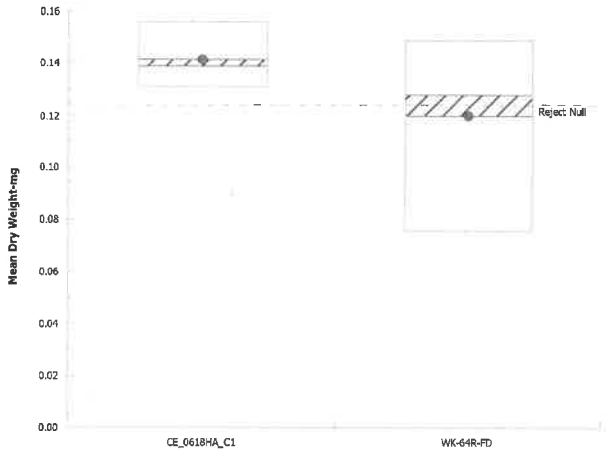
Distributional Tests

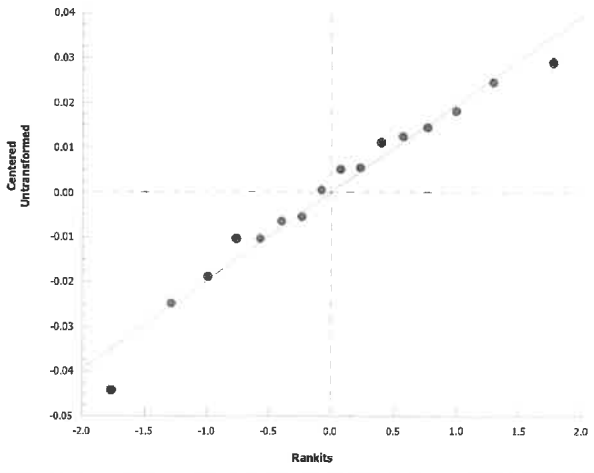
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	7.07	8.89	0.0194	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.969	0.841	0.8279	Normal Distribution

Mean Dry Weight-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_0618HA_C1	CS	8	0.142	0.133	0.15	0.139	0.131	0.156	0.0035	7.00%	0.00%
WK-64R-FD		8	0.12	0.0978	0.142	0.128	0.0756	0.149	0.00932	21.99%	15.30%

Graphics





10-Day *Hyalella azteca* Sediment Toxicity Test Data

Client: **Condor Earth - Stockton** Project#: **28974** Organism Log #: 11004 Age: 12-13 days

Species: *Hyalella azteca* Test ID#: **78637** Organism Supplier: **ABS**

Day	Date	Test Material				Water Quality Measurements			Sign-off:
		WK-64R - FD				Parameter	Value	Meter ID	
0	6/9/18	# Live Organisms				pH	7.42	PH21	AM Change: mya
		A 10	B 10	C 10	D 10	D.O. (mg/L)	7.7	RD13	WQ: mya
		E 10	F 10	G 10	H 10	Conductivity (µS/cm)	399	EC13	Initiation Time: 1447
						Alkalinity (mg/L)	41.6		Initiation Counts: JO
						Hardness (mg/L)	112		Confirmation Counts: NB
						Ammonia (mg/L)	4.00	DR3800	PM Feed: JO
						Temp. (°C)	23.3	48A	
1	6/10/18	# of Mortalities				Old D.O. (mg/L)	7.4	RD11	AM Change: DM WQ: DM
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	8.3	RD11	Mortality Counts: DM
		E 0	F 0	G 0	H 0	Temp. (°C)	23.2	48A	PM Change: DM PM Feed: DM
2	6/11/18	# of Mortalities				Old D.O. (mg/L)	5.5	RD13	AM Change: JR WQ: JR
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	7.1	RD13	Mortality Counts: JR
		E 0	F 0	G 0	H 0	Temp. (°C)	23.3	48A	PM Change: JR PM Feed: JR
3	6/12/18	# of Mortalities				Old D.O. (mg/L)	4.4	RD12	AM Change: SMB WQ: SMB
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	5.9	RD12	Mortality Counts: SMB
		E 0	F 0	G 0	H 0	Temp. (°C)	23.1	48A	PM Change: SMB PM Feed: SMB
4	6/13/18	# of Mortalities				Old D.O. (mg/L)	5.2	RD13	AM Change: DM WQ: DM
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	7.1	RD13	Mortality Counts: DM
		E 0	F 0	G 0	H 0	Temp. (°C)	23.2	48A	PM Change: SMB PM Feed: SMB
5	6/14/18	# of Mortalities				Old D.O. (mg/L)	5.4	RD10	AM Change: JR WQ: JR
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	6.6	RD10	Mortality Counts: JR
		E 0	F 0	G 0	H 0	Temp. (°C)	22.8	48A	PM Change: JR PM Feed: JR
6	6/15/18	# of Mortalities				Old D.O. (mg/L)	5.6	RD11	AM Change: TA WQ: TA
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	7.3	RD11	Mortality Counts: TA
		E 0	F 0	G 0	H 0	Temp. (°C)	23.2	48A	PM Change: TA PM Feed: TA
7	6/16/18	# of Mortalities				Old D.O. (mg/L)	4.7	RD12	AM Change: TA WQ: JR
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	7.5	RD12	Mortality Counts: TA
		E 0	F 0	G 0	H 0	Temp. (°C)	23.6	48A	PM Change: TA PM Feed: TA
8	6/17/18	# of Mortalities				Old D.O. (mg/L)	6.3	RD12	AM Change: DH WQ: DH
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	7.7	RD12	Mortality Counts: DH
		E 0	F 0	G 0	H 0	Temp. (°C)	23.1	48A	PM Change: DH PM Feed: DH
9	6/18/18	# of Mortalities				Old D.O. (mg/L)	4.3	RD13	AM Change: KM WQ: KM
		A 0	B 0	C 0	D 0	New D.O. (mg/L)	N/M	N/M	Mortality Counts: KM
		E 0	F 0	G 0	H 0	Temp. (°C)	23.0	48A	PM Change: KM PM Feed: KM
10	6/19/18	# Alive				pH	7.35	PH19	WQ: DM
		A 10	B 10	C 9	D 10	D.O. (mg/L)	4.8	RD11	Termination Counts: SMC
		E 9	F 10	G 9	H 8	Conductivity (µS/cm)	431	EC11	Termination Time: 0912
						Alkalinity (mg/L)	58		
						Hardness (mg/L)	136		
						Ammonia (mg/L)	<1.00	DR3800	
						Temp. (°C)	22.5	48A	

Hyalella azteca Weight Data Sheets

Client: **Condor Earth - Stockton** Project #: **28974** Balance ID: BAL04

Sample ID: WK-64R-FD Tare Wt Date: 6/15/18 Sign-Off: FT

Test ID #: **78637** Final Wt Date: 6/20/18 Sign-Off: LZ

Pan	Concentration	Replicate	Initial Weight. (mg)	Final Weight. (mg)	# organisms	Ave Weight (mg)
1	Control	A	62.15	63.51	10	0.136
2	Sediment	B	65.30	66.84	10	0.154
3		C	64.27	65.74	10	0.147
4		D	59.39	60.57	9	0.1311
5		E	59.16	60.51	10	0.135
6		F	59.10	60.66	10	0.156
7		G	59.87	61.18	10	0.131
8		H	61.90	63.32	10	0.142
17		A	63.20	64.58	10	0.138
18		B	62.93	64.18	10	0.125
19		C	65.23	66.53	9	0.1444
20		D	62.39	63.70	10	0.131
21		E	74.65	75.99	9	0.1489
22		F	64.86	65.87	10	0.101
23		G	62.84	63.52	9	0.0756
24		H	66.48	67.24	8	0.095
QA3			66.78	66.80		

Hyalella azteca Weight Data Sheets

Client: **Condor Earth - Stockton** Test Init Date: 6/9/18 Balance ID: BAL04

Sample ID: **T0** Tare Wt Date: 6/9/18 Sign-Off: MJL

Test ID: 78636 - 78637 Final Wt Date: 6/14/18 Sign-Off: RAP

Project #: 28974

Pan	Concentration Replicate		Initial Weight. (mg)	Final Weight. (mg)	# Organisms	Ave Weight (mg)
1	Control Sed.	A	64.33	64.61	10	0.028
2		B	74.32	74.52	10	0.020
3		C	71.92	72.34	10	0.042
4		D	69.02	69.44	10	0.042
5		E	80.93	81.35	10	0.042
6		F	69.49	69.86	10	0.037
7		G	67.52	68.04	10	0.052
8		H	59.51	59.93	10	0.042
QA			60.23	60.21		

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Appendix E
2017-2018 Water Column Toxicity Results

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Water Column Toxicity Lab Report
November 16, 2017 at DC-65R
Wet Weather Event

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Micheline Kipf
Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

December 14, 2017

Micheline:

I have enclosed our report "An Evaluation of the Chronic Toxicity of the City of Stockton Stormwater Program Ambient Water Samples" for testing performed on the ambient water samples collected on November 16, 2017. The results of this testing are summarized below:

Toxicity summary for the Stockton Stormwater Program ambient water samples.				
Sample ID	Toxicity relative to the Lab Control treatment?			
	Ceriodaphnia dubia		Fathead Minnow	
	Survival	Reproduction	Survival	Growth
DC-65R	no	no	no	no
FD	no	no	no	no

Chronic Toxicity of Urban Ambient Waters to *Ceriodaphnia dubia*
There were no significant reductions in *C. dubia* survival or reproduction in the DC-65R or FD samples.

Chronic Toxicity of Urban Ambient Waters to Fathead Minnows
There were no significant reductions in fathead minnow survival or growth in the DC-65R or FD samples.

If you have any questions regarding the performance and interpretation of these tests, please contact my colleague Stephen Clark or myself at (707) 207-7760.

Sincerely,

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Michael McElroy
Project Manager

Pacific EcoRisk is accredited in accordance with NELAP (ORELAP ID 4043). Pacific EcoRisk certifies that the test results reported herein conform to the most current NELAP requirements for parameters for which accreditation is required and available. Any exceptions to NELAP requirements are noted, where applicable, in the body of the report. This report shall not be reproduced, except in full, without the written consent of Pacific EcoRisk. This testing was performed under Lab Order 28160.

An Evaluation of the Chronic Toxicity of the City of Stockton Stormwater Program Ambient Water Samples

Samples collected November 16, 2017

Prepared For

Condor Earth Technologies, Inc.
188 Frank West Circle, Suite I
Stockton, CA 95206

Prepared By

Pacific EcoRisk
2250 Cordelia Rd.
Fairfield, CA 94534
(707) 207-7760

December 2017

PACIFIC ECORISK
ENVIRONMENTAL CONSULTING & TESTING

An Evaluation of the Chronic Toxicity of the City of Stockton Stormwater Program Ambient Water Samples

Samples collected November 16, 2017

Table of Contents

Appendices

1. INTRODUCTION

Condor Earth Technologies, Inc., has contracted Pacific EcoRisk (PER) to evaluate the chronic toxicity of ambient water samples. This evaluation consisted of performing the following US EPA freshwater chronic toxicity tests:

- 3-brood survival and reproduction test with *Ceriodaphnia dubia*; and
- 7-day survival and growth test with larval fathead minnows (*Pimephales promelas*).

The current evaluation was performed using ambient water samples collected on November 16, 2017 and designated DC-65R and FD. This report describes the performance and results of these tests.

2. CHRONIC TOXICITY TEST PROCEDURES

This testing followed the guidelines established by the EPA manual "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition" (EPA-821-R-02-013).

2.1 Sample Receipt and Handling

On November 16, ambient water samples were collected into appropriately cleaned sample containers. The samples were transported and delivered on ice and under chain-of-custody to the PER laboratory in Fairfield, CA. Upon receipt at the laboratory, aliquots of the samples were collected for analysis of initial water quality characteristics (Table 1). The samples were then stored at ≤6°C, except when being used to prepare test solutions. The chain-of-custody record for the collection and delivery of these samples is presented in Appendix A.

Table 1. Initial water quality characteristics of the samples.

Sample Receipt Date	Sample ID	Temp. (°C)	pH	D.O. (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Conductivity (µS/cm)	Total Ammonia (mg/L N)
11/17/17	DC-65R	5.2	7.06	9.9	56.4	53.6	240	<1.0
11/17/17	FD	10.6*	6.95	8.0	48.8	55.2	219	<1.0

* - Cooler temperature was 2.1°C at log-in; client was notified and approved proceeding with testing.

2.2 Survival and Reproduction Toxicity Testing with *Ceriodaphnia dubia*

The chronic toxicity test with *C. dubia* consists of exposing neonate organisms to the ambient water for the length of time it takes for the Control treatment females to produce three broods (typically 6-8 days), after which effects on survival and reproduction are evaluated. The specific procedures used in this testing are described below.

The Lab Water Control medium for this testing consisted of a moderately hard synthetic reconstituted freshwater, prepared by addition of reagent grade chemicals to Type 1 lab water. The ambient water sample was tested at the 100% concentration only. For each test treatment, a 200 mL aliquot of test solution was amended with the alga *S. capricornutum* and Yeast-Cerophyll®-Trout Food (YCT) to provide food for the test organisms. "New" water quality characteristics (pH, D.O., and conductivity) were measured on these food-amended test solutions prior to use in this testing.

There were 10 replicates for each test treatment, each replicate consisting of 15 mL of test solution in a 30-mL plastic cup. The tests were initiated by allocating one neonate (<24 hours old, and within 8-hours of age) *C. dubia*, obtained from in-house laboratory cultures, into each replicate cup. The test replicate cups were placed into a temperature-controlled room at 25˚C, under cool white fluorescent lighting on a 16L:8D photoperiod.

Each day of the test, fresh test solutions were prepared and characterized as before, and a new set of replicate cups were prepared. The test replicates containing the test organisms were examined, with surviving organisms being transferred to the corresponding new replicate cup. The contents of each of the remaining old replicate cups was carefully examined and the number of neonate offspring produced by each parent organism was determined, after which the "old" water quality characteristics (pH, D.O., and conductivity) were measured for the old test solution from one randomly-selected replicate at each treatment.

After it was determined that ≥60% of the *C. dubia* in the Lab Water Control treatment had produced their third brood of offspring, the tests were terminated. The resulting survival and reproduction data were analyzed to evaluate any impairment caused by the ambient waters. All statistical analyses were performed using the CETIS® statistical software (TidePool Scientific, McKinleyville, CA).

2.3 Survival and Growth Toxicity Testing with Larval Fathead Minnows

The chronic toxicity test with fathead minnows consists of exposing larval fish to the ambient water for seven days, after which effects on survival and growth are evaluated. The specific procedures used in this testing are described below.

Pathogen-related mortality (PRM) in chronic fathead minnow toxicity tests of ambient or ponded waters is a common confounding problem that must be controlled in order to determine the toxicity of sample waters. The US EPA has recognized this problem, and has recommended a variety of potential modifications to the testing approach that can be implemented to minimize PRM interference. The approach used in this study, described below, has the advantage of minimizing the PRM interference without affecting the water sample matrix.

The larval fathead minnows used in this testing were obtained from a commercial supplier (Aquatox, Hot Springs, AR). Upon receipt at the lab, the fish were held in aerated tanks

containing Lab Water Control medium, and were fed brine shrimp nauplii *ad libitum* during this pre-test holding period.

The Lab Water Control medium for this testing consisted of EPA moderately-hard synthetic freshwater. The ambient water sample was tested at the 100% concentration only. "New" water quality characteristics (pH, D.O., and conductivity) were measured on these test solutions prior to use in the tests.

There were 10 replicates for each test treatment, each replicate consisting of 20 mL of test solution in a 30-mL test replicate container. The tests were initiated by randomly allocating two larval fathead minnows (<48 hours old) into each replicate. The replicate containers were then placed in a temperature-controlled room at 25°C, under fluorescent lighting on a 16L:8D photoperiod. The test fish were fed brine shrimp nauplii twice daily.

Each day of the tests, fresh test solutions were prepared and characterized as before. The test replicate containers were examined, with any dead animals, uneaten food, wastes, and other detritus being removed. The number of live fish in each replicate was determined and then approximately 80% of the old test solution in each beaker was carefully poured out and replaced with fresh test solution. "Old" water quality characteristics (pH, D.O., and conductivity) were measured on the old test solution that had been discarded from one randomly-selected replicate at each treatment.

After seven days exposure, the tests were terminated and the number of live fish in each replicate was recorded. The fish from each replicate were carefully euthanized in methanol, rinsed in de-ionized water, and transferred to a pre-dried and pre-tared weighing pan. Replicates were paired to obtain five composite replicates for each test treatment. The fish were then dried at 100˚C for ≥24 hours and re-weighed to determine the total dry weight of fish in each replicate. The total dry weight was then divided by the initial number of fish per composited replicate to determine the "biomass value." The resulting survival and biomass value data were analyzed to evaluate any impairments caused by the ambient waters. All statistical analyses were performed using the CETIS statistical software.

3. RESULTS

3.1 Chronic Effects of Ambient Water Samples on *Ceriodaphnia dubia*

The results of this testing are summarized in Table 2. There were no significant reductions in *C. dubia* survival or reproduction in the DC-65R and FD samples. The test data and summary of statistical analyses are presented in Appendix B.

Table 2. Chronic effects of the ambient water samples on *Ceriodaphnia dubia*.

Treatment/Sample ID	Mean % Survival	Mean Reproduction (# neonates/female)
Lab Water Control	100	34.7
DC-65R	100	36.5
FD	100	39.3

3.2 Chronic Effects of Ambient Water Samples on Fathead Minnows

The results of this testing are summarized in Table 3. There were no significant reductions in fathead minnow survival or growth in the DC-65R and FD samples. The test data and summary of statistical analyses for this testing are presented in Appendix C.

Table 3. Chronic effects of the ambient water samples on fathead minnow.

Treatment/Sample ID	Mean % Survival	Mean Biomass Value (mg)
Lab Water Control	95	0.35
DC-65R	75	0.29
FD	95	0.42

4. SUMMARY AND CONCLUSIONS

Chronic Toxicity of Urban Ambient Waters to *Ceriodaphnia dubia*
There were no significant reductions in *C. dubia* survival or reproduction in the DC-65R or FD samples.

Chronic Toxicity of Urban Ambient Waters to Fathead Minnows
There were no significant reductions in fathead minnow survival or growth in the DC-65R or FD samples.

4.1 QA/QC Summary

Test Conditions – All test conditions (pH, D.O., temperature, etc.) were within acceptable limits. All test analyses were performed according to laboratory Standard Operating Procedures.

Negative Control –The biological responses at the Lab Control treatments were within acceptable limits.

Appendix A

Chain-of-Custody Record for the Collection and Delivery of the Samples

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CHAIN-OF-CUSTODY

17237

Sample Results TAT: ☐ Rush ☒ Standard 10 Day (discount)

Condor Earth Technologies, Inc.

☐ P.O. Box 3905/21663 Brian Lane, Sonora, CA 95370, 209.532.0361, 209.532.0773 (fax), condor.sonora@condorearth.com

☐ 188 Frank West Circle, Suite I, Stockton, CA 95206, 209.234.0518, 209.234.0538 (fax), condor.stockton@condorearth.com

☐ 1739 Ashby Road, Suite B, Merced, CA 95348, 209.388.9601, 209.388.1778 (fax), condor.merced@condorearth.com

SHIPPED TO:

PACIFIC ECO RISK (707) 207-7760
2250 CORDELIA RD FAIRFIELD, CA 94534

SEND RESULTS TO:

NAME: MICHELINE KIPF
E-MAIL: mkipf@condorearth.com

☒ PLEASE E-MAIL (preferred) / OR FAX RESULTS TO ADDRESS MARKED ABOVE

PROJECT NAME/LOCATION: COS URBAN DISCHARGE

EDF RESULTS REQUIRED YES (NO)

SITE GLOBAL ID: —

PROJECT NO.: 6066J-05-01

SAMPLED BY: (Signature)

Date	Time	Sample Site Name	Sample ID (if different)	Matrix	# of containers	Preservatives (see below)	ANALYSIS/METHOD: Field Filtered	Chronic Ceriodaphnia	Chronic Fathead Minnow							REMARKS	LAB ID #
11-16-17	1136		DC-65R	SW	2	1	N	X	X								
11-16-17	1146		FD	SW	1	1	N	X	X								
																CHRONIC CERIODAPHNIA TOXICITY	
																CHRONIC FATHEAD MINNOW	
																FOLLOW-UP DILUTION SERIES AS	
																NECESSARY (100% MORTALITY IN	
																24HRS)	
																CHRONIC TOXICITY (PHASE I	
																TARGETED) T.I.E AS NECESSARY	
																CONTACT PM PRIOR (≥50%	
																MORTALITY / REPRODUCTION)	

TEMP. (°C): 3.8
SEALED: YES
INTACT: YES

Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)	Date:	Time:
	11-17-17	0930		11/17/17	0930
Relinquished By: (Signature)	11/17/17	1139 1104	Received By: (Signature)	11-17-17	1130

Matrix: DW Drinking Water; WW Waste Water; HWW Hazardous Waste (Water); S Soil/Solid; SW Storm Water; GW Groundwater

Preservative: 1 4°C; 2 HCL; 3 NaOH; 4 $Na_2S_2O_3$; 5 HNO_3; 6 H_2SO_4; 7 Other _____

Original - Send Yellow - File Pink - Log Book

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Appendix B

Test Data and Summary of Statistics for the Evaluation of the Chronic Toxicity of the Ambient Water Samples to *Ceriodaphnia dubia*

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CETIS Summary Report

Ceriodaphnia Survival and Reproduction Test — **Pacific EcoRisk**

Batch ID:	13-9489-0360	**Test Type:**	Reproduction-Survival (7d)	**Analyst:**	Simin Delijani
Start Date:	17 Nov-17 15:10	**Protocol:**	EPA-821-R-02-013 (2002)	**Diluent:**	Not Applicable
Ending Date:	23 Nov-17 08:25	**Species:**	Ceriodaphnia dubia	**Brine:**	Not Applicable
Duration:	5d 17h	**Source:**	In-House Culture	**Age:**	1

Sample Code	Sample ID	Sample Date	Receipt Date	Sample Age	Client Name	Project
CE_1117CD_C1	07-0305-2263	17 Nov-17 15:10	17 Nov-17 15:10	n/a (24.4 °C)	Condor Earth Technologi	28160
DC-65R	01-3288-8621	16 Nov-17 11:36	17 Nov-17 11:30	28h (5.2 °C)		
FD	19-9218-7841	16 Nov-17 11:46	17 Nov-17 11:30	27h (10.6 °C)		

Sample Code	Material Type	Sample Source	Station Location	Lat/Long
CE_1117CD_C1	Ambient Water	Condor Earth Technologies	LABQA	
DC-65R	Ambient Water	Condor Earth Technologies	DC-65R	
FD	Ambient Water	Condor Earth Technologies	FD	

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
08-0417-4622	Reproduction	Equal Variance t Two-Sample Test	0.7793	DC-65R passed reproduction
01-7661-5368	Reproduction	Equal Variance t Two-Sample Test	0.9383	FD passed reproduction
11-6861-7045	Survival	Fisher Exact Test	1.0000	DC-65R passed survival
10-2900-5673	Survival	Fisher Exact Test	1.0000	FD passed survival

Reproduction Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_1117CD_C1	LW	10	34.7	30.5	38.9	23	44	1.84	5.83	16.81%	0.00%
DC-65R		10	36.5	33.4	39.6	30	42	1.35	4.28	11.71%	-5.19%
FD		9	39.3	34.2	44.4	27	50	2.21	6.63	16.86%	-13.35%

Survival Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_1117CD_C1	LW	10	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	0.00%
DC-65R		10	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	0.00%
FD		9	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.00%	0.00%

Reproduction Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
CE_1117CD_C1	LW	36	34	33	44	38	35	28	38	23	38
DC-65R		32	40	34	42	41	30	32	39	39	36
FD		43	42	27	50	34	36	42	43	37	

Survival Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
CE_1117CD_C1	LW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DC-65R		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
FD		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

Survival Binomials

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
CE_1117CD_C1	LW	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
DC-65R		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
FD		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	

Ceriodaphnia Survival and Reproduction Test — **Pacific EcoRisk**

Analysis ID:	11-6861-7045	**Endpoint:**	Survival	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:52	**Analysis:**	Single 2x2 Contingency Table	**Official Results:**	Yes

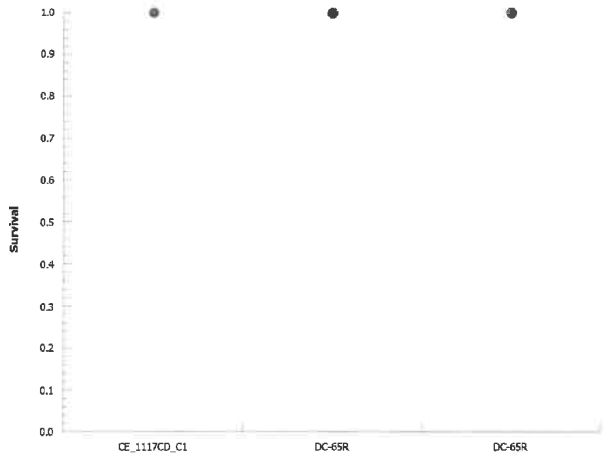
Fisher Exact Test

Sample I	vs	Sample II	Test Stat	P-Type	P-Value	Decision(α:5%)
Lab Water Control		DC-65R	1.000	Exact	1.0000	Non-Significant Effect

Data Summary

Sample	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
CE_1117CD_C1	LW	10	0	10	1	0	0.0%
DC-65R		10	0	10	1	0	0.0%

Graphics



Ceriodaphnia Survival and Reproduction Test — **Pacific EcoRisk**

Analysis ID:	08-0417-4622	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:55	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	DC-65R passed reproduction	11.43%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water Control		DC-65R	-0.787	1.73	3.97	18	CDF	0.7793	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	16.2	16.2	1	0.62	0.4414	Non-Significant Effect
Error	470.6	26.1444	18			
Total	486.8		19			

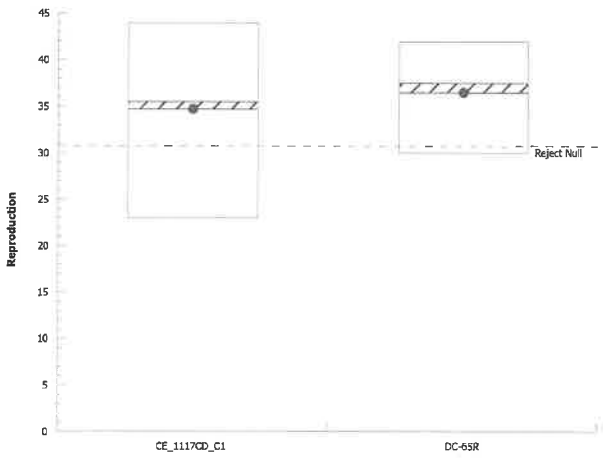
Distributional Tests

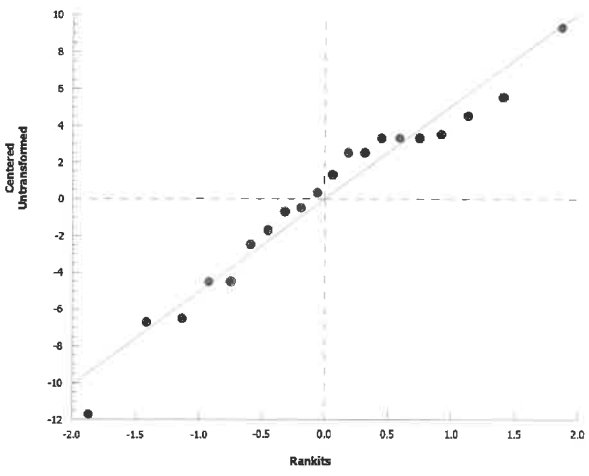
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.86	6.54	0.3686	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.965	0.866	0.6498	Normal Distribution

Reproduction Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117CD_C1	LW	10	34.7	30.5	38.9	35.5	23	44	1.84	16.81%	0.00%
DC-65R		10	36.5	33.4	39.6	37.5	30	42	1.35	11.71%	-5.19%

Graphics





Short-Term Chronic 3-Brood *Ceriodaphnia dubia* Survival & Reproduction Test Data

Client: **Condor Earth-Stockton** Material: DC-65R Test Date: 11/17/17

Project #: 28160 Test ID: 75507 Randomization 10.4.4 Control Water: Modified EPAMH

Lab Water Control

Day	pH New	pH Old	D.O. New	D.O. Old	Cond. (µS/cm)	Temp (°C)	Survival / Reproduction A	B	C	D	E	F	G	H	I	J	SIGN-OFF
0	7.97		7.4		366	24.4	0	0	0	0	0	0	0	0	0	0	Date: 11/17/17 New WQ: MS/µM Test Init.: MJ Sol'n Prep: JBL Time: 1510
1	7.74	~~7.69~~	8.9	6.8	377	24.4	0	0	0	0	0	0	0	0	0	0	Date: 11/18/17 New WQ: UB Counts: MJ Sol'n Prep: TK Old WQ: MS Time: 1450
2	7.77	8.11	8.9	8.3	364	24.4	0	0	0	0	0	0	0	0	0	0	Date: 11/19/17 New WQ: JN Counts: EP Sol'n Prep: EP Old WQ: JN Time: 1352
3	7.67	8.05	7.9	7.9	379	24.3	0	0	0	7	6	0	0	7	0	5	Date: 11/20/17 New WQ: JN Counts: TK Sol'n Prep: JBL Old WQ: MS Time: 1330
4	7.64	~~7.58~~	7.5	7.5	368	~~23.7~~ 24.6	5	6	6	0	0	6	4	0	6	0	Date: 11/21/17 New WQ: TF Counts: SMC Sol'n Prep: ~~SK~~ Old WQ: AR Time: 1310
5	8.13	7.69	8.4	6.3	374	24.3	11	11	11	15	12	13	10	13	12	11	Date: 11/22/17 New WQ: CA Counts: JBL Sol'n Prep: SMC Old WQ: TA Time: 1355
6	8.00	7.64	10.0	6.0	352	24.5	20	17	16	22	20	16	14	18	5	22	Date: 11/23/17 New WQ: SMC Counts: JBL Sol'n Prep: SMC Old WQ: MS Time: 0825
7																	Date: New WQ: Counts: Sol'n Prep: Old WQ: Time:
8																	Date: Old WQ: Counts: Time:
						Total=	36	34	33	44	38	35	28	38	23	38	Mean Neonates/Female = ~~31.7~~ SD 12/13/17 34.7

100%

Day	pH New	pH Old	D.O. New	D.O. Old	Cond. (µS/cm)	Survival / Reproduction A	B	C	D	E	F	G	H	I	J	SAMPLE ID
0	7.24		8.4		241 ~~226~~	0	0	0	0	0	0	0	0	0	0	48080
1	7.12	~~7.73~~	9.9	7.0	238	0	0	0	0	0	0	0	0	0	0	48080
2	7.09	7.99	9.9	7.9	235	0	0	0	0	0	0	0	0	0	0	48080
3	7.34	8.10	8.8	7.9	239	0	0	0	7	0	0	0	0	0	6	48080
4	7.37	~~7.69~~	9.5	7.7	241	5	5	6	0	6	4	5	6	6	0	48080
5	7.78	7.81	8.5	7.0	238	14	13	10	13	14	12	8	12	13	10	48080
6	7.76	7.72	10.4	6.2	237	13	22	18	22	21	14	19	21	20	20	48080
7																
8																
					Total=	~~30~~ 32 SD 12/13/17	40	34	42	41	30	32	39	39	36	Mean Neonates/Female = 36.35 SD 12/13/17

Ceriodaphnia Survival and Reproduction Test — **Pacific EcoRisk**

Analysis ID:	10-2900-5673	**Endpoint:**	Survival	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:52	**Analysis:**	Single 2x2 Contingency Table	**Official Results:**	Yes

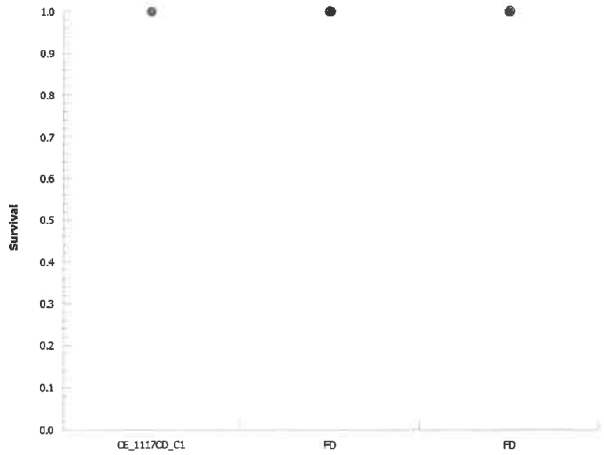
Fisher Exact Test

Sample I	vs	Sample II	Test Stat	P-Type	P-Value	Decision(α:5%)
Lab Water Control		FD	1.000	Exact	1.0000	Non-Significant Effect

Data Summary

Sample	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
CE_1117CD_C1	LW	10	0	10	1	0	0.0%
FD		9	0	9	1	0	0.0%

Graphics



Ceriodaphnia Survival and Reproduction Test — **Pacific EcoRisk**

Analysis ID:	01-7661-5368	**Endpoint:**	Reproduction	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:56	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	FD passed reproduction	14.33%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water Control		FD	-1.62	1.74	4.97	17	CDF	0.9383	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	101.689	101.689	1	2.63	0.1235	Non-Significant Effect
Error	658.1	38.7118	17			
Total	759.789		18			

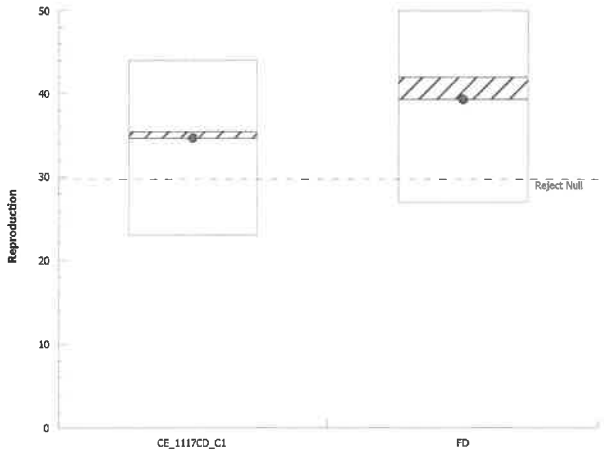
Distributional Tests

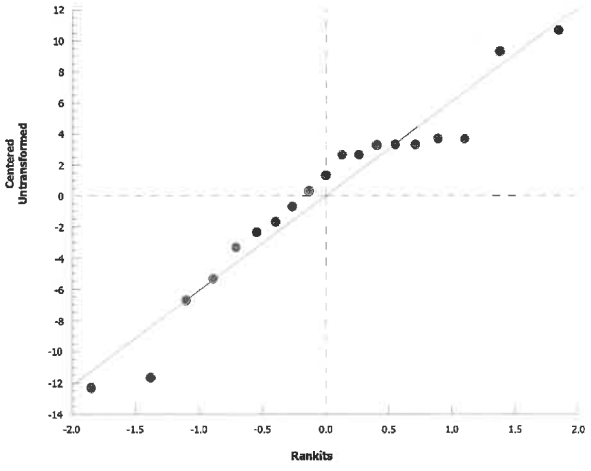
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.29	6.69	0.7055	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.943	0.861	0.2934	Normal Distribution

Reproduction Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117CD_C1	LW	10	34.7	30.5	38.9	35.5	23	44	1.84	16.81%	0.00%
FD		9	39.3	34.2	44.4	42	27	50	2.21	16.86%	-13.35%

Graphics





Short-Term Chronic 3-Brood *Ceriodaphnia dubia* Survival & Reproduction Test Data

Client: **Condor Earth-Stockton** Material: FD Test Date: 11/17/17

Project #: 28160 Test ID: 75508 Randomization 10.4.4 Control Water: Modified EPAMH

Lab Water Control

Day	pH New	pH Old	D.O. New	D.O. Old	Cond. (µS/cm)	Temp (°C)	A	B	C	D	E	F	G	H	I	J
0	7.97		7.4		366	24.4	0	0	0	0	0	0	0	0	0	0
1	7.76	7.69	8.9	6.8	377	24.4	0	0	0	0	0	0	0	0	0	0
2	7.77	8.11	8.9	8.3	364	24.4	0	0	0	0	0	0	0	0	0	0
3	7.67	8.05	7.9	7.9	379	24.3	0	0	0	7	6	0	0	7	0	5
4	7.64	7.58	7.5	7.5	368	23.7 24.6	5	6	6	0	0	6	4	0	6	0
5	8.13	7.69 7.8	8.4	6.3	374	24.3	11	11	11	15	12	13	10	13	12	11
6	8.00	7.64	10.0	6.0	352	24.5	20	17	16	22	20	16	14	18	5	22
7																
8																
						Total=	36	34	33	44	38	35	28	38	23	38

Mean Neonates/Female = 31.7

100%

Day	pH New	pH Old	D.O. New	D.O. Old	Cond. (µS/cm)	A	B	C	D	E	F	G	H	I	J
0	7.19		8.4		222 211	0	0	0	0	0	0	0	0	0	0
1	7.04	7.69	9.0	7.2	215	0	0	0	0	0	0	0	0	0	0
2	7.01	7.87	9.2	8.1	218	0	0	0	0	0	0	0	0	0	0
3	7.15 7.34	8.11	8.3	7.8	215	6	5	0	7	7/6 *	0	0	6	0	6
4	7.25	7.70	8.5	7.6	222	0	0	6	0	-	6	5	0	6	0
5	7.56	7.83	7.9	7.0	219	14	13	9	14	-	9	11	11	15	12
6	7.64	7.76	9.1	6.3	218	23	24	12	29	-	19	20	25	22	19
7										-					
8										-					
					Total=	43	42	27	50	7/6	34	36	42	43	2 37

Mean Neonates/Female = 39.3

SIGN-OFF	SAMPLE ID
Date: 11/17/17 New WQ: Test Init. MS Sol'n Prep: JBL MB/MS Time: 1510	48081
Date: 11/18/17 New WQ: JB Counts: MS Sol'n Prep: TK Old WQ: MS Time: 1450	48081
Date: 11/17/17 New WQ: JN Counts: EP Sol'n Prep: PV Old WQ: JN Time: 1352	48081
Date: 11/20/17 New WQ: JN Counts: TK Sol'n Prep: JBL Old WQ: Time: 1330	48081
Date: 11/21/17 New WQ: TF Counts: SMC Sol'n Prep: SMC Old WQ: MR Time: 1310	48081
Date: 11/22/17 New WQ: LA Counts: JBL Sol'n Prep: SMC Old WQ: TK Time: 1355	48081
Date: 11/23/17 New WQ: SMC Counts: JBL Sol'n Prep: SMC Old WQ: Time: 0825	48081
Date: New WQ: Counts: Sol'n Prep: Old WQ: Time:	48081
Date: Old WQ: Counts: Time:	48081

* organism lost during renewal; remove from statistical analyses

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Appendix C

Test Data and Summary of Statistics for the Evaluation of the Chronic Toxicity of the Ambient Water Samples to Fathead Minnows

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Chronic Larval Fish Survival and Growth Test — **Pacific EcoRisk**

Batch ID:	11-6038-0884	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Simin Delijani
Start Date:	17 Nov-17 13:30	**Protocol:**	EPA-821-R-02-013 (2002)	**Diluent:**	Not Applicable
Ending Date:	24 Nov-17 08:28	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Duration:	6d 19h	**Source:**	Aquatox, AR	**Age:**	1

Sample Code	Sample ID	Sample Date	Receipt Date	Sample Age	Client Name	Project
CE_1117PP_C1	02-2462-0510	17 Nov-17 13:30	17 Nov-17 13:30	n/a (24.9 °C)	Condor Earth Technologi	28160
DC-65R	01-3288-8621	16 Nov-17 11:36	17 Nov-17 11:30	26h (5.2 °C)		
FD	19-9218-7841	16 Nov-17 11:46	17 Nov-17 11:30	26h (10.6 °C)		

Sample Code	Material Type	Sample Source	Station Location	Lat/Long
CE_1117PP_C1	Ambient Water	Condor Earth Technologies	LABQA	
DC-65R	Ambient Water	Condor Earth Technologies	DC-65R	
FD	Ambient Water	Condor Earth Technologies	FD	

SIngle Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
11-1277-8590	7d Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.1672	DC-65R passed 7d survival rate
00-7773-9307	7d Survival Rate	Wilcoxon Rank Sum Two-Sample Test	0.7632	FD passed 7d survival rate

7d Survival Rate Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_1117PP_C1	LW	10	0.950	0.837	1.000	0.500	1.000	0.050	0.158	16.64%	0.00%
DC-65R		10	0.750	0.446	1.000	0.000	1.000	0.134	0.425	56.66%	21.05%
FD		10	0.950	0.837	1.000	0.500	1.000	0.050	0.158	16.64%	0.00%

7d Survival Rate Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
CE_1117PP_C1	LW	1.000	1.000	0.500	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DC-65R		0.500	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000
FD		1.000	1.000	1.000	1.000	1.000	0.500	1.000	1.000	1.000	1.000

7d Survival Rate Binomials

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
CE_1117PP_C1	LW	2/2	2/2	1/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
DC-65R		1/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	0/2	0/2
FD		2/2	2/2	2/2	2/2	2/2	1/2	2/2	2/2	2/2	2/2

CETIS Summary Report

Chronic Larval Fish Survival and Growth Test — **Pacific EcoRisk**

Batch ID:	04-3875-9121	**Test Type:**	Growth-Survival (7d)	**Analyst:**	Simin Delijani
Start Date:	17 Nov-17 13:30	**Protocol:**	EPA-821-R-02-013 (2002)	**Diluent:**	Not Applicable
Ending Date:	24 Nov-17 08:28	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Duration:	6d 19h	**Source:**	Aquatox, AR	**Age:**	1

Sample Code	Sample ID	Sample Date	Receipt Date	Sample Age	Client Name	Project
CE_1117PP_C1w	14-9704-5260	17 Nov-17 13:30	17 Nov-17 13:30	n/a (24.9 °C)	Condor Earth Technologi	28160
DC-65R	01-3288-8621	16 Nov-17 11:36	17 Nov-17 11:30	26h (5.2 °C)		
FD	19-9218-7841	16 Nov-17 11:46	17 Nov-17 11:30	26h (10.6 °C)		

Sample Code	Material Type	Sample Source	Station Location	Lat/Long
CE_1117PP_C1w	Ambient Water	Condor Earth Technologies	LABQA	
DC-65R	Ambient Water	Condor Earth Technologies	DC-65R	
FD	Ambient Water	Condor Earth Technologies	FD	

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
21-0708-0617	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.2622	DC-65R passed mean dry biomass-mg
07-5723-5811	Mean Dry Biomass-mg	Equal Variance t Two-Sample Test	0.9691	FD passed mean dry biomass-mg

Mean Dry Biomass-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
CE_1117PP_C1w	LW	5	0.346	0.28	0.412	0.27	0.402	0.0239	0.0535	15.47%	0.00%
DC-65R		5	0.293	0.0848	0.502	0	0.403	0.0752	0.168	57.27%	15.17%
FD		5	0.421	0.352	0.489	0.34	0.48	0.0246	0.0551	13.10%	-21.53%

Mean Dry Biomass-mg Detail

Sample	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
CE_1117PP_C1w	LW	0.323	0.27	0.402	0.345	0.39
DC-65R		0.307	0.39	0.403	0.368	0
FD		0.48	0.43	0.34	0.395	0.458

Chronic Larval Fish Survival and Growth Test — **Pacific EcoRisk**

Analysis ID:	11-1277-8590	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:38	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	DC-65R passed 7d survival rate	29.74%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water Control		DC-65R	94	n/a	2	18	Exact	0.1672	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.143842	0.143842	1	1.95	0.1800	Non-Significant Effect
Error	1.33054	0.0739187	18			
Total	1.47438		19			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	7.22	6.54	0.0070	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.726	0.866	8.2E-05	Non-Normal Distribution

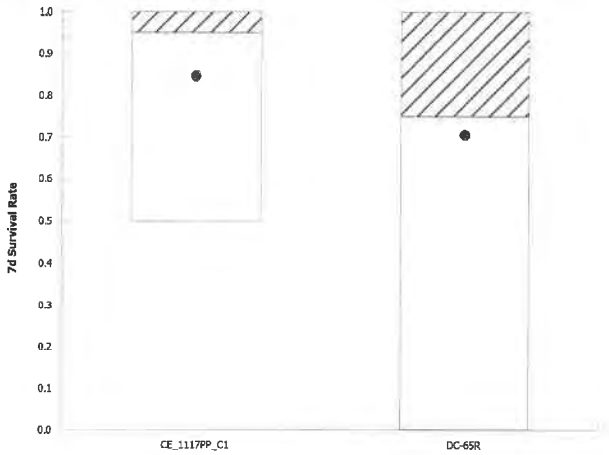
7d Survival Rate Summary

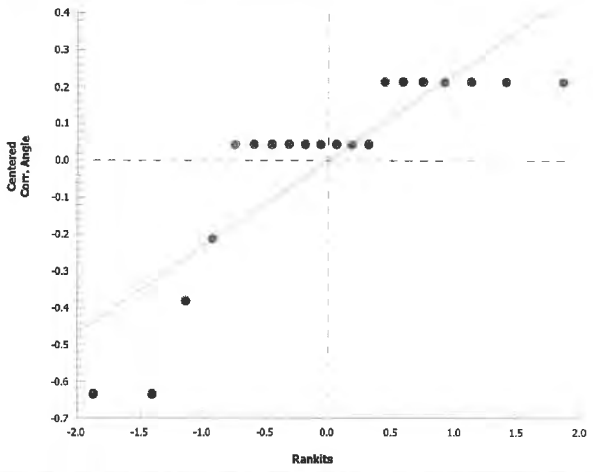
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117PP_C1	LW	10	0.950	0.837	1.000	1.000	0.500	1.000	0.050	16.64%	0.00%
DC-65R		10	0.750	0.446	1.000	1.000	0.000	1.000	0.134	56.66%	21.05%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117PP_C1	LW	10	1.17	1.07	1.26	1.21	0.785	1.21	0.0424	11.49%	0.00%
DC-65R		10	0.997	0.74	1.26	1.21	0.361	1.21	0.114	36.13%	14.53%

Graphics





7 Day Chronic Fathead Minnow Toxicity Test Data

Client: **Condor Earth- Stockton**
Test Material: DC-65R
Test ID#: 75509 Project #: 28160
Test Date: 11/17/17

Organism Log#: 10633 Age: <48 hrs
Organism Supplier: Aquatox Inc
Control/Diluent: EPAMH
Control Water Batch: 2028

	Treatment (%)	Temp (°C)	pH New	pH Old	D.O. (mg/L) New	D.O. (mg/L) Old	Conductivity (µS/cm)	# Live Organisms A	B	C	D	E	F	G	H	I	J
Day 0	Control	24.9	8.07		8.8		298	2	2	2	2	2	2	2	2	2	2
	100%	25.0	7.21		8.4		225	2	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH23		RD09		EC12										
	Date: 11/17/17	Sample ID: 48080	Test Solution Prep: JBL		New WQ: MB			Initiation Time: 1330							Initiation Sign-off: TK		
Day 1	Control	24.8	7.92	7.61	9.0	5.6	304	2	2	2	2	2	2	2	2	2	2
	100%	24.7	7.77	7.46	9.6	5.6	234	2	2	2	2	2	2	2	2	2	2
	Meter ID	109A	PH21	PH19	RD11	RD09	EC07										
	Date: 11/18/17	Sample ID: 48080	Test Solution Prep: TK		New WQ: NB	Old WQ: MB		Renewal Time: 1515							Renewal Sign-off: TK		
Day 2	Control	25.3	8.07	7.84	8.9	7.5	301	2	2	2	2	2	2	2	2	2	2
	100%	25.5	7.40	7.65	9.4	7.4	235	2	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH21	PH19	RD11	RD10	EC11										
	Date: 11/19/17	Sample ID: 48080	Test Solution Prep: BV		New WQ: TF	Old WQ: JN		Renewal Time: 1140							Renewal Sign-off: BV		
Day 3	Control	25.7	8.17	7.44	9.1	6.0	302	2	2	2	2	2	2	2	2	2	2
	100%	25.8	7.35	7.42	8.9	5.9	230	1	2	2	2	2	2	2	2	2	2
	Meter ID	81A	PH19	PH19	RD11	RD11	EC11										
	Date: 11/20/17	Sample ID: 48080	Test Solution Prep: JBL		New WQ: TF	Old WQ: LZ		Renewal Time: 1115							Renewal Sign-off: SF		
Day 4	Control	25.0	7.97	7.37	8.0	6.0	311	2	2	2	2	2	2	2	2	2	2
	100%	25.3	7.59	7.37	9.5	6.2	238	1	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH19	PH23	RD12	RD11	EC11										
	Date: 11/21/17	Sample ID: 48080	Test Solution Prep: SF		New WQ: TF	Old WQ: MB		Renewal Time: 1345							Renewal Sign-off: WC		
Day 5	Control	25.7	7.83	7.93	9.1	4.6	306	2	2	2	2	2	2	2	2	2	2
	100%	25.8	7.72	7.73	9.6	4.9	242	1	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH19	PH21	RD10	RD12	EC08										
	Date: 11/22/17	Sample ID: 48080	Test Solution Prep: SMC		New WQ: YU	Old WQ: NB		Renewal Time: 0903							Renewal Sign-off: RO		
Day 6	Control	25.9	8.14	7.89	8.8	4.8	298	2	2	2	2	2	2	2	2	2	2
	100%	26.0	7.77	7.75	10.0	4.6	232	1	2	2	2	2	2	2	2	2	1
	Meter ID	103A	PH23	PH23	RD10	RD09	EC10										
	Date: 11/23/17	Sample ID: 48080	Test Solution Prep: SMC		New WQ: TF	Old WQ: YU		Renewal Time: 0951							Renewal Sign-off: RO		
Day 7	Control	25.3		8.10		5.9	315	2	2	1	2	2	2	2	2	2	2
	100%	25.3		7.88		5.7	245	1	2	2	2	2	2	2	2	0	0
	Meter ID	81A		PH23		RD12	EC11										
	Date: 11/24/17					Old WQ: YU		Termination Time: 0829							Termination Sign-off: JO		

Chronic Larval Fish Survival and Growth Test — **Pacific EcoRisk**

Analysis ID:	21-0708-0617	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:42	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	DC-65R passed mean dry biomass-mg	42.40%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water Control		DC-65R	0.666	1.86	0.147	8	CDF	0.2622	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0068909	0.0068909	1	0.443	0.5244	Non-Significant Effect
Error	0.124464	0.0155581	8			
Total	0.131355		9			

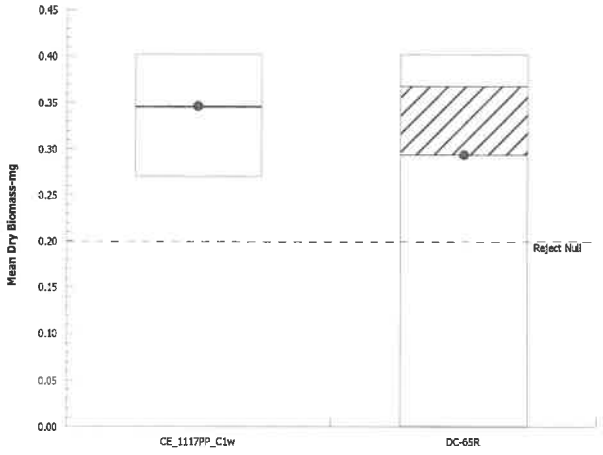
Distributional Tests

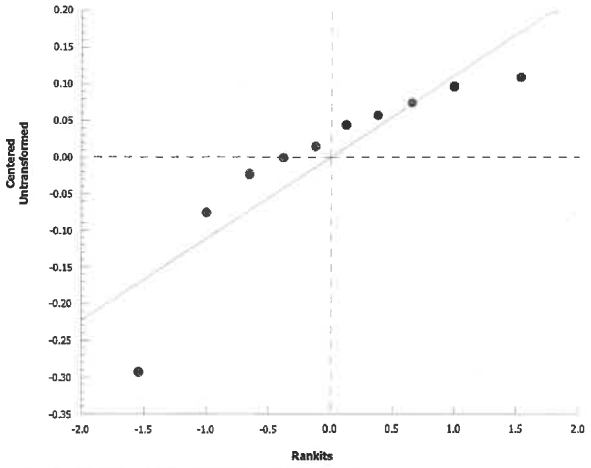
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	9.86	23.2	0.0477	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.807	0.741	0.0174	Normal Distribution

Mean Dry Biomass-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117PP_C1w	LW	5	0.346	0.28	0.412	0.345	0.27	0.402	0.0239	15.47%	0.00%
DC-65R		5	0.293	0.0848	0.502	0.368	0	0.403	0.0752	57.27%	15.17%

Graphics





Fathead Minnow Dry Weight Data Sheet

Client: **Condor Earth** Test ID #: 75509 Project #: 28160

Sample: DC-65R Tare Weight Date: 11/19/17 Sign-off: JH

Test Date: 11/16/17 Final Weight Date: 11/27/17 Sign-off: HR

Pan	Concentration	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Lab	A+B	410.80	412.09	4	0.323
2	Control	C+D	411.61	412.69	4	0.270
3		E+F	414.73	416.34	4	0.403
4		G+H	409.43	410.81	4	0.345
5		I+J	415.64	417.20	4	0.390
6	100%	A+B	410.26	411.49	4	0.308
7	DC-65R	C+D	416.05	417.61	4	0.390
8		E+F	415.03	416.63	4	0.403
9		G+H	415.94	417.41	4	0.368
10		I+J	412.37	—	4	—
QA 1			408.45	408.43		
Balance ID			BAL 04	BAL 04		

Chronic Larval Fish Survival and Growth Test — **Pacific EcoRisk**

Analysis ID:	00-7773-9307	**Endpoint:**	7d Survival Rate	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:38	**Analysis:**	Nonparametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Angular (Corrected)	C > T	FD passed 7d survival rate	19.62%

Wilcoxon Rank Sum Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Lab Water Control		FD	105	n/a	2	18	Exact	0.7632	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	0	1.0000	Non-Significant Effect
Error	0.323644	0.0179802	18			
Total	0.323644		19			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1	6.54	1.0000	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.351	0.866	1.8E-08	Non-Normal Distribution

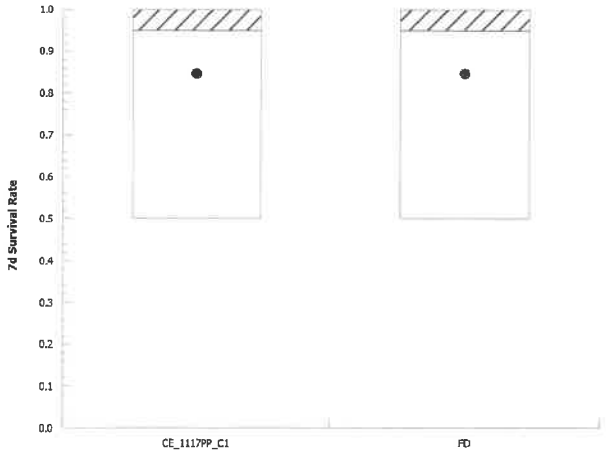
7d Survival Rate Summary

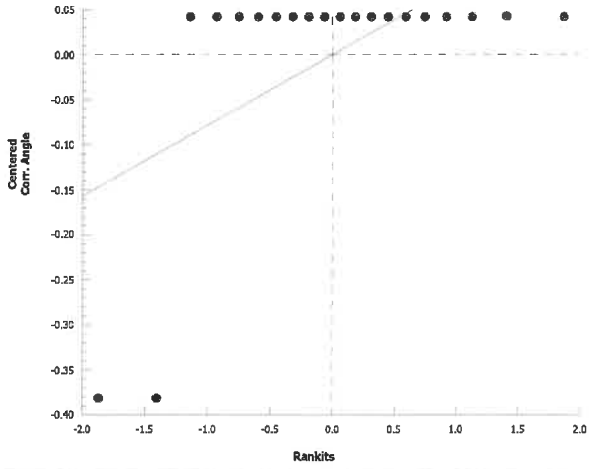
Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117PP_C1	LW	10	0.950	0.837	1.000	1.000	0.500	1.000	0.050	16.64%	0.00%
FD		10	0.950	0.837	1.000	1.000	0.500	1.000	0.050	16.64%	0.00%

Angular (Corrected) Transformed Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117PP_C1	LW	10	1.17	1.07	1.26	1.21	0.785	1.21	0.0424	11.49%	0.00%
FD		10	1.17	1.07	1.26	1.21	0.785	1.21	0.0424	11.49%	0.00%

Graphics





7 Day Chronic Fathead Minnow Toxicity Test Data

Client: **Condor Earth- Stockton** Organism Log#: 10633 Age: <48hrs
Test Material: FD Organism Supplier: aquatox Inc
Test ID#: 75510 Project #: 28160 Control/Diluent: EPAMH
Test Date: 11/17/17 Control Water Batch: 2023

	Treatment (%)	Temp (°C)	pH New	pH Old	D.O. (mg/L) New	D.O. (mg/L) Old	Conductivity (µS/cm)	# Live Organisms A	B	C	D	E	F	G	H	I	J
Day 0	Control	24.9	8.07		8.8		298	2	2	2	2	2	2	2	2	2	2
	100%	25.1	7.13		7.7		211	2	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH23		RD09		EC12										
	Date: 11/17/17	Sample ID: 48081	Test Solution Prep: JBL		New WQ: MB			Initiation Time: 1330							Initiation Sign-off: TK		
Day 1	Control	24.8	7.92	7.61	9.0	5.6	306	2	2	2	2	2	2	2	2	2	2
	100%	24.9	7.07	7.47	8.9	5.8	216	2	2	2	2	2	2	2	2	2	2
	Meter ID	109A	PH21	PH19	RD11	RD09	EC08										
	Date: 11/18/17	Sample ID: 48081	Test Solution Prep: TK		New WQ: NB	Old WQ: MB		Renewal Time: 1515							Renewal Sign-off: TK		
Day 2	Control	25.3	8.07	7.84	8.9	7.5	301	2	2	2	2	2	2	2	2	2	2
	100%	25.3	7.28	7.52	8.7	7.0	217	2	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH21	PH19	RD11	RD10	EC11										
	Date: 11/19/17	Sample ID: 48081	Test Solution Prep: KBV		New WQ: TF	Old WQ: JN		Renewal Time: 1140							Renewal Sign-off: BV		
Day 3	Control	25.7	8.17	7.44	9.1	6.0	302	2	2	2	2	2	2	2	2	2	2
	100%	25.5	7.24	7.41	8.9	5.4	209	2	2	2	2	2	2	2	2	2	2
	Meter ID	81A	PH19	PH19	RD11	RD11	EC11										
	Date: 11/20/17	Sample ID: 48081	Test Solution Prep: JBL		New WQ: KB	Old WQ: LE		Renewal Time: 1115							Renewal Sign-off: SF		
Day 4	Control	25.0	7.97	7.37	8.0	6.0	311	2	2	2	2	2	2	2	2	2	2
	100%	25.5	7.40	7.33	8.6	5.1	219	2	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH19	PH23	RD12	~~EC13~~	EC11										
	Date: 11/21/17	Sample ID: 48081	Test Solution Prep: SF		New WQ: TF	Old WQ: KB		Renewal Time: 1345							Renewal Sign-off: WC		
Day 5	Control	25.7	7.83	7.93	9.1	4.6	306	2	2	2	2	2	2	2	2	2	2
	100%	25.0	7.68	7.62	9.4	4.0	217	2	2	2	2	2	2	2	2	2	2
	Meter ID	103A	PH19	PH21	RD10	RD12	EC08										
	Date: 11/22/17	Sample ID: 48081	Test Solution Prep: SMC		New WQ: YU	Old WQ: NB		Renewal Time: 0903							Renewal Sign-off: RG		
Day 6	Control	25.9	8.14	7.89	8.8	4.8	298	2	2	2	2	2	2	2	2	2	2
	100%	26.0	7.59	7.71	9.0	4.5	221	2	2	2	2	2	1	2	2	2	2
	Meter ID	103A	PH23	PH23	RD10	RD09	EC10										
	Date: 11/23/17	Sample ID: 48081	Test Solution Prep: SMC		New WQ: TF	Old WQ: YU		Renewal Time: 0951							Renewal Sign-off: RG		
Day 7	Control	25.3		8.10		5.9	315	2	2	1	2	2	2	2	2	2	2
	100%	25.3		7.79		5.0	227	2	2	2	2	2	1	2	2	2	2
	Meter ID	81A		PH23		RD12	EC11										
	Date: 11/24/17					Old WQ: YU		Termination Time: 0828							Termination Sign-off: JD		

Chronic Larval Fish Survival and Growth Test — **Pacific EcoRisk**

Analysis ID:	07-5723-5811	**Endpoint:**	Mean Dry Biomass-mg	**CETIS Version:**	CETISv1.9.2
Analyzed:	05 Dec-17 8:42	**Analysis:**	Parametric-Two Sample	**Official Results:**	Yes

Data Transform	Alt Hyp	Comparison Result	PMSD
Untransformed	C > T	FD passed mean dry biomass-mg	18.46%

Equal Variance t Two-Sample Test

Sample I	vs	Sample II	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Lab Water Control		FD	-2.17	1.86	0.064	8	CDF	0.9691	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0138754	0.0138754	1	4.71	0.0619	Non-Significant Effect
Error	0.0235856	0.0029482	8			
Total	0.0374611		9			

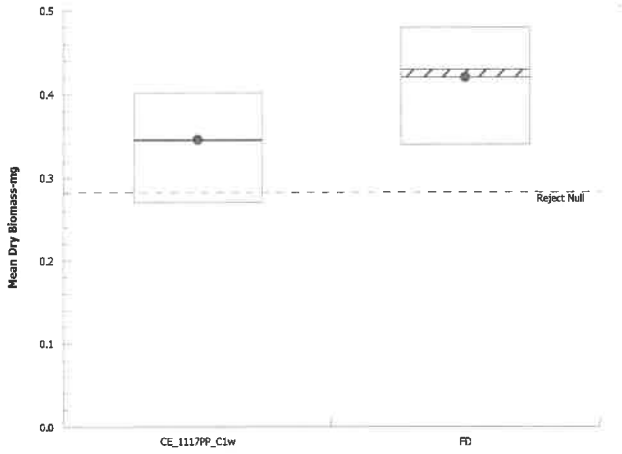
Distributional Tests

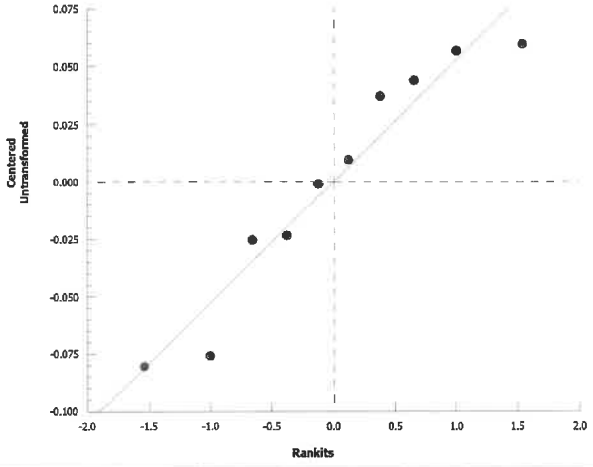
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Variance Ratio F Test	1.06	23.2	0.9572	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.912	0.741	0.2938	Normal Distribution

Mean Dry Biomass-mg Summary

Sample	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
CE_1117PP_C1w	LW	5	0.346	0.28	0.412	0.345	0.27	0.402	0.0239	15.47%	0.00%
FD		5	0.421	0.352	0.489	0.43	0.34	0.48	0.0246	13.10%	-21.53%

Graphics





Fathead Minnow Dry Weight Data Sheet

Client: **Condor Earth** Test ID #: 75510 Project #: 28160

Sample: FD Tare Weight Date: 11/19/17 Sign-off:

Test Date: 11/16/17 Final Weight Date: 11/27/17 Sign-off:

Pan	Concentration	Replicate	Initial Pan Weight (mg)	Final Pan Weight (mg)	Initial # of Organisms	Biomass Value (mg)
1	Lab	A+B	410.80	412.09	4	0.323
2	Control	C+D	411.61	412.69	4	0.270
3		E+F	414.73	416.34	4	0.403
4		G+H	409.43	410.81	4	0.345
5		I+J	415.64	417.20	4	0.390
11	100%	A+B	412.48	414.40	4	0.480
12	FD	C+D	411.44	413.16	4	0.430
13		E+F	418.77	420.13	4	0.340
14		G+H	414.76	416.34	4	0.395
15		I+J	409.30	411.13	4	0.458
QA 2			415.01	414.99		
Balance ID			BAL 04	BAL04		