Ventura Countywide Stormwater Quality Management Program

2018-2019 Permit Year

Ventura Countywide Stormwater Quality Management Program Annual Report

Attachment E – TMDL Reports (1/3)

December 13, 2019

Camarillo
County of Ventura
Fillmore
Moorpark
Ojai
Oxnard
Port Hueneme
Santa Paula
Simi Valley
Thousand Oaks
Ventura
Ventura County Watershed Protection District

county of ventura

PUBLIC WORKS
VENTURA COUNTY

July 24, 2018

JEFF PRATT
Agency Director

Central Services Department
J. Tabin Cosio, Director

Engineering Services Department
Christopher Cooper, Director

Transportation Department
David Fleisch, Director

Water & Sanitation Department
Michaela Brown, Director

Watershed Protection District
Glenn Shephard, Director

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6780

Subject: **Malibu Creek and Lagoon Bacteria TMDL Compliance monitoring for County Of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks**

Dear Dr. Wang,

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of June 2018. Sites were sampled weekly on Tuesday (June 5, 12, 19 and 26). Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used for the purpose of calculating the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District
Ewelina Mutkowska, County of Ventura
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b	-	6/5/2018♦			Dry
MCW-8b	-	6/12/2018♦			Dry
MCW-8b	-	6/19/2018♦			Dry
MCW-8b	-	6/26/2018♦			Dry
MCW-9	-	6/5/2018♦			Dry
MCW-9	-	6/12/2018♦			Dry
MCW-9	-	6/19/2018♦			Dry
MCW-9	-	6/26/2018♦			Dry
MCW-12	1115	6/5/2018♦		<	18
MCW-12	1115	6/12/2018♦		=	110
MCW-12	1058	6/19/2018♦		=	68
MCW-12	1150	6/26/2018♦		<	18
MCW-14b	1040	6/5/2018♦		<	18
MCW-14b	1040	6/12/2018♦		<	18
MCW-14b	1020	6/19/2018♦		=	45
MCW-14b	1125	6/26/2018♦		=	20
MCW-15c	1000	6/5/2018♦		=	68
MCW-15c	1000	6/12/2018♦		=	20
MCW-15c	943	6/19/2018♦		=	20
MCW-15c	1045	6/26/2018♦		<	18
MCW-17	-	6/5/2018♦			Dry
MCW-17	-	6/12/2018♦			Dry
MCW-17	-	6/19/2018♦			Dry
MCW-17	-	6/26/2018♦			Dry
MCW-18	-	6/5/2018♦			Dry
MCW-18	-	6/12/2018♦			Dry
MCW-18	-	6/19/2018♦			Dry
MCW-18	-	6/26/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b	-	6/1/18	Dry	<	9	9
MCW-8b	-	6/2/18	Dry	<	9	9
MCW-8b	-	6/3/18	Dry	<	9	9
MCW-8b	-	6/4/18	Dry	<	9	9
MCW-8b	-	6/5/2018♦	Dry	<	9	9
MCW-8b	-	6/6/18	Dry	<	9	9
MCW-8b	-	6/7/18	Dry	<	9	9
MCW-8b	-	6/8/18	Dry	<	9	9
MCW-8b	-	6/9/18	Dry	<	9	9
MCW-8b	-	6/10/18	Dry	<	9	9
MCW-8b	-	6/11/18	Dry	<	9	9
MCW-8b	-	6/12/2018♦	Dry	<	9	9
MCW-8b	-	6/13/18	Dry	<	9	9
MCW-8b	-	6/14/18	Dry	<	9	9
MCW-8b	-	6/15/18	Dry	<	9	9
MCW-8b	-	6/16/18	Dry	<	9	9
MCW-8b	-	6/17/18	Dry	<	9	9
MCW-8b	-	6/18/18	Dry	<	9	9
MCW-8b	-	6/19/2018♦	Dry	<	9	9
MCW-8b	-	6/20/18	Dry	<	9	9
MCW-8b	-	6/21/18	Dry	<	9	9
MCW-8b	-	6/22/18	Dry	<	9	9
MCW-8b	-	6/23/18	Dry	<	9	9
MCW-8b	-	6/24/18	Dry	<	9	9
MCW-8b	-	6/25/18	Dry	<	9	9
MCW-8b	-	6/26/2018♦	Dry	<	9	9
MCW-8b	-	6/27/18	Dry	<	9	9
MCW-8b	-	6/28/18	Dry	<	9	9
MCW-8b	-	6/29/18	Dry	<	9	9
MCW-8b	-	6/30/18	Dry	<	9	9
MCW-9	-	6/1/18	Dry	<	9	9
MCW-9	-	6/2/18	Dry	<	9	9
MCW-9	-	6/3/18	Dry	<	9	9
MCW-9	-	6/4/18	Dry	<	9	9
MCW-9	-	6/5/2018♦	Dry	<	9	9
MCW-9	-	6/6/18	Dry	<	9	9
MCW-9	-	6/7/18	Dry	<	9	9
MCW-9	-	6/8/18	Dry	<	9	9
MCW-9	-	6/9/18	Dry	<	9	9
MCW-9	-	6/10/18	Dry	<	9	9
MCW-9	-	6/11/18	Dry	<	9	9
MCW-9	-	6/12/2018♦	Dry	<	9	9
MCW-9	-	6/13/18	Dry	<	9	9
MCW-9	-	6/14/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9	-	6/15/18	Dry	<	9	9
MCW-9	-	6/16/18	Dry	<	9	9
MCW-9	-	6/17/18	Dry	<	9	9
MCW-9	-	6/18/18	Dry	<	9	9
MCW-9	-	6/19/2018♦	Dry	<	9	9
MCW-9	-	6/20/18	Dry	<	9	9
MCW-9	-	6/21/18	Dry	<	9	9
MCW-9	-	6/22/18	Dry	<	9	9
MCW-9	-	6/23/18	Dry	<	9	9
MCW-9	-	6/24/18	Dry	<	9	9
MCW-9	-	6/25/18	Dry	<	9	9
MCW-9	-	6/26/2018♦	Dry	<	9	9
MCW-9	-	6/27/18	Dry	<	9	9
MCW-9	-	6/28/18	Dry	<	9	9
MCW-9	-	6/29/18	Dry	<	9	9
MCW-9	-	6/30/18	Dry	<	9	9
MCW-12	1115	6/1/18		=	20	41
MCW-12	1115	6/2/18		=	20	40
MCW-12	1115	6/3/18		=	20	39
MCW-12	1115	6/4/18		<	9	38
MCW-12	1115	6/5/2018♦		<	9	36
MCW-12	1115	6/6/18		<	9	35
MCW-12	1115	6/7/18		<	9	32
MCW-12	1115	6/8/18		<	9	30
MCW-12	1115	6/9/18		<	9	28
MCW-12	1115	6/10/18		<	9	26
MCW-12	1115	6/11/18		=	110	25
MCW-12	1115	6/12/2018♦		=	110	25
MCW-12	1115	6/13/18		=	110	26
MCW-12	1115	6/14/18		=	110	27
MCW-12	1115	6/15/18		=	110	29
MCW-12	1115	6/16/18		=	110	30
MCW-12	1115	6/17/18		=	110	32
MCW-12	1115	6/18/18		=	68	34
MCW-12	1058	6/19/2018♦		=	68	35
MCW-12	1058	6/20/18		=	68	37
MCW-12	1058	6/21/18		=	68	37
MCW-12	1058	6/22/18		=	68	36
MCW-12	1058	6/23/18		=	68	36
MCW-12	1058	6/24/18		=	68	36
MCW-12	1058	6/25/18		<	9	36
MCW-12	1150	6/26/2018♦		<	9	33
MCW-12	1150	6/27/18		<	9	31
MCW-12	1150	6/28/18		<	9	30

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12	1150	6/29/18		<	9	30
MCW-12	1150	6/30/18		<	9	29
MCW-14b	1030	6/1/18		<	9	29
MCW-14b	1030	6/2/18		<	9	25
MCW-14b	1030	6/3/18		<	9	22
MCW-14b	1030	6/4/18		<	9	19
MCW-14b	1040	6/5/2018♦		<	9	17
MCW-14b	1040	6/6/18		<	9	15
MCW-14b	1040	6/7/18		<	9	14
MCW-14b	1040	6/8/18		<	9	13
MCW-14b	1040	6/9/18		<	9	12
MCW-14b	1040	6/10/18		<	9	11
MCW-14b	1040	6/11/18		<	9	10
MCW-14b	1040	6/12/2018♦		<	9	10
MCW-14b	1040	6/13/18		<	9	9
MCW-14b	1040	6/14/18		<	9	9
MCW-14b	1040	6/15/18		<	9	9
MCW-14b	1040	6/16/18		<	9	9
MCW-14b	1040	6/17/18		<	9	9
MCW-14b	1040	6/18/18		<	9	9
MCW-14b	1020	6/19/2018♦		=	45	9
MCW-14b	1020	6/20/18		=	45	10
MCW-14b	1020	6/21/18		=	45	11
MCW-14b	1020	6/22/18		=	45	11
MCW-14b	1020	6/23/18		=	45	12
MCW-14b	1020	6/24/18		=	45	12
MCW-14b	1020	6/25/18		=	45	13
MCW-14b	1125	6/26/2018♦		=	20	13
MCW-14b	1125	6/27/18		=	20	14
MCW-14b	1125	6/28/18		=	20	14
MCW-14b	1125	6/29/18		=	20	15
MCW-14b	1125	6/30/18		=	20	15
MCW-15c	1000	6/1/18		=	230	83
MCW-15c	1000	6/2/18		=	230	82
MCW-15c	1000	6/3/18		=	230	81
MCW-15c	1000	6/4/18		=	230	80
MCW-15c	1000	6/5/2018♦		=	68	76
MCW-15c	1000	6/6/18		=	68	72
MCW-15c	1000	6/7/18		=	68	68
MCW-15c	1000	6/8/18		=	68	65
MCW-15c	1000	6/9/18		=	68	61
MCW-15c	1000	6/10/18		=	68	58
MCW-15c	1000	6/11/18		=	68	55
MCW-15c	1000	6/12/2018♦		=	20	50
MCW-15c	1000	6/13/18		=	20	46

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c	1000	6/14/18		=	20	45
MCW-15c	1000	6/15/18		=	20	44
MCW-15c	1000	6/16/18		=	20	43
MCW-15c	1000	6/17/18		=	20	42
MCW-15c	1000	6/18/18		=	20	41
MCW-15c	943	6/19/2018♦		=	20	40
MCW-15c	943	6/20/18		=	20	39
MCW-15c	943	6/21/18		=	20	40
MCW-15c	943	6/22/18		=	20	41
MCW-15c	943	6/23/18		=	20	42
MCW-15c	943	6/24/18		=	20	43
MCW-15c	943	6/25/18		=	20	45
MCW-15c	1045	6/26/2018♦		<	9	45
MCW-15c	1045	6/27/18		<	9	45
MCW-15c	1045	6/28/18		<	9	40
MCW-15c	1045	6/29/18		<	9	36
MCW-15c	1045	6/30/18		<	9	32
MCW-17	-	6/1/18	Dry	<	9	9
MCW-17	-	6/2/18	Dry	<	9	9
MCW-17	-	6/3/18	Dry	<	9	9
MCW-17	-	6/4/18	Dry	<	9	9
MCW-17	-	6/5/2018♦	Dry	<	9	9
MCW-17	-	6/6/18	Dry	<	9	9
MCW-17	-	6/7/18	Dry	<	9	9
MCW-17	-	6/8/18	Dry	<	9	9
MCW-17	-	6/9/18	Dry	<	9	9
MCW-17	-	6/10/18	Dry	<	9	9
MCW-17	-	6/11/18	Dry	<	9	9
MCW-17	-	6/12/2018♦	Dry	<	9	9
MCW-17	-	6/13/18	Dry	<	9	9
MCW-17	-	6/14/18	Dry	<	9	9
MCW-17	-	6/15/18	Dry	<	9	9
MCW-17	-	6/16/18	Dry	<	9	9
MCW-17	-	6/17/18	Dry	<	9	9
MCW-17	-	6/18/18	Dry	<	9	9
MCW-17	-	6/19/2018♦	Dry	<	9	9
MCW-17	-	6/20/18	Dry	<	9	9
MCW-17	-	6/21/18	Dry	<	9	9
MCW-17	-	6/22/18	Dry	<	9	9
MCW-17	-	6/23/18	Dry	<	9	9
MCW-17	-	6/24/18	Dry	<	9	9
MCW-17	-	6/25/18	Dry	<	9	9
MCW-17	-	6/26/2018♦	Dry	<	9	9
MCW-17	-	6/27/18	Dry	<	9	9
MCW-17	-	6/28/18	Dry	<	9	9
MCW-17	-	6/29/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17	-	6/30/18	Dry	<	9	9
MCW-18	-	6/1/18	Dry	<	9	9
MCW-18	-	6/2/18	Dry	<	9	9
MCW-18	-	6/3/18	Dry	<	9	9
MCW-18	-	6/4/18	Dry	<	9	9
MCW-18	-	6/5/2018♦	Dry	<	9	9
MCW-18	-	6/6/18	Dry	<	9	9
MCW-18	-	6/7/18	Dry	<	9	9
MCW-18	-	6/8/18	Dry	<	9	9
MCW-18	-	6/9/18	Dry	<	9	9
MCW-18	-	6/10/18	Dry	<	9	9
MCW-18	-	6/11/18	Dry	<	9	9
MCW-18	-	6/12/2018♦	Dry	<	9	9
MCW-18	-	6/13/18	Dry	<	9	9
MCW-18	-	6/14/18	Dry	<	9	9
MCW-18	-	6/15/18	Dry	<	9	9
MCW-18	-	6/16/18	Dry	<	9	9
MCW-18	-	6/17/18	Dry	<	9	9
MCW-18	-	6/18/18	Dry	<	9	9
MCW-18	-	6/19/2018♦	Dry	<	9	9
MCW-18	-	6/20/18	Dry	<	9	9
MCW-18	-	6/21/18	Dry	<	9	9
MCW-18	-	6/22/18	Dry	<	9	9
MCW-18	-	6/23/18	Dry	<	9	9
MCW-18	-	6/24/18	Dry	<	9	9
MCW-18	-	6/25/18	Dry	<	9	9
MCW-18	-	6/26/2018♦	Dry	<	9	9
MCW-18	-	6/27/18	Dry	<	9	9
MCW-18	-	6/28/18	Dry	<	9	9
MCW-18	-	6/29/18	Dry	<	9	9
MCW-18	-	6/30/18	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling

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August 24, 2018

Kangshi Wang, Ph.D. (via email)
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6780

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang,

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of July 2018. Sites were sampled weekly on Tuesday (July 3, 10, 17, 24 and 31). Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used for the purpose of calculating the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
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Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location	Time	Date	Rain		E. coli
					(235 MPN)
MCW-8b	-	7/3/2018♦			Dry
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MCW-8b	-	7/17/2018♦			Dry
MCW-8b	-	7/24/2018♦			Dry
MCW-8b	-	7/31/2018♦			Dry
MCW-9	-	7/3/2018♦			Dry
MCW-9	-	7/10/2018♦			Dry
MCW-9	-	7/17/2018♦			Dry
MCW-9	-	7/24/2018♦			Dry
MCW-9	-	7/31/2018♦			Dry
MCW-12	1024	7/3/2018♦		=	920
MCW-12	-	7/10/2018♦			Dry
MCW-12	-	7/17/2018♦			Dry
MCW-12	-	7/24/2018♦			Dry
MCW-12	-	7/31/2018♦			Dry
MCW-14b	955	7/3/2018♦		=	110
MCW-14b	1040	7/10/2018♦		<	1.8
MCW-14b	1040	7/17/2018♦		=	45
MCW-14b	1040	7/24/2018♦		=	45
MCW-14b	1040	7/31/2018♦		=	130
MCW-15c	920	7/3/2018♦		=	110
MCW-15c	1000	7/10/2018♦		=	17
MCW-15c	1000	7/17/2018♦		=	45
MCW-15c	1000	7/24/2018♦		=	40
MCW-15c	1000	7/31/2018♦		=	13
MCW-17	-	7/3/2018♦			Dry
MCW-17	-	7/10/2018♦			Dry
MCW-17	-	7/17/2018♦			Dry
MCW-17	-	7/24/2018♦			Dry
MCW-17	-	7/31/2018♦			Dry
MCW-18	-	7/3/2018♦			Dry
MCW-18	-	7/10/2018♦			Dry
MCW-18	-	7/17/2018♦			Dry
MCW-18	-	7/24/2018♦			Dry
MCW-18	-	7/31/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b	-	7/1/18	Dry	<	9	11
MCW-8b	-	7/2/18	Dry	<	9	11
MCW-8b	-	7/3/2018♦	Dry	<	9	11
MCW-8b	-	7/4/18	Dry	<	9	11
MCW-8b	-	7/5/18	Dry	<	9	11
MCW-8b	-	7/6/18	Dry	<	9	11
MCW-8b	-	7/7/18	Dry	<	9	11
MCW-8b	-	7/8/18	Dry	<	9	11
MCW-8b	-	7/9/18	Dry	<	9	10
MCW-8b	-	7/10/2018♦	Dry	<	9	10
MCW-8b	-	7/11/18	Dry	<	9	10
MCW-8b	-	7/12/18	Dry	<	9	10
MCW-8b	-	7/13/18	Dry	<	9	9
MCW-8b	-	7/14/18	Dry	<	9	9
MCW-8b	-	7/15/18	Dry	<	9	9
MCW-8b	-	7/16/18	Dry	<	9	9
MCW-8b	-	7/17/2018♦	Dry	<	9	9
MCW-8b	-	7/18/18	Dry	<	9	9
MCW-8b	-	7/19/18	Dry	<	9	9
MCW-8b	-	7/20/18	Dry	<	9	9
MCW-8b	-	7/21/18	Dry	<	9	9
MCW-8b	-	7/22/18	Dry	<	9	9
MCW-8b	-	7/23/18	Dry	<	9	9
MCW-8b	-	7/24/2018♦	Dry	<	9	9
MCW-8b	-	7/25/18	Dry	<	9	9
MCW-8b	-	7/26/18	Dry	<	9	9
MCW-8b	-	7/27/18	Dry	<	9	9
MCW-8b	-	7/28/18	Dry	<	9	9
MCW-8b	-	7/29/18	Dry	<	9	9
MCW-8b	-	7/30/18	Dry	<	9	9
MCW-8b	-	7/31/2018♦	Dry	<	9	9
MCW-9	-	7/1/18	Dry	<	9	9
MCW-9	-	7/2/18	Dry	<	9	9
MCW-9	-	7/3/2018♦	Dry	<	9	9
MCW-9	-	7/4/18	Dry	<	9	9
MCW-9	-	7/5/18	Dry	<	9	9
MCW-9	-	7/6/18	Dry	<	9	9
MCW-9	-	7/7/18	Dry	<	9	9
MCW-9	-	7/8/18	Dry	<	9	9
MCW-9	-	7/9/18	Dry	<	9	9
MCW-9	-	7/10/2018♦	Dry	<	9	9
MCW-9	-	7/11/18	Dry	<	9	9
MCW-9	-	7/12/18	Dry	<	9	9
MCW-9	-	7/13/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-9	-	7/14/18	Dry	<	9	9
MCW-9	-	7/15/18	Dry	<	9	9
MCW-9	-	7/16/18	Dry	<	9	9
MCW-9	-	7/17/2018♦	Dry	<	9	9
MCW-9	-	7/18/18	Dry	<	9	9
MCW-9	-	7/19/18	Dry	<	9	9
MCW-9	-	7/20/18	Dry	<	9	9
MCW-9	-	7/21/18	Dry	<	9	9
MCW-9	-	7/22/18	Dry	<	9	9
MCW-9	-	7/23/18	Dry	<	9	9
MCW-9	-	7/24/2018♦	Dry	<	9	9
MCW-9	-	7/25/18	Dry	<	9	9
MCW-9	-	7/26/18	Dry	<	9	9
MCW-9	-	7/27/18	Dry	<	9	9
MCW-9	-	7/28/18	Dry	<	9	9
MCW-9	-	7/29/18	Dry	<	9	9
MCW-9	-	7/30/18	Dry	<	9	9
MCW-9	-	7/31/2018♦	Dry	<	9	9
MCW-12	1150	7/1/18		<	9	28
MCW-12	1150	7/2/18		<	9	27
MCW-12	1024	7/3/2018♦		=	920	31
MCW-12	1024	7/4/18		=	920	35
MCW-12	1024	7/5/18		=	920	41
MCW-12	1024	7/6/18		=	920	48
MCW-12	1024	7/7/18		=	920	56
MCW-12	1024	7/8/18		=	920	65
MCW-12	1024	7/9/18		=	920	76
MCW-12	-	7/10/2018♦		<	9	76
MCW-12	-	7/11/18		<	9	76
MCW-12	-	7/12/18		<	9	70
MCW-12	-	7/13/18		<	9	64
MCW-12	-	7/14/18		<	9	59
MCW-12	-	7/15/18		<	9	55
MCW-12	-	7/16/18		<	9	50
MCW-12	-	7/17/2018♦		<	9	46
MCW-12	-	7/18/18		<	9	42
MCW-12	-	7/19/18		<	9	40
MCW-12	-	7/20/18		<	9	37
MCW-12	-	7/21/18		<	9	35
MCW-12	-	7/22/18		<	9	32
MCW-12	-	7/23/18		<	9	30
MCW-12	-	7/24/2018♦		<	9	28
MCW-12	-	7/25/18		<	9	26
MCW-12	-	7/26/18		<	9	26

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-12	-	7/27/18		<	9	26
MCW-12	-	7/28/18		<	9	26
MCW-12	-	7/29/18		<	9	26
MCW-12	-	7/30/18		<	9	26
MCW-12	-	7/31/2018♦		<	9	26
MCW-14b	1125	7/1/18		=	20	15
MCW-14b	1125	7/2/18		=	20	16
MCW-14b	955	7/3/2018♦		=	110	17
MCW-14b	955	7/4/18		=	110	19
MCW-14b	955	7/5/18		=	110	20
MCW-14b	955	7/6/18		=	110	22
MCW-14b	955	7/7/18		=	110	24
MCW-14b	955	7/8/18		=	110	26
MCW-14b	955	7/9/18		=	110	28
MCW-14b	1040	7/10/2018♦		<	0.9	26
MCW-14b	1040	7/11/18		<	0.9	24
MCW-14b	1040	7/12/18		<	0.9	22
MCW-14b	1040	7/13/18		<	0.9	21
MCW-14b	1040	7/14/18		<	0.9	19
MCW-14b	1040	7/15/18		<	0.9	18
MCW-14b	1040	7/16/18		<	0.9	17
MCW-14b	1040	7/17/2018♦		=	45	17
MCW-14b	1040	7/18/18		=	45	18
MCW-14b	1040	7/19/18		=	45	18
MCW-14b	1040	7/20/18		=	45	18
MCW-14b	1040	7/21/18		=	45	18
MCW-14b	1040	7/22/18		=	45	18
MCW-14b	1040	7/23/18		=	45	18
MCW-14b	1040	7/24/2018♦		=	45	18
MCW-14b	1040	7/25/18		=	45	18
MCW-14b	1040	7/26/18		=	45	19
MCW-14b	1040	7/27/18		=	45	19
MCW-14b	1040	7/28/18		=	45	20
MCW-14b	1040	7/29/18		=	45	21
MCW-14b	1040	7/30/18		=	45	21
MCW-14b	1040	7/31/2018♦		=	130	22
MCW-15c	1045	7/1/18		<	9	29
MCW-15c	1045	7/2/18		<	9	26
MCW-15c	920	7/3/2018♦		=	110	25
MCW-15c	920	7/4/18		=	110	25
MCW-15c	920	7/5/18		=	110	25
MCW-15c	920	7/6/18		=	110	26
MCW-15c	920	7/7/18		=	110	26
MCW-15c	920	7/8/18		=	110	26
MCW-15c	920	7/9/18		=	110	27

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c	1000	7/10/2018♦		=	17	26
MCW-15c	1000	7/11/18		=	17	24
MCW-15c	1000	7/12/18		=	17	24
MCW-15c	1000	7/13/18		=	17	24
MCW-15c	1000	7/14/18		=	17	24
MCW-15c	1000	7/15/18		=	17	24
MCW-15c	1000	7/16/18		=	17	24
MCW-15c	1000	7/17/2018♦		=	45	24
MCW-15c	1000	7/18/18		=	45	25
MCW-15c	1000	7/19/18		=	45	26
MCW-15c	1000	7/20/18		=	45	27
MCW-15c	1000	7/21/18		=	45	27
MCW-15c	1000	7/22/18		=	45	28
MCW-15c	1000	7/23/18		=	45	29
MCW-15c	1000	7/24/2018♦		=	40	29
MCW-15c	1000	7/25/18		=	40	30
MCW-15c	1000	7/26/18		=	40	32
MCW-15c	1000	7/27/18		=	40	33
MCW-15c	1000	7/28/18		=	40	35
MCW-15c	1000	7/29/18		=	40	37
MCW-15c	1000	7/30/18		=	40	39
MCW-15c	1000	7/31/2018♦		=	13	39
MCW-17	-	7/1/18	Dry	<	9	9
MCW-17	-	7/2/18	Dry	<	9	9
MCW-17	-	7/3/2018♦	Dry	<	9	9
MCW-17	-	7/4/18	Dry	<	9	9
MCW-17	-	7/5/18	Dry	<	9	9
MCW-17	-	7/6/18	Dry	<	9	9
MCW-17	-	7/7/18	Dry	<	9	9
MCW-17	-	7/8/18	Dry	<	9	9
MCW-17	-	7/9/18	Dry	<	9	9
MCW-17	-	7/10/2018♦	Dry	<	9	9
MCW-17	-	7/11/18	Dry	<	9	9
MCW-17	-	7/12/18	Dry	<	9	9
MCW-17	-	7/13/18	Dry	<	9	9
MCW-17	-	7/14/18	Dry	<	9	9
MCW-17	-	7/15/18	Dry	<	9	9
MCW-17	-	7/16/18	Dry	<	9	9
MCW-17	-	7/17/2018♦	Dry	<	9	9
MCW-17	-	7/18/18	Dry	<	9	9
MCW-17	-	7/19/18	Dry	<	9	9
MCW-17	-	7/20/18	Dry	<	9	9
MCW-17	-	7/21/18	Dry	<	9	9
MCW-17	-	7/22/18	Dry	<	9	9
MCW-17	-	7/23/18	Dry	<	9	9
MCW-17	-	7/24/2018♦	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17	-	7/25/18	Dry	<	9	9
MCW-17	-	7/26/18	Dry	<	9	9
MCW-17	-	7/27/18	Dry	<	9	9
MCW-17	-	7/28/18	Dry	<	9	9
MCW-17	-	7/29/18	Dry	<	9	9
MCW-17	-	7/30/18	Dry	<	9	9
MCW-17	-	7/31/2018♦	Dry	<	9	9
MCW-18	-	7/1/18	Dry	<	9	9
MCW-18	-	7/2/18	Dry	<	9	9
MCW-18	-	7/3/2018♦	Dry	<	9	9
MCW-18	-	7/4/18	Dry	<	9	9
MCW-18	-	7/5/18	Dry	<	9	9
MCW-18	-	7/6/18	Dry	<	9	9
MCW-18	-	7/7/18	Dry	<	9	9
MCW-18	-	7/8/18	Dry	<	9	9
MCW-18	-	7/9/18	Dry	<	9	9
MCW-18	-	7/10/2018♦	Dry	<	9	9
MCW-18	-	7/11/18	Dry	<	9	9
MCW-18	-	7/12/18	Dry	<	9	9
MCW-18	-	7/13/18	Dry	<	9	9
MCW-18	-	7/14/18	Dry	<	9	9
MCW-18	-	7/15/18	Dry	<	9	9
MCW-18	-	7/16/18	Dry	<	9	9
MCW-18	-	7/17/2018♦	Dry	<	9	9
MCW-18	-	7/18/18	Dry	<	9	9
MCW-18	-	7/19/18	Dry	<	9	9
MCW-18	-	7/20/18	Dry	<	9	9
MCW-18	-	7/21/18	Dry	<	9	9
MCW-18	-	7/22/18	Dry	<	9	9
MCW-18	-	7/23/18	Dry	<	9	9
MCW-18	-	7/24/2018♦	Dry	<	9	9
MCW-18	-	7/25/18	Dry	<	9	9
MCW-18	-	7/26/18	Dry	<	9	9
MCW-18	-	7/27/18	Dry	<	9	9
MCW-18	-	7/28/18	Dry	<	9	9
MCW-18	-	7/29/18	Dry	<	9	9
MCW-18	-	7/30/18	Dry	<	9	9
MCW-18	-	7/31/2018♦	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling

county of ventura

PUBLIC WORKS
VENTURA COUNTY

JEFF PRATT
Agency Director

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Engineering Services Department
Christopher Cooper, Director

Transportation Department
David Fleisch, Director

Water & Sanitation Department
Michaela Brown, Director

Watershed Protection District
Glenn Shephard, Director

September 17, 2018

Kangshi Wang, Ph.D. (via email)
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6780

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang,

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of August 2018. Sites were sampled weekly on Tuesday (August 7, 14, 21 and 28). Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used for the purpose of calculating the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

					Single Sample (as sampled)
Location	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b	-	8/7/2018♦			Dry
MCW-8b	-	8/14/2018♦			Dry
MCW-8b	-	8/21/2018♦			Dry
MCW-8b	-	8/28/2018♦			Dry
MCW-9	-	8/7/2018♦			Dry
MCW-9	-	8/14/2018♦			Dry
MCW-9	-	8/21/2018♦			Dry
MCW-9	-	8/28/2018♦			Dry
MCW-12	-	8/7/2018♦			Dry
MCW-12	-	8/14/2018♦			Dry
MCW-12	-	8/21/2018♦			Dry
MCW-12	-	8/28/2018♦			Dry
MCW-14b	1040	8/7/2018♦		=	33
MCW-14b	1040	8/14/2018♦		=	79
MCW-14b	1115	8/21/2018♦		=	240
MCW-14b	1045	8/28/2018♦		=	110
MCW-15c	1000	8/7/2018♦		=	33
MCW-15c	1000	8/14/2018♦		=	17
MCW-15c	1030	8/21/2018♦		=	79
MCW-15c	1000	8/28/2018♦		=	23
MCW-17	-	8/7/2018♦			Dry
MCW-17	-	8/14/2018♦			Dry
MCW-17	-	8/21/2018♦			Dry
MCW-17	-	8/28/2018♦			Dry
MCW-18	-	8/7/2018♦			Dry
MCW-18	-	8/14/2018♦			Dry
MCW-18	-	8/21/2018♦			Dry
MCW-18	-	8/28/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b	-	8/1/18	Dry	<	9	9
MCW-8b	-	8/2/18	Dry	<	9	9
MCW-8b	-	8/3/18	Dry	<	9	9
MCW-8b	-	8/4/18	Dry	<	9	9
MCW-8b	-	8/5/18	Dry	<	9	9
MCW-8b	-	8/6/18	Dry	<	9	9
MCW-8b	-	8/7/2018♦	Dry	<	9	9
MCW-8b	-	8/8/18	Dry	<	9	9
MCW-8b	-	8/9/18	Dry	<	9	9
MCW-8b	-	8/10/18	Dry	<	9	9
MCW-8b	-	8/11/18	Dry	<	9	9
MCW-8b	-	8/12/18	Dry	<	9	9
MCW-8b	-	8/13/18	Dry	<	9	9
MCW-8b	-	8/14/2018♦	Dry	<	9	9
MCW-8b	-	8/15/18	Dry	<	9	9
MCW-8b	-	8/16/18	Dry	<	9	9
MCW-8b	-	8/17/18	Dry	<	9	9
MCW-8b	-	8/18/18	Dry	<	9	9
MCW-8b	-	8/19/18	Dry	<	9	9
MCW-8b	-	8/20/18	Dry	<	9	9
MCW-8b	-	8/21/2018♦	Dry	<	9	9
MCW-8b	-	8/22/18	Dry	<	9	9
MCW-8b	-	8/23/18	Dry	<	9	9
MCW-8b	-	8/24/18	Dry	<	9	9
MCW-8b	-	8/25/18	Dry	<	9	9
MCW-8b	-	8/26/18	Dry	<	9	9
MCW-8b	-	8/27/18	Dry	<	9	9
MCW-8b	-	8/28/2018♦	Dry	<	9	9
MCW-8b	-	8/29/18	Dry	<	9	9
MCW-8b	-	8/30/18	Dry	<	9	9
MCW-8b	-	8/31/18	Dry	<	9	9
MCW-9	-	8/1/18	Dry	<	9	9
MCW-9	-	8/2/18	Dry	<	9	9
MCW-9	-	8/3/18	Dry	<	9	9
MCW-9	-	8/4/18	Dry	<	9	9
MCW-9	-	8/5/18	Dry	<	9	9
MCW-9	-	8/6/18	Dry	<	9	9
MCW-9	-	8/7/2018♦	Dry	<	9	9
MCW-9	-	8/8/18	Dry	<	9	9
MCW-9	-	8/9/18	Dry	<	9	9
MCW-9	-	8/10/18	Dry	<	9	9
MCW-9	-	8/11/18	Dry	<	9	9
MCW-9	-	8/12/18	Dry	<	9	9
MCW-9	-	8/13/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9	-	8/14/2018♦	Dry	<	9	9
MCW-9	-	8/15/18	Dry	<	9	9
MCW-9	-	8/16/18	Dry	<	9	9
MCW-9	-	8/17/18	Dry	<	9	9
MCW-9	-	8/18/18	Dry	<	9	9
MCW-9	-	8/19/18	Dry	<	9	9
MCW-9	-	8/20/18	Dry	<	9	9
MCW-9	-	8/21/2018♦	Dry	<	9	9
MCW-9	-	8/22/18	Dry	<	9	9
MCW-9	-	8/23/18	Dry	<	9	9
MCW-9	-	8/24/18	Dry	<	9	9
MCW-9	-	8/25/18	Dry	<	9	9
MCW-9	-	8/26/18	Dry	<	9	9
MCW-9	-	8/27/18	Dry	<	9	9
MCW-9	-	8/28/2018♦	Dry	<	9	9
MCW-9	-	8/29/18	Dry	<	9	9
MCW-9	-	8/30/18	Dry	<	9	9
MCW-9	-	8/31/18	Dry	<	9	9
MCW-12	-	8/1/18	Dry	<	9	26
MCW-12	-	8/2/18	Dry	<	9	23
MCW-12	-	8/3/18	Dry	<	9	19
MCW-12	-	8/4/18	Dry	<	9	17
MCW-12	-	8/5/18	Dry	<	9	14
MCW-12	-	8/6/18	Dry	<	9	12
MCW-12	-	8/7/2018♦	Dry	<	9	11
MCW-12	-	8/8/18	Dry	<	9	9
MCW-12	-	8/9/18	Dry	<	9	9
MCW-12	-	8/10/18	Dry	<	9	9
MCW-12	-	8/11/18	Dry	<	9	9
MCW-12	-	8/12/18	Dry	<	9	9
MCW-12	-	8/13/18	Dry	<	9	9
MCW-12	-	8/14/2018♦	Dry	<	9	9
MCW-12	-	8/15/18	Dry	<	9	9
MCW-12	-	8/16/18	Dry	<	9	9
MCW-12	-	8/17/18	Dry	<	9	9
MCW-12	-	8/18/18	Dry	<	9	9
MCW-12	-	8/19/18	Dry	<	9	9
MCW-12	-	8/20/18	Dry	<	9	9
MCW-12	-	8/21/2018♦	Dry	<	9	9
MCW-12	-	8/22/18	Dry	<	9	9
MCW-12	-	8/23/18	Dry	<	9	9
MCW-12	-	8/24/18	Dry	<	9	9
MCW-12	-	8/25/18	Dry	<	9	9
MCW-12	-	8/26/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12	-	8/27/18	Dry	<	9	9
MCW-12	-	8/28/2018♦	Dry	<	9	9
MCW-12	-	8/29/18	Dry	<	9	9
MCW-12	-	8/30/18	Dry	<	9	9
MCW-12	-	8/31/18	Dry	<	9	9
MCW-14b	1040	8/1/18		=	130	24
MCW-14b	1040	8/2/18		=	130	24
MCW-14b	1040	8/3/18		=	130	24
MCW-14b	1040	8/4/18		=	130	24
MCW-14b	1040	8/5/18		=	130	24
MCW-14b	1040	8/6/18		=	130	25
MCW-14b	1040	8/7/2018♦		=	33	24
MCW-14b	1040	8/8/18		=	33	23
MCW-14b	1040	8/9/18		=	33	26
MCW-14b	1040	8/10/18		=	33	29
MCW-14b	1040	8/11/18		=	33	32
MCW-14b	1040	8/12/18		=	33	37
MCW-14b	1040	8/13/18		=	33	41
MCW-14b	1040	8/14/2018♦		=	79	48
MCW-14b	1040	8/15/18		=	79	56
MCW-14b	1040	8/16/18		=	79	57
MCW-14b	1040	8/17/18		=	79	58
MCW-14b	1040	8/18/18		=	79	59
MCW-14b	1040	8/19/18		=	79	60
MCW-14b	1040	8/20/18		=	79	61
MCW-14b	1115	8/21/2018♦		=	240	65
MCW-14b	1115	8/22/18		=	240	68
MCW-14b	1115	8/23/18		=	240	72
MCW-14b	1115	8/24/18		=	240	76
MCW-14b	1115	8/25/18		=	240	81
MCW-14b	1115	8/26/18		=	240	85
MCW-14b	1115	8/27/18		=	240	90
MCW-14b	1045	8/28/2018♦		=	110	93
MCW-14b	1045	8/29/18		=	110	96
MCW-14b	1045	8/30/18		=	110	95
MCW-14b	1045	8/31/18		=	110	95
MCW-15c	1000	8/1/18		=	13	40
MCW-15c	1000	8/2/18		=	13	37
MCW-15c	1000	8/3/18		=	13	34
MCW-15c	1000	8/4/18		=	13	32
MCW-15c	1000	8/5/18		=	13	30
MCW-15c	1000	8/6/18		=	13	28
MCW-15c	1000	8/7/2018♦		=	33	27
MCW-15c	1000	8/8/18		=	33	26
MCW-15c	1000	8/9/18		=	33	26

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c	1000	8/10/18		=	33	27
MCW-15c	1000	8/11/18		=	33	27
MCW-15c	1000	8/12/18		=	33	28
MCW-15c	1000	8/13/18		=	33	29
MCW-15c	1000	8/14/2018♦		=	17	29
MCW-15c	1000	8/15/18		=	17	29
MCW-15c	1000	8/16/18		=	17	28
MCW-15c	1000	8/17/18		=	17	27
MCW-15c	1000	8/18/18		=	17	26
MCW-15c	1000	8/19/18		=	17	25
MCW-15c	1000	8/20/18		=	17	24
MCW-15c	1030	8/21/2018♦		=	79	25
MCW-15c	1030	8/22/18		=	79	25
MCW-15c	1030	8/23/18		=	79	26
MCW-15c	1030	8/24/18		=	79	26
MCW-15c	1030	8/25/18		=	79	27
MCW-15c	1030	8/26/18		=	79	28
MCW-15c	1030	8/27/18		=	79	28
MCW-15c	1000	8/28/2018♦		=	23	28
MCW-15c	1000	8/29/18		=	23	27
MCW-15c	1000	8/30/18		=	23	28
MCW-15c	1000	8/31/18		=	23	28
MCW-17	-	8/1/18	Dry	<	9	9
MCW-17	-	8/2/18	Dry	<	9	9
MCW-17	-	8/3/18	Dry	<	9	9
MCW-17	-	8/4/18	Dry	<	9	9
MCW-17	-	8/5/18	Dry	<	9	9
MCW-17	-	8/6/18	Dry	<	9	9
MCW-17	-	8/7/2018♦	Dry	<	9	9
MCW-17	-	8/8/18	Dry	<	9	9
MCW-17	-	8/9/18	Dry	<	9	9
MCW-17	-	8/10/18	Dry	<	9	9
MCW-17	-	8/11/18	Dry	<	9	9
MCW-17	-	8/12/18	Dry	<	9	9
MCW-17	-	8/13/18	Dry	<	9	9
MCW-17	-	8/14/2018♦	Dry	<	9	9
MCW-17	-	8/15/18	Dry	<	9	9
MCW-17	-	8/16/18	Dry	<	9	9
MCW-17	-	8/17/18	Dry	<	9	9
MCW-17	-	8/18/18	Dry	<	9	9
MCW-17	-	8/19/18	Dry	<	9	9
MCW-17	-	8/20/18	Dry	<	9	9
MCW-17	-	8/21/2018♦	Dry	<	9	9
MCW-17	-	8/22/18	Dry	<	9	9
MCW-17	-	8/23/18	Dry	<	9	9
MCW-17	-	8/24/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17	-	8/25/18	Dry	<	9	9
MCW-17	-	8/26/18	Dry	<	9	9
MCW-17	-	8/27/18	Dry	<	9	9
MCW-17	-	8/28/2018♦	Dry	<	9	9
MCW-17	-	8/29/18	Dry	<	9	9
MCW-17	-	8/30/18	Dry	<	9	9
MCW-17	-	8/31/18	Dry	<	9	9
MCW-18	-	8/1/18	Dry	<	9	9
MCW-18	-	8/2/18	Dry	<	9	9
MCW-18	-	8/3/18	Dry	<	9	9
MCW-18	-	8/4/18	Dry	<	9	9
MCW-18	-	8/5/18	Dry	<	9	9
MCW-18	-	8/6/18	Dry	<	9	9
MCW-18	-	8/7/2018♦	Dry	<	9	9
MCW-18	-	8/8/18	Dry	<	9	9
MCW-18	-	8/9/18	Dry	<	9	9
MCW-18	-	8/10/18	Dry	<	9	9
MCW-18	-	8/11/18	Dry	<	9	9
MCW-18	-	8/12/18	Dry	<	9	9
MCW-18	-	8/13/18	Dry	<	9	9
MCW-18	-	8/14/2018♦	Dry	<	9	9
MCW-18	-	8/15/18	Dry	<	9	9
MCW-18	-	8/16/18	Dry	<	9	9
MCW-18	-	8/17/18	Dry	<	9	9
MCW-18	-	8/18/18	Dry	<	9	9
MCW-18	-	8/19/18	Dry	<	9	9
MCW-18	-	8/20/18	Dry	<	9	9
MCW-18	-	8/21/2018♦	Dry	<	9	9
MCW-18	-	8/22/18	Dry	<	9	9
MCW-18	-	8/23/18	Dry	<	9	9
MCW-18	-	8/24/18	Dry	<	9	9
MCW-18	-	8/25/18	Dry	<	9	9
MCW-18	-	8/26/18	Dry	<	9	9
MCW-18	-	8/27/18	Dry	<	9	9
MCW-18	-	8/28/2018♦	Dry	<	9	9
MCW-18	-	8/29/18	Dry	<	9	9
MCW-18	-	8/30/18	Dry	<	9	9
MCW-18	-	8/31/18	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling

county of ventura

PUBLIC WORKS
VENTURA COUNTY

JEFF PRATT
Agency Director

Central Services Department
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Engineering Services Department
Christopher Cooper, Director

Transportation Department
David Fleisch, Director

Water & Sanitation Department
Michaela Brown, Director

Watershed Protection District
Glenn Shephard, Director

October 22, 2018

Kangshi Wang, Ph.D. (via email)
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6780

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang,

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of September 2018. Sites were sampled weekly on Tuesday (September 4, 11, 18 and 25). Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used for the purpose of calculating the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b	-	9/4/2018♦			Dry
MCW-8b	-	9/11/2018♦			Dry
MCW-8b	-	9/18/2018♦			Dry
MCW-8b	-	9/25/2018♦			Dry
MCW-9	-	9/4/2018♦			Dry
MCW-9	-	9/11/2018♦			Dry
MCW-9	-	9/18/2018♦			Dry
MCW-9	-	9/25/2018♦			Dry
MCW-12	-	9/4/2018♦			Dry
MCW-12	-	9/11/2018♦			Dry
MCW-12	-	9/18/2018♦			Dry
MCW-12	-	9/25/2018♦			Dry
MCW-14b	1040	9/4/2018♦		=	920
MCW-14b	1045	9/11/2018♦		=	31
MCW-14b	1115	9/18/2018♦		=	790
MCW-14b	1045	9/25/2018♦		=	20
MCW-15c	1000	9/4/2018♦		≥	1600
MCW-15c	1000	9/11/2018♦		=	920
MCW-15c	1030	9/18/2018♦		=	330
MCW-15c	1000	9/25/2018♦		=	170
MCW-17	-	9/4/2018♦			Dry
MCW-17	-	9/11/2018♦			Dry
MCW-17	-	9/18/2018♦			Dry
MCW-17	-	9/25/2018♦			Dry
MCW-18	-	9/4/2018♦			Dry
MCW-18	-	9/11/2018♦			Dry
MCW-18	-	9/18/2018♦			Dry
MCW-18	-	9/25/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b	-	9/1/18	Dry	<	9	9
MCW-8b	-	9/2/18	Dry	<	9	9
MCW-8b	-	9/3/18	Dry	<	9	9
MCW-8b	-	9/4/2018♦	Dry	<	9	9
MCW-8b	-	9/5/18	Dry	<	9	9
MCW-8b	-	9/6/18	Dry	<	9	9
MCW-8b	-	9/7/18	Dry	<	9	9
MCW-8b	-	9/8/18	Dry	<	9	9
MCW-8b	-	9/9/18	Dry	<	9	9
MCW-8b	-	9/10/18	Dry	<	9	9
MCW-8b	-	9/11/2018♦	Dry	<	9	9
MCW-8b	-	9/12/18	Dry	<	9	9
MCW-8b	-	9/13/18	Dry	<	9	9
MCW-8b	-	9/14/18	Dry	<	9	9
MCW-8b	-	9/15/18	Dry	<	9	9
MCW-8b	-	9/16/18	Dry	<	9	9
MCW-8b	-	9/17/18	Dry	<	9	9
MCW-8b	-	9/18/2018♦	Dry	<	9	9
MCW-8b	-	9/19/18	Dry	<	9	9
MCW-8b	-	9/20/18	Dry	<	9	9
MCW-8b	-	9/21/18	Dry	<	9	9
MCW-8b	-	9/22/18	Dry	<	9	9
MCW-8b	-	9/23/18	Dry	<	9	9
MCW-8b	-	9/24/18	Dry	<	9	9
MCW-8b	-	9/25/2018♦	Dry	<	9	9
MCW-8b	-	9/26/18	Dry	<	9	9
MCW-8b	-	9/27/18	Dry	<	9	9
MCW-8b	-	9/28/18	Dry	<	9	9
MCW-8b	-	9/29/18	Dry	<	9	9
MCW-8b	-	9/30/18	Dry	<	9	9
MCW-9	-	9/1/18	Dry	<	9	9
MCW-9	-	9/2/18	Dry	<	9	9
MCW-9	-	9/3/18	Dry	<	9	9
MCW-9	-	9/4/2018♦	Dry	<	9	9
MCW-9	-	9/5/18	Dry	<	9	9
MCW-9	-	9/6/18	Dry	<	9	9
MCW-9	-	9/7/18	Dry	<	9	9
MCW-9	-	9/8/18	Dry	<	9	9
MCW-9	-	9/9/18	Dry	<	9	9
MCW-9	-	9/10/18	Dry	<	9	9
MCW-9	-	9/11/2018♦	Dry	<	9	9
MCW-9	-	9/12/18	Dry	<	9	9
MCW-9	-	9/13/18	Dry	<	9	9
MCW-9	-	9/14/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9	-	9/15/18	Dry	<	9	9
MCW-9	-	9/16/18	Dry	<	9	9
MCW-9	-	9/17/18	Dry	<	9	9
MCW-9	-	9/18/2018♦	Dry	<	9	9
MCW-9	-	9/19/18	Dry	<	9	9
MCW-9	-	9/20/18	Dry	<	9	9
MCW-9	-	9/21/18	Dry	<	9	9
MCW-9	-	9/22/18	Dry	<	9	9
MCW-9	-	9/23/18	Dry	<	9	9
MCW-9	-	9/24/18	Dry	<	9	9
MCW-9	-	9/25/2018♦	Dry	<	9	9
MCW-9	-	9/26/18	Dry	<	9	9
MCW-9	-	9/27/18	Dry	<	9	9
MCW-9	-	9/28/18	Dry	<	9	9
MCW-9	-	9/29/18	Dry	<	9	9
MCW-9	-	9/30/18	Dry	<	9	9
MCW-12	-	9/1/18	Dry	<	9	9
MCW-12	-	9/2/18	Dry	<	9	9
MCW-12	-	9/3/18	Dry	<	9	9
MCW-12	-	9/4/2018♦	Dry	<	9	9
MCW-12	-	9/5/18	Dry	<	9	9
MCW-12	-	9/6/18	Dry	<	9	9
MCW-12	-	9/7/18	Dry	<	9	9
MCW-12	-	9/8/18	Dry	<	9	9
MCW-12	-	9/9/18	Dry	<	9	9
MCW-12	-	9/10/18	Dry	<	9	9
MCW-12	-	9/11/2018♦	Dry	<	9	9
MCW-12	-	9/12/18	Dry	<	9	9
MCW-12	-	9/13/18	Dry	<	9	9
MCW-12	-	9/14/18	Dry	<	9	9
MCW-12	-	9/15/18	Dry	<	9	9
MCW-12	-	9/16/18	Dry	<	9	9
MCW-12	-	9/17/18	Dry	<	9	9
MCW-12	-	9/18/2018♦	Dry	<	9	9
MCW-12	-	9/19/18	Dry	<	9	9
MCW-12	-	9/20/18	Dry	<	9	9
MCW-12	-	9/21/18	Dry	<	9	9
MCW-12	-	9/22/18	Dry	<	9	9
MCW-12	-	9/23/18	Dry	<	9	9
MCW-12	-	9/24/18	Dry	<	9	9
MCW-12	-	9/25/2018♦	Dry	<	9	9
MCW-12	-	9/26/18	Dry	<	9	9
MCW-12	-	9/27/18	Dry	<	9	9
MCW-12	-	9/28/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12	-	9/29/18	Dry	<	9	9
MCW-12	-	9/30/18	Dry	<	9	9
MCW-14b	1045	9/1/18		=	110	94
MCW-14b	1045	9/2/18		=	110	94
MCW-14b	1045	9/3/18		=	110	93
MCW-14b	1040	9/4/2018♦		=	920	100
MCW-14b	1040	9/5/18		=	920	106
MCW-14b	1040	9/6/18		=	920	119
MCW-14b	1040	9/7/18		=	920	133
MCW-14b	1040	9/8/18		=	920	148
MCW-14b	1040	9/9/18		=	920	166
MCW-14b	1040	9/10/18		=	920	185
MCW-14b	1045	9/11/2018♦		=	31	185
MCW-14b	1045	9/12/18		=	31	184
MCW-14b	1045	9/13/18		=	31	179
MCW-14b	1045	9/14/18		=	31	173
MCW-14b	1045	9/15/18		=	31	168
MCW-14b	1045	9/16/18		=	31	163
MCW-14b	1045	9/17/18		=	31	158
MCW-14b	1115	9/18/2018♦		=	790	170
MCW-14b	1115	9/19/18		=	790	184
MCW-14b	1115	9/20/18		=	790	191
MCW-14b	1115	9/21/18		=	790	199
MCW-14b	1115	9/22/18		=	790	207
MCW-14b	1115	9/23/18		=	790	215
MCW-14b	1115	9/24/18		=	790	224
MCW-14b	1045	9/25/2018♦		=	20	206
MCW-14b	1045	9/26/18		=	20	190
MCW-14b	1045	9/27/18		=	20	179
MCW-14b	1045	9/28/18		=	20	170
MCW-14b	1045	9/29/18		=	20	160
MCW-14b	1045	9/30/18		=	20	151
MCW-15c	1000	9/1/18		=	23	29
MCW-15c	1000	9/2/18		=	23	29
MCW-15c	1000	9/3/18		=	23	30
MCW-15c	1000	9/4/2018♦		≥	1,600	35
MCW-15c	1000	9/5/18		≥	1,600	41
MCW-15c	1000	9/6/18		≥	1,600	47
MCW-15c	1000	9/7/18		≥	1,600	53
MCW-15c	1000	9/8/18		≥	1,600	61
MCW-15c	1000	9/9/18		≥	1,600	69
MCW-15c	1000	9/10/18		≥	1,600	79
MCW-15c	1000	9/11/2018♦		=	920	88
MCW-15c	1000	9/12/18		=	920	98
MCW-15c	1000	9/13/18		=	920	112

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c	1000	9/14/18		=	920	128
MCW-15c	1000	9/15/18		=	920	147
MCW-15c	1000	9/16/18		=	920	167
MCW-15c	1000	9/17/18		=	920	191
MCW-15c	1030	9/18/2018♦		=	330	211
MCW-15c	1030	9/19/18		=	330	233
MCW-15c	1030	9/20/18		=	330	245
MCW-15c	1030	9/21/18		=	330	256
MCW-15c	1030	9/22/18		=	330	269
MCW-15c	1030	9/23/18		=	330	282
MCW-15c	1030	9/24/18		=	330	296
MCW-15c	1000	9/25/2018♦		=	170	304
MCW-15c	1000	9/26/18		=	170	311
MCW-15c	1000	9/27/18		=	170	333
MCW-15c	1000	9/28/18		=	170	356
MCW-15c	1000	9/29/18		=	170	380
MCW-15c	1000	9/30/18		=	170	407
MCW-17	-	9/1/18	Dry	<	9	9
MCW-17	-	9/2/18	Dry	<	9	9
MCW-17	-	9/3/18	Dry	<	9	9
MCW-17	-	9/4/2018♦	Dry	<	9	9
MCW-17	-	9/5/18	Dry	<	9	9
MCW-17	-	9/6/18	Dry	<	9	9
MCW-17	-	9/7/18	Dry	<	9	9
MCW-17	-	9/8/18	Dry	<	9	9
MCW-17	-	9/9/18	Dry	<	9	9
MCW-17	-	9/10/18	Dry	<	9	9
MCW-17	-	9/11/2018♦	Dry	<	9	9
MCW-17	-	9/12/18	Dry	<	9	9
MCW-17	-	9/13/18	Dry	<	9	9
MCW-17	-	9/14/18	Dry	<	9	9
MCW-17	-	9/15/18	Dry	<	9	9
MCW-17	-	9/16/18	Dry	<	9	9
MCW-17	-	9/17/18	Dry	<	9	9
MCW-17	-	9/18/2018♦	Dry	<	9	9
MCW-17	-	9/19/18	Dry	<	9	9
MCW-17	-	9/20/18	Dry	<	9	9
MCW-17	-	9/21/18	Dry	<	9	9
MCW-17	-	9/22/18	Dry	<	9	9
MCW-17	-	9/23/18	Dry	<	9	9
MCW-17	-	9/24/18	Dry	<	9	9
MCW-17	-	9/25/2018♦	Dry	<	9	9
MCW-17	-	9/26/18	Dry	<	9	9
MCW-17	-	9/27/18	Dry	<	9	9
MCW-17	-	9/28/18	Dry	<	9	9
MCW-17	-	9/29/18	Dry	<	9	9

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17	-	9/30/18	Dry	<	9	9
MCW-18	-	9/1/18	Dry	<	9	9
MCW-18	-	9/2/18	Dry	<	9	9
MCW-18	-	9/3/18	Dry	<	9	9
MCW-18	-	9/4/2018♦	Dry	<	9	9
MCW-18	-	9/5/18	Dry	<	9	9
MCW-18	-	9/6/18	Dry	<	9	9
MCW-18	-	9/7/18	Dry	<	9	9
MCW-18	-	9/8/18	Dry	<	9	9
MCW-18	-	9/9/18	Dry	<	9	9
MCW-18	-	9/10/18	Dry	<	9	9
MCW-18	-	9/11/2018♦	Dry	<	9	9
MCW-18	-	9/12/18	Dry	<	9	9
MCW-18	-	9/13/18	Dry	<	9	9
MCW-18	-	9/14/18	Dry	<	9	9
MCW-18	-	9/15/18	Dry	<	9	9
MCW-18	-	9/16/18	Dry	<	9	9
MCW-18	-	9/17/18	Dry	<	9	9
MCW-18	-	9/18/2018♦	Dry	<	9	9
MCW-18	-	9/19/18	Dry	<	9	9
MCW-18	-	9/20/18	Dry	<	9	9
MCW-18	-	9/21/18	Dry	<	9	9
MCW-18	-	9/22/18	Dry	<	9	9
MCW-18	-	9/23/18	Dry	<	9	9
MCW-18	-	9/24/18	Dry	<	9	9
MCW-18	-	9/25/2018♦	Dry	<	9	9
MCW-18	-	9/26/18	Dry	<	9	9
MCW-18	-	9/27/18	Dry	<	9	9
MCW-18	-	9/28/18	Dry	<	9	9
MCW-18	-	9/29/18	Dry	<	9	9
MCW-18	-	9/30/18	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling

county of ventura

PUBLIC WORKS
VENTURA COUNTY

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Christopher Cooper, Director

Transportation Department
David Fleisch, Director

Water & Sanitation Department
Michaela Brown, Director

Watershed Protection District
Glenn Shephard, Director

VIA EMAIL

November 27, 2018

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6780

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang,

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of October 2018. Sites were sampled weekly on Tuesday (October 2, 9, 23 and 30) except for one instance when sites were sampled Monday (October 15) due to staffing conflicts. Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used for the purpose of calculating the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b	-	10/2/2018♦			Dry
MCW-8b	-	10/9/2018♦			Dry
MCW-8b	-	10/15/2018♦			Dry
MCW-8b	-	10/23/2018♦			Dry
MCW-8b	-	10/30/2018♦			Dry
MCW-9	-	10/2/2018♦			Dry
MCW-9	-	10/9/2018♦			Dry
MCW-9	-	10/15/2018♦			Dry
MCW-9	-	10/23/2018♦			Dry
MCW-9	-	10/30/2018♦			Dry
MCW-12	-	10/2/2018♦			Dry
MCW-12	-	10/9/2018♦			Dry
MCW-12	-	10/15/2018♦			Dry
MCW-12	-	10/23/2018♦			Dry
MCW-12	-	10/30/2018♦			Dry
MCW-14b	1100	10/2/2018♦		=	68
MCW-14b	1045	10/9/2018♦		<	18
MCW-14b	1040	10/15/2018♦		=	2,400
MCW-14b	1045	10/23/2018♦		<	18
MCW-14b	1045	10/30/2018♦		<	18
MCW-15c	1015	10/2/2018♦		=	83
MCW-15c	1015	10/9/2018♦		<	18
MCW-15c	1000	10/15/2018♦		=	340
MCW-15c	1000	10/23/2018♦		<	18
MCW-15c	1000	10/30/2018♦		<	18
MCW-17	-	10/2/2018♦			Dry
MCW-17	-	10/9/2018♦			Dry
MCW-17	-	10/15/2018♦			Dry
MCW-17	-	10/23/2018♦			Dry
MCW-17	-	10/30/2018♦			Dry
MCW-18	-	10/2/2018♦			Dry
MCW-18	-	10/9/2018♦			Dry
MCW-18	-	10/15/2018♦			Dry
MCW-18	-	10/23/2018♦			Dry
MCW-18	-	10/30/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦Date of sampling

- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b	-	10/1/18	Dry	<	9	9
MCW-8b	-	10/2/2018♦	Dry	<	9	9
MCW-8b	-	10/3/18	Dry	<	9	9
MCW-8b	-	10/4/18	Dry	<	9	9
MCW-8b	-	10/5/18	Dry	<	9	9
MCW-8b	-	10/6/18	Dry	<	9	9
MCW-8b	-	10/7/18	Dry	<	9	9
MCW-8b	-	10/8/18	Dry	<	9	9
MCW-8b	-	10/9/2018♦	Dry	<	9	9
MCW-8b	-	10/10/18	Dry	<	9	9
MCW-8b	-	10/11/18	Dry	<	9	9
MCW-8b	-	10/12/18	Dry	<	9	9
MCW-8b	-	10/13/18	Dry	<	9	9
MCW-8b	-	10/14/18	Dry	<	9	9
MCW-8b	-	10/15/2018♦	Dry	<	9	9
MCW-8b	-	10/16/18	Dry	<	9	9
MCW-8b	-	10/17/18	Dry	<	9	9
MCW-8b	-	10/18/18	Dry	<	9	9
MCW-8b	-	10/19/18	Dry	<	9	9
MCW-8b	-	10/20/18	Dry	<	9	9
MCW-8b	-	10/21/18	Dry	<	9	9
MCW-8b	-	10/22/18	Dry	<	9	9
MCW-8b	-	10/23/2018♦	Dry	<	9	9
MCW-8b	-	10/24/18	Dry	<	9	9
MCW-8b	-	10/25/18	Dry	<	9	9
MCW-8b	-	10/26/18	Dry	<	9	9
MCW-8b	-	10/27/18	Dry	<	9	9
MCW-8b	-	10/28/18	Dry	<	9	9
MCW-8b	-	10/29/18	Dry	<	9	9
MCW-8b	-	10/30/2018♦	Dry	<	9	9
MCW-8b	-	10/31/18	Dry	<	9	9
MCW-9	-	10/1/18	Dry	<	9	9
MCW-9	-	10/2/2018♦	Dry	<	9	9
MCW-9	-	10/3/18	Dry	<	9	9
MCW-9	-	10/4/18	Dry	<	9	9
MCW-9	-	10/5/18	Dry	<	9	9
MCW-9	-	10/6/18	Dry	<	9	9
MCW-9	-	10/7/18	Dry	<	9	9
MCW-9	-	10/8/18	Dry	<	9	9
MCW-9	-	10/9/2018♦	Dry	<	9	9
MCW-9	-	10/10/18	Dry	<	9	9
MCW-9	-	10/11/18	Dry	<	9	9
MCW-9	-	10/12/18	Dry	<	9	9
MCW-9	-	10/13/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9	-	10/14/18	Dry	<	9	9
MCW-9	-	10/15/2018♦	Dry	<	9	9
MCW-9	-	10/16/18	Dry	<	9	9
MCW-9	-	10/17/18	Dry	<	9	9
MCW-9	-	10/18/18	Dry	<	9	9
MCW-9	-	10/19/18	Dry	<	9	9
MCW-9	-	10/20/18	Dry	<	9	9
MCW-9	-	10/21/18	Dry	<	9	9
MCW-9	-	10/22/18	Dry	<	9	9
MCW-9	-	10/23/2018♦	Dry	<	9	9
MCW-9	-	10/24/18	Dry	<	9	9
MCW-9	-	10/25/18	Dry	<	9	9
MCW-9	-	10/26/18	Dry	<	9	9
MCW-9	-	10/27/18	Dry	<	9	9
MCW-9	-	10/28/18	Dry	<	9	9
MCW-9	-	10/29/18	Dry	<	9	9
MCW-9	-	10/30/2018♦	Dry	<	9	9
MCW-9	-	10/31/18	Dry	<	9	9
MCW-12	-	10/1/18		<	9	9
MCW-12	-	10/2/2018♦		<	9	9
MCW-12	-	10/3/18		<	9	9
MCW-12	-	10/4/18		<	9	9
MCW-12	-	10/5/18		<	9	9
MCW-12	-	10/6/18		<	9	9
MCW-12	-	10/7/18		<	9	9
MCW-12	-	10/8/18		<	9	9
MCW-12	-	10/9/2018♦		<	9	9
MCW-12	-	10/10/18		<	9	9
MCW-12	-	10/11/18		<	9	9
MCW-12	-	10/12/18		<	9	9
MCW-12	-	10/13/18		<	9	9
MCW-12	-	10/14/18		<	9	9
MCW-12	-	10/15/2018♦		<	9	9
MCW-12	-	10/16/18		<	9	9
MCW-12	-	10/17/18		<	9	9
MCW-12	-	10/18/18		<	9	9
MCW-12	-	10/19/18		<	9	9
MCW-12	-	10/20/18		<	9	9
MCW-12	-	10/21/18		<	9	9
MCW-12	-	10/22/18		<	9	9
MCW-12	-	10/23/2018♦		<	9	9
MCW-12	-	10/24/18		<	9	9
MCW-12	-	10/25/18		<	9	9
MCW-12	-	10/26/18		<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12	-	10/27/18		<	9	9
MCW-12	-	10/28/18		<	9	9
MCW-12	-	10/29/18		<	9	9
MCW-12	-	10/30/2018♦		<	9	9
MCW-12	-	10/31/18		<	9	9
MCW-14b	1045	10/1/18		=	20	143
MCW-14b	1100	10/2/2018♦		=	68	141
MCW-14b	1100	10/3/18		=	68	138
MCW-14b	1100	10/4/18		=	68	127
MCW-14b	1100	10/5/18		=	68	116
MCW-14b	1100	10/6/18		=	68	107
MCW-14b	1100	10/7/18		=	68	98
MCW-14b	1100	10/8/18		=	68	90
MCW-14b	1045	10/9/2018♦		<	9	77
MCW-14b	1045	10/10/18		<	9	66
MCW-14b	1045	10/11/18		<	9	63
MCW-14b	1045	10/12/18		<	9	61
MCW-14b	1045	10/13/18		<	9	58
MCW-14b	1045	10/14/18		<	9	56
MCW-14b	1040	10/15/2018♦		=	2,400	65
MCW-14b	1040	10/16/18		=	2,400	75
MCW-14b	1040	10/17/18		=	2,400	86
MCW-14b	1040	10/18/18		=	2,400	90
MCW-14b	1040	10/19/18		=	2,400	93
MCW-14b	1040	10/20/18		=	2,400	96
MCW-14b	1040	10/21/18		=	2,400	100
MCW-14b	1040	10/22/18		=	2,400	104
MCW-14b	1045	10/23/2018♦		<	9	89
MCW-14b	1045	10/24/18		<	9	77
MCW-14b	1045	10/25/18		<	9	75
MCW-14b	1045	10/26/18		<	9	73
MCW-14b	1045	10/27/18		<	9	71
MCW-14b	1045	10/28/18		<	9	69
MCW-14b	1045	10/29/18		<	9	67
MCW-14b	1045	10/30/2018♦		<	9	66
MCW-14b	1115	10/31/18		<	9	64
MCW-15c	1000	10/1/18		=	170	435
MCW-15c	1015	10/2/2018♦		=	83	454
MCW-15c	1015	10/3/18		=	83	473
MCW-15c	1015	10/4/18		=	83	429
MCW-15c	1015	10/5/18		=	83	389
MCW-15c	1015	10/6/18		=	83	352
MCW-15c	1015	10/7/18		=	83	319
MCW-15c	1015	10/8/18		=	83	289
MCW-15c	1015	10/9/2018♦		<	9	243

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c	1015	10/10/18		<	9	205
MCW-15c	1015	10/11/18		<	9	175
MCW-15c	1015	10/12/18		<	9	150
MCW-15c	1015	10/13/18		<	9	129
MCW-15c	1015	10/14/18		<	9	110
MCW-15c	1000	10/15/2018♦		=	340	107
MCW-15c	1000	10/16/18		=	340	103
MCW-15c	1000	10/17/18		=	340	100
MCW-15c	1000	10/18/18		=	340	100
MCW-15c	1000	10/19/18		=	340	100
MCW-15c	1000	10/20/18		=	340	100
MCW-15c	1000	10/21/18		=	340	100
MCW-15c	1000	10/22/18		=	340	100
MCW-15c	1000	10/23/2018♦		<	9	89
MCW-15c	1000	10/24/18		<	9	79
MCW-15c	1000	10/25/18		<	9	72
MCW-15c	1000	10/26/18		<	9	65
MCW-15c	1000	10/27/18		<	9	59
MCW-15c	1000	10/28/18		<	9	53
MCW-15c	1000	10/29/18		<	9	48
MCW-15c	1000	10/30/2018♦		<	9	44
MCW-15c	1030	10/31/18		<	9	40
MCW-17	-	10/1/18	Dry	<	9	9
MCW-17	-	10/2/2018♦	Dry	<	9	9
MCW-17	-	10/3/18	Dry	<	9	9
MCW-17	-	10/4/18	Dry	<	9	9
MCW-17	-	10/5/18	Dry	<	9	9
MCW-17	-	10/6/18	Dry	<	9	9
MCW-17	-	10/7/18	Dry	<	9	9
MCW-17	-	10/8/18	Dry	<	9	9
MCW-17	-	10/9/2018♦	Dry	<	9	9
MCW-17	-	10/10/18	Dry	<	9	9
MCW-17	-	10/11/18	Dry	<	9	9
MCW-17	-	10/12/18	Dry	<	9	9
MCW-17	-	10/13/18	Dry	<	9	9
MCW-17	-	10/14/18	Dry	<	9	9
MCW-17	-	10/15/2018♦	Dry	<	9	9
MCW-17	-	10/16/18	Dry	<	9	9
MCW-17	-	10/17/18	Dry	<	9	9
MCW-17	-	10/18/18	Dry	<	9	9
MCW-17	-	10/19/18	Dry	<	9	9
MCW-17	-	10/20/18	Dry	<	9	9
MCW-17	-	10/21/18	Dry	<	9	9
MCW-17	-	10/22/18	Dry	<	9	9
MCW-17	-	10/23/2018♦	Dry	<	9	9
MCW-17	-	10/24/18	Dry	<	9	9

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17	-	10/25/18	Dry	<	9	9
MCW-17	-	10/26/18	Dry	<	9	9
MCW-17	-	10/27/18	Dry	<	9	9
MCW-17	-	10/28/18	Dry	<	9	9
MCW-17	-	10/29/18	Dry	<	9	9
MCW-17	-	10/30/2018♦	Dry	<	9	9
MCW-17	-	10/31/18	Dry	<	9	9
MCW-18	-	10/1/18	Dry	<	9	9
MCW-18	-	10/2/2018♦	Dry	<	9	9
MCW-18	-	10/3/18	Dry	<	9	9
MCW-18	-	10/4/18	Dry	<	9	9
MCW-18	-	10/5/18	Dry	<	9	9
MCW-18	-	10/6/18	Dry	<	9	9
MCW-18	-	10/7/18	Dry	<	9	9
MCW-18	-	10/8/18	Dry	<	9	9
MCW-18	-	10/9/2018♦	Dry	<	9	9
MCW-18	-	10/10/18	Dry	<	9	9
MCW-18	-	10/11/18	Dry	<	9	9
MCW-18	-	10/12/18	Dry	<	9	9
MCW-18	-	10/13/18	Dry	<	9	9
MCW-18	-	10/14/18	Dry	<	9	9
MCW-18	-	10/15/2018♦	Dry	<	9	9
MCW-18	-	10/16/18	Dry	<	9	9
MCW-18	-	10/17/18	Dry	<	9	9
MCW-18	-	10/18/18	Dry	<	9	9
MCW-18	-	10/19/18	Dry	<	9	9
MCW-18	-	10/20/18	Dry	<	9	9
MCW-18	-	10/21/18	Dry	<	9	9
MCW-18	-	10/22/18	Dry	<	9	9
MCW-18	-	10/23/2018♦	Dry	<	9	9
MCW-18	-	10/24/18	Dry	<	9	9
MCW-18	-	10/25/18	Dry	<	9	9
MCW-18	-	10/26/18	Dry	<	9	9
MCW-18	-	10/27/18	Dry	<	9	9
MCW-18	-	10/28/18	Dry	<	9	9
MCW-18	-	10/29/18	Dry	<	9	9
MCW-18	-	10/30/2018♦	Dry	<	9	9
MCW-18	-	10/31/18	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling

county of ventura

PUBLIC WORKS
VENTURA COUNTY

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Christopher Cooper, Director

Transportation Department
David Fleisch, Director

Water & Sanitation Department
Michaela Brown, Director

Watershed Protection District
Glenn Shephard, Director

VIA EMAIL

December 24, 2018

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of November 2018. Sites were sampled weekly on Tuesday (November 6, 13, 20 and 27). The Woolsey Fire burned the Malibu Creek Watershed in November, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. Access to MCW-9 was prohibited on November 13, 2018 however this site is ephemeral and has been dry since March 2011 so sample collection was not impacted. Photos are included in Appendix A at the end of this report.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b	-	11/6/2018♦			Dry
MCW-8b	-	11/13/2018♦			Dry
MCW-8b	-	11/20/2018♦			Dry
MCW-8b	-	11/27/2018♦			Dry
MCW-9	-	11/6/2018♦			Dry
MCW-9	-	11/13/2018♦			Dry
MCW-9	-	11/20/2018♦			Dry
MCW-9	-	11/27/2018♦			Dry
MCW-12	-	11/6/2018♦			Dry
MCW-12	-	11/13/2018♦			Dry
MCW-12	-	11/20/2018♦			Dry
MCW-12	-	11/27/2018♦			Dry
MCW-14b	1050	11/6/2018♦		<	18
MCW-14b	1130	11/13/2018♦		<	18
MCW-14b	1130	11/20/2018♦		=	37
MCW-14b	900	11/27/2018♦		=	170
MCW-15c	1015	11/6/2018♦		<	18
MCW-15c	1030	11/13/2018♦		<	18
MCW-15c	1030	11/20/2018♦		=	18
MCW-15c	830	11/27/2018♦		=	490
MCW-17	-	11/6/2018♦			Dry
MCW-17	-	11/13/2018♦			Dry
MCW-17	-	11/20/2018♦			Dry
MCW-17	-	11/27/2018♦			Dry
MCW-18	-	11/6/2018♦			Dry
MCW-18	-	11/13/2018♦			Dry
MCW-18	-	11/20/2018♦			Dry
MCW-18	-	11/27/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b	-	11/1/18	Dry	<	9	9
MCW-8b	-	11/2/18	Dry	<	9	9
MCW-8b	-	11/3/18	Dry	<	9	9
MCW-8b	-	11/4/18	Dry	<	9	9
MCW-8b	-	11/5/18	Dry	<	9	9
MCW-8b	-	11/6/2018♦	Dry	<	9	9
MCW-8b	-	11/7/18	Dry	<	9	9
MCW-8b	-	11/8/18	Dry	<	9	9
MCW-8b	-	11/9/18	Dry	<	9	9
MCW-8b	-	11/10/18	Dry	<	9	9
MCW-8b	-	11/11/18	Dry	<	9	9
MCW-8b	-	11/12/18	Dry	<	9	9
MCW-8b	-	11/13/2018♦	Dry	<	9	9
MCW-8b	-	11/14/18	Dry	<	9	9
MCW-8b	-	11/15/18	Dry	<	9	9
MCW-8b	-	11/16/18	Dry	<	9	9
MCW-8b	-	11/17/18	Dry	<	9	9
MCW-8b	-	11/18/18	Dry	<	9	9
MCW-8b	-	11/19/18	Dry	<	9	9
MCW-8b	-	11/20/2018♦	Dry	<	9	9
MCW-8b	-	11/21/18	Dry	<	9	9
MCW-8b	-	11/22/18	Dry	<	9	9
MCW-8b	-	11/23/18	Dry	<	9	9
MCW-8b	-	11/24/18	Dry	<	9	9
MCW-8b	-	11/25/18	Dry	<	9	9
MCW-8b	-	11/26/18	Dry	<	9	9
MCW-8b	-	11/27/2018♦	Dry	<	9	9
MCW-8b	-	11/28/18	Dry	<	9	9
MCW-8b	-	11/29/18	Dry	<	9	9
MCW-8b	-	11/30/18	Dry	<	9	9
MCW-9	-	11/1/18	Dry	<	9	9
MCW-9	-	11/2/18	Dry	<	9	9
MCW-9	-	11/3/18	Dry	<	9	9
MCW-9	-	11/4/18	Dry	<	9	9
MCW-9	-	11/5/18	Dry	<	9	9
MCW-9	-	11/6/2018♦	Dry	<	9	9
MCW-9	-	11/7/18	Dry	<	9	9
MCW-9	-	11/8/18	Dry	<	9	9
MCW-9	-	11/9/18	Dry	<	9	9
MCW-9	-	11/10/18	Dry	<	9	9
MCW-9	-	11/11/18	Dry	<	9	9
MCW-9	-	11/12/18	Dry	<	9	9
MCW-9	-	11/13/2018♦	Dry	<	9	9
MCW-9	-	11/14/18	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9	-	11/15/18	Dry	<	9	9
MCW-9	-	11/16/18	Dry	<	9	9
MCW-9	-	11/17/18	Dry	<	9	9
MCW-9	-	11/18/18	Dry	<	9	9
MCW-9	-	11/19/18	Dry	<	9	9
MCW-9	-	11/20/2018♦	Dry	<	9	9
MCW-9	-	11/21/18	Dry	<	9	9
MCW-9	-	11/22/18	Dry	<	9	9
MCW-9	-	11/23/18	Dry	<	9	9
MCW-9	-	11/24/18	Dry	<	9	9
MCW-9	-	11/25/18	Dry	<	9	9
MCW-9	-	11/26/18	Dry	<	9	9
MCW-9	-	11/27/2018♦	Dry	<	9	9
MCW-9	-	11/28/18	Dry	<	9	9
MCW-9	-	11/29/18	Dry	<	9	9
MCW-9	-	11/30/18	Dry	<	9	9
MCW-12	-	11/1/18	Dry	<	9	9
MCW-12	-	11/2/18	Dry	<	9	9
MCW-12	-	11/3/18	Dry	<	9	9
MCW-12	-	11/4/18	Dry	<	9	9
MCW-12	-	11/5/18	Dry	<	9	9
MCW-12	-	11/6/2018♦	Dry	<	9	9
MCW-12	-	11/7/18	Dry	<	9	9
MCW-12	-	11/8/18	Dry	<	9	9
MCW-12	-	11/9/18	Dry	<	9	9
MCW-12	-	11/10/18	Dry	<	9	9
MCW-12	-	11/11/18	Dry	<	9	9
MCW-12	-	11/12/18	Dry	<	9	9
MCW-12	-	11/13/2018♦	Dry	<	9	9
MCW-12	-	11/14/18	Dry	<	9	9
MCW-12	-	11/15/18	Dry	<	9	9
MCW-12	-	11/16/18	Dry	<	9	9
MCW-12	-	11/17/18	Dry	<	9	9
MCW-12	-	11/18/18	Dry	<	9	9
MCW-12	-	11/19/18	Dry	<	9	9
MCW-12	-	11/20/2018♦	Dry	<	9	9
MCW-12	-	11/21/18	Dry	<	9	9
MCW-12	-	11/22/18	Dry	<	9	9
MCW-12	-	11/23/18	Dry	<	9	9
MCW-12	-	11/24/18	Dry	<	9	9
MCW-12	-	11/25/18	Dry	<	9	9
MCW-12	-	11/26/18	Dry	<	9	9
MCW-12	-	11/27/2018♦	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12	-	11/28/18	Dry	<	9	9
MCW-12	-	11/29/18	Dry	<	9	9
MCW-12	-	11/30/18	Dry	<	9	9
MCW-14b	1115	11/1/18		<	9	60
MCW-14b	1115	11/2/18		<	9	56
MCW-14b	1115	11/3/18		<	9	52
MCW-14b	1115	11/4/18		<	9	49
MCW-14b	1115	11/5/18		<	9	46
MCW-14b	1050	11/6/2018♦		<	9	43
MCW-14b	1050	11/7/18		<	9	40
MCW-14b	1050	11/8/18		<	9	40
MCW-14b	1050	11/9/18		<	9	40
MCW-14b	1050	11/10/18		<	9	40
MCW-14b	1050	11/11/18		<	9	40
MCW-14b	1050	11/12/18		<	9	40
MCW-14b	1130	11/13/2018♦		<	9	40
MCW-14b	1130	11/14/18		<	9	33
MCW-14b	1130	11/15/18		<	9	28
MCW-14b	1130	11/16/18		<	9	23
MCW-14b	1130	11/17/18		<	9	19
MCW-14b	1130	11/18/18		<	9	16
MCW-14b	1130	11/19/18		<	9	13
MCW-14b	1130	11/20/2018♦		=	37	11
MCW-14b	1130	11/21/18		=	37	10
MCW-14b	1130	11/22/18		=	37	10
MCW-14b	1130	11/23/18		=	37	11
MCW-14b	1130	11/24/18		=	37	11
MCW-14b	1130	11/25/18		=	37	12
MCW-14b	1130	11/26/18		=	37	13
MCW-14b	900	11/27/2018♦		=	170	14
MCW-14b	900	11/28/18		=	170	15
MCW-14b	900	11/29/18		=	170	17
MCW-14b	900	11/30/18		=	170	19
MCW-15c	1030	11/1/18		<	9	37
MCW-15c	1030	11/2/18		<	9	34
MCW-15c	1030	11/3/18		<	9	32
MCW-15c	1030	11/4/18		<	9	30
MCW-15c	1015	11/5/18		<	9	27
MCW-15c	1015	11/6/2018♦		<	9	26
MCW-15c	1015	11/7/18		<	9	24
MCW-15c	1015	11/8/18		<	9	24
MCW-15c	1015	11/9/18		<	9	24
MCW-15c	1015	11/10/18		<	9	24
MCW-15c	1015	11/11/18		<	9	24
MCW-15c	1015	11/12/18		<	9	24

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c	1030	11/13/2018♦		<	9	24
MCW-15c	1030	11/14/18		<	9	21
MCW-15c	1030	11/15/18		<	9	19
MCW-15c	1030	11/16/18		<	9	16
MCW-15c	1030	11/17/18		<	9	15
MCW-15c	1030	11/18/18		<	9	13
MCW-15c	1030	11/19/18		<	9	11
MCW-15c	1030	11/20/2018♦		=	18	10
MCW-15c	1030	11/21/18		=	18	9
MCW-15c	1030	11/22/18		=	18	10
MCW-15c	1030	11/23/18		=	18	10
MCW-15c	1030	11/24/18		=	18	10
MCW-15c	1030	11/25/18		=	18	10
MCW-15c	1030	11/26/18		=	18	11
MCW-15c	830	11/27/2018♦		=	490	12
MCW-15c	830	11/28/18		=	490	14
MCW-15c	830	11/29/18		=	490	16
MCW-15c	830	11/30/18		=	490	18
MCW-17	-	11/1/18	Dry	<	9	9
MCW-17	-	11/2/18	Dry	<	9	9
MCW-17	-	11/3/18	Dry	<	9	9
MCW-17	-	11/4/18	Dry	<	9	9
MCW-17	-	11/5/18	Dry	<	9	9
MCW-17	-	11/6/2018♦	Dry	<	9	9
MCW-17	-	11/7/18	Dry	<	9	9
MCW-17	-	11/8/18	Dry	<	9	9
MCW-17	-	11/9/18	Dry	<	9	9
MCW-17	-	11/10/18	Dry	<	9	9
MCW-17	-	11/11/18	Dry	<	9	9
MCW-17	-	11/12/18	Dry	<	9	9
MCW-17	-	11/13/2018♦	Dry	<	9	9
MCW-17	-	11/14/18	Dry	<	9	9
MCW-17	-	11/15/18	Dry	<	9	9
MCW-17	-	11/16/18	Dry	<	9	9
MCW-17	-	11/17/18	Dry	<	9	9
MCW-17	-	11/18/18	Dry	<	9	9
MCW-17	-	11/19/18	Dry	<	9	9
MCW-17	-	11/20/2018♦	Dry	<	9	9
MCW-17	-	11/21/18	Dry	<	9	9
MCW-17	-	11/22/18	Dry	<	9	9
MCW-17	-	11/23/18	Dry	<	9	9
MCW-17	-	11/24/18	Dry	<	9	9
MCW-17	-	11/25/18	Dry	<	9	9
MCW-17	-	11/26/18	Dry	<	9	9
MCW-17	-	11/27/2018♦	Dry	<	9	9
MCW-17	-	11/28/18	Dry	<	9	9

					Single Sample (adjusted for rain, dry and NDs)	Geomean
Location	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17	-	11/29/18	Dry	<	9	9
MCW-17	-	11/30/18	Dry	<	9	9
MCW-18	-	11/1/18	Dry	<	9	9
MCW-18	-	11/2/18	Dry	<	9	9
MCW-18	-	11/3/18	Dry	<	9	9
MCW-18	-	11/4/18	Dry	<	9	9
MCW-18	-	11/5/18	Dry	<	9	9
MCW-18	-	11/6/2018♦	Dry	<	9	9
MCW-18	-	11/7/18	Dry	<	9	9
MCW-18	-	11/8/18	Dry	<	9	9
MCW-18	-	11/9/18	Dry	<	9	9
MCW-18	-	11/10/18	Dry	<	9	9
MCW-18	-	11/11/18	Dry	<	9	9
MCW-18	-	11/12/18	Dry	<	9	9
MCW-18	-	11/13/2018♦	Dry	<	9	9
MCW-18	-	11/14/18	Dry	<	9	9
MCW-18	-	11/15/18	Dry	<	9	9
MCW-18	-	11/16/18	Dry	<	9	9
MCW-18	-	11/17/18	Dry	<	9	9
MCW-18	-	11/18/18	Dry	<	9	9
MCW-18	-	11/19/18	Dry	<	9	9
MCW-18	-	11/20/2018♦	Dry	<	9	9
MCW-18	-	11/21/18	Dry	<	9	9
MCW-18	-	11/22/18	Dry	<	9	9
MCW-18	-	11/23/18	Dry	<	9	9
MCW-18	-	11/24/18	Dry	<	9	9
MCW-18	-	11/25/18	Dry	<	9	9
MCW-18	-	11/26/18	Dry	<	9	9
MCW-18	-	11/27/2018♦	Dry	<	9	9
MCW-18	-	11/28/18	Dry	<	9	9
MCW-18	-	11/29/18	Dry	<	9	9
MCW-18	-	11/30/18	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling

Appendix A

Photos of Woolsey Fire Impact to Sampling Locations

Figure 1 – Las Virgenes Creek (MCW-8b) on November 13, 2018

Figure 2 - Road closure to MCW-9 due to Woolsey Fire on November 13, 2018

Figure 3 - Chesebro Creek (MCW-9) on November 20, 2018

Figure 4 – Upstream of Medea Creek (MCW-12) Below Duck Pond on November 13, 2018

Figure 5 – Hills Above Lindero Canyon (MCW-14b) on November 13, 2018

Figure 6 – Smoke Above Hidden Valley (MCW-18) on November 13, 2018

county of ventura

PUBLIC WORKS
VENTURA COUNTY

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Agency Director

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Christopher Cooper, Director

Transportation Department
David Fleisch, Director

Water & Sanitation Department
Michaela Brown, Director

Watershed Protection District
Glenn Shephard, Director

January 28, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of December 2018. Sites were sampled weekly on Tuesday (December 4 & 11) except for two instances when sites were sampled Monday (December 17) due to staffing conflicts and Wednesday (December 26) due to the December 25th holiday. The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b (County)	-	12/4/2018♦			Dry
MCW-8b (County)	-	12/11/2018♦			Dry
MCW-8b (County)	-	12/17/2018♦			Dry
MCW-8b (County)	-	12/26/2018♦			Dry
MCW-9 (County)	-	12/4/2018♦			Dry
MCW-9 (County)	-	12/11/2018♦			Dry
MCW-9 (County)	-	12/17/2018♦			Dry
MCW-9 (County)	-	12/26/2018♦			Dry
MCW-12 (County)	900	12/4/2018♦		=	20
MCW-12 (County)	700	12/11/2018♦		=	140
MCW-12 (County)	930	12/17/2018♦		=	78
MCW-12 (County)	1120	12/26/2018♦		<	18
MCW-14b (City and County)	830	12/4/2018♦		=	45
MCW-14b (City and County)	745	12/11/2018♦		=	130
MCW-14b (City and County)	900	12/17/2018♦		<	18
MCW-14b (City and County)	1040	12/26/2018♦		=	45
MCW-15c (City)	800	12/4/2018♦		=	110
MCW-15c (City)	925	12/11/2018♦		<	18
MCW-15c (City)	730	12/17/2018♦		<	18
MCW-15c (City)	1000	12/26/2018♦		<	18
MCW-17 (City and County)	-	12/4/2018♦			Dry
MCW-17 (City and County)	-	12/11/2018♦			Dry
MCW-17 (City and County)	-	12/17/2018♦			Dry
MCW-17 (City and County)	-	12/26/2018♦			Dry
MCW-18 (County)	-	12/4/2018♦			Dry
MCW-18 (County)	-	12/11/2018♦			Dry
MCW-18 (County)	-	12/17/2018♦			Dry
MCW-18 (County)	-	12/26/2018♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	-	12/1/18	Dry	<	9	9
MCW-8b (County)	-	12/2/18	Dry	<	9	9
MCW-8b (County)	-	12/3/18	Dry	<	9	9
MCW-8b (County)	-	12/4/2018♦	Dry	<	9	9
MCW-8b (County)	-	12/5/18	Dry	<	9	9
MCW-8b (County)	-	12/6/18	Dry	<	9	9
MCW-8b (County)	-	12/7/18	Dry	<	9	9
MCW-8b (County)	-	12/8/18	Dry	<	9	9
MCW-8b (County)	-	12/9/18	Dry	<	9	9
MCW-8b (County)	-	12/10/18	Dry	<	9	9
MCW-8b (County)	-	12/11/2018♦	Dry	<	9	9
MCW-8b (County)	-	12/12/18	Dry	<	9	9
MCW-8b (County)	-	12/13/18	Dry	<	9	9
MCW-8b (County)	-	12/14/18	Dry	<	9	9
MCW-8b (County)	-	12/15/18	Dry	<	9	9
MCW-8b (County)	-	12/16/18	Dry	<	9	9
MCW-8b (County)	-	12/17/2018♦	Dry	<	9	9
MCW-8b (County)	-	12/18/18	Dry	<	9	9
MCW-8b (County)	-	12/19/18	Dry	<	9	9
MCW-8b (County)	-	12/20/18	Dry	<	9	9
MCW-8b (County)	-	12/21/18	Dry	<	9	9
MCW-8b (County)	-	12/22/18	Dry	<	9	9
MCW-8b (County)	-	12/23/18	Dry	<	9	9
MCW-8b (County)	-	12/24/18	Dry	<	9	9
MCW-8b (County)	-	12/25/18	Dry	<	9	9
MCW-8b (County)	-	12/26/2018♦	Dry	<	9	9
MCW-8b (County)	-	12/27/18	Dry	<	9	9
MCW-8b (County)	-	12/28/18	Dry	<	9	9
MCW-8b (County)	-	12/29/18	Dry	<	9	9
MCW-8b (County)	-	12/30/18	Dry	<	9	9
MCW-8b (County)	-	12/31/18	Dry	<	9	9
MCW-9 (County)	-	12/1/18	Dry	<	9	9
MCW-9 (County)	-	12/2/18	Dry	<	9	9
MCW-9 (County)	-	12/3/18	Dry	<	9	9
MCW-9 (County)	-	12/4/2018♦	Dry	<	9	9
MCW-9 (County)	-	12/5/18	Dry	<	9	9
MCW-9 (County)	-	12/6/18	Dry	<	9	9
MCW-9 (County)	-	12/7/18	Dry	<	9	9
MCW-9 (County)	-	12/8/18	Dry	<	9	9
MCW-9 (County)	-	12/9/18	Dry	<	9	9
MCW-9 (County)	-	12/10/18	Dry	<	9	9
MCW-9 (County)	-	12/11/2018♦	Dry	<	9	9
MCW-9 (County)	-	12/12/18	Dry	<	9	9
MCW-9 (County)	-	12/13/18	Dry	<	9	9

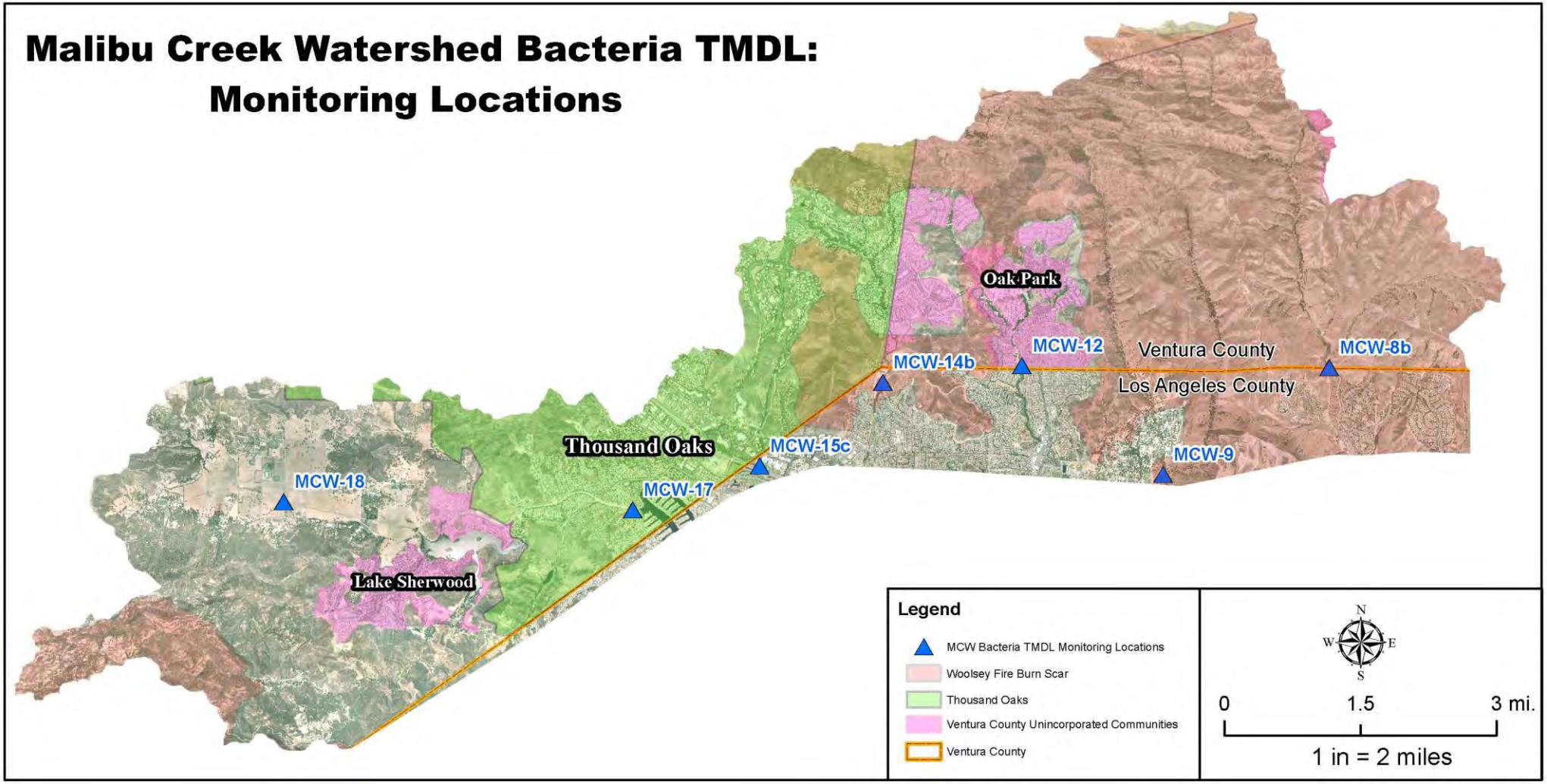
				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9 (County)	-	11/15/18	Dry	<	9	9
MCW-9 (County)	-	12/14/18	Dry	<	9	9
MCW-9 (County)	-	12/15/18	Dry	<	9	9
MCW-9 (County)	-	12/16/18	Dry	<	9	9
MCW-9 (County)	-	12/17/2018♦	Dry	<	9	9
MCW-9 (County)	-	12/18/18	Dry	<	9	9
MCW-9 (County)	-	12/19/18	Dry	<	9	9
MCW-9 (County)	-	12/20/18	Dry	<	9	9
MCW-9 (County)	-	12/21/18	Dry	<	9	9
MCW-9 (County)	-	12/22/18	Dry	<	9	9
MCW-9 (County)	-	12/23/18	Dry	<	9	9
MCW-9 (County)	-	12/24/18	Dry	<	9	9
MCW-9 (County)	-	12/25/18	Dry	<	9	9
MCW-9 (County)	-	12/26/2018♦	Dry	<	9	9
MCW-9 (County)	-	12/27/18	Dry	<	9	9
MCW-9 (County)	-	12/28/18	Dry	<	9	9
MCW-9 (County)	-	12/29/18	Dry	<	9	9
MCW-9 (County)	-	12/30/18	Dry	<	9	9
MCW-9 (County)	-	12/31/18	Dry	<	9	9
MCW-12 (County)	-	12/1/18	Dry	<	9	9
MCW-12 (County)	-	12/2/18	Dry	<	9	9
MCW-12 (County)	-	12/3/18	Dry	<	9	9
MCW-12 (County)	900	12/4/2018♦		=	20	9
MCW-12 (County)	900	12/5/18		=	20	9
MCW-12 (County)	900	12/6/18		=	20	10
MCW-12 (County)	900	12/7/18		=	20	10
MCW-12 (County)	900	12/8/18		=	20	10
MCW-12 (County)	900	12/9/18		=	20	11
MCW-12 (County)	900	12/10/18		=	20	11
MCW-12 (County)	700	12/11/2018♦		=	140	12
MCW-12 (County)	700	12/12/18		=	140	13
MCW-12 (County)	700	12/13/18		=	140	14
MCW-12 (County)	700	12/14/18		=	140	16
MCW-12 (County)	700	12/15/18		=	140	17
MCW-12 (County)	700	12/16/18		=	140	19
MCW-12 (County)	930	12/17/2018♦		=	78	20
MCW-12 (County)	930	12/18/18		=	78	22
MCW-12 (County)	930	12/19/18		=	78	23
MCW-12 (County)	930	12/20/18		=	78	25
MCW-12 (County)	930	12/21/18		=	78	27
MCW-12 (County)	930	12/22/18		=	78	29
MCW-12 (County)	930	12/23/18		=	78	31
MCW-12 (County)	930	12/24/18		=	78	33

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12 (County)	930	12/25/18		=	78	36
MCW-12 (County)	1120	12/26/2018♦		<	9	36
MCW-12 (County)	1120	12/27/18		<	9	36
MCW-12 (County)	1120	12/28/18		<	9	36
MCW-12 (County)	1120	12/29/18		<	9	36
MCW-12 (County)	1120	12/30/18		<	9	36
MCW-12 (County)	1120	12/31/18		<	9	36
MCW-14b (City and County)	900	12/1/18		=	170	20
MCW-14b (City and County)	900	12/2/18		=	170	23
MCW-14b (City and County)	900	12/3/18		=	170	25
MCW-14b (City and County)	830	12/4/2018♦		=	45	26
MCW-14b (City and County)	830	12/5/18		=	45	28
MCW-14b (City and County)	830	12/6/18		=	45	29
MCW-14b (City and County)	830	12/7/18		=	45	31
MCW-14b (City and County)	830	12/8/18		=	45	32
MCW-14b (City and County)	830	12/9/18		=	45	34
MCW-14b (City and County)	830	12/10/18		=	45	36
MCW-14b (City and County)	745	12/11/2018♦		=	130	40
MCW-14b (City and County)	745	12/12/18		=	130	43
MCW-14b (City and County)	745	12/13/18		=	130	47
MCW-14b (City and County)	745	12/14/18		=	130	52
MCW-14b (City and County)	745	12/15/18		=	130	56
MCW-14b (City and County)	745	12/16/18		=	130	62
MCW-14b (City and County)	900	12/17/2018♦		<	9	62
MCW-14b (City and County)	900	12/18/18		<	9	62
MCW-14b (City and County)	900	12/19/18		<	9	62
MCW-14b (City and County)	900	12/20/18		<	9	59
MCW-14b (City and County)	900	12/21/18		<	9	56
MCW-14b (City and County)	900	12/22/18		<	9	54
MCW-14b (City and County)	900	12/23/18		<	9	51
MCW-14b (City and County)	900	12/24/18		<	9	49
MCW-14b (City and County)	900	12/25/18		<	9	47
MCW-14b (City and County)	1040	12/26/2018♦		=	45	47
MCW-14b (City and County)	1040	12/27/18		=	45	45
MCW-14b (City and County)	1040	12/28/18		=	45	43
MCW-14b (City and County)	1040	12/29/18		=	45	41
MCW-14b (City and County)	1040	12/30/18		=	45	39
MCW-14b (City and County)	1040	12/31/18		=	45	38
MCW-15c (City)	830	12/1/18		=	490	21
MCW-15c (City)	830	12/2/18		=	490	24
MCW-15c (City)	830	12/3/18		=	490	27
MCW-15c (City)	800	12/4/2018♦		=	110	29
MCW-15c (City)	800	12/5/18		=	110	32
MCW-15c (City)	800	12/6/18		=	110	35
MCW-15c (City)	800	12/7/18		=	110	38

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)		**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-15c (City)	800	12/8/18		=	110	41
MCW-15c (City)	800	12/9/18		=	110	44
MCW-15c (City)	800	12/10/18		=	110	48
MCW-15c (City)	925	12/11/2018♦		<	9	48
MCW-15c (City)	925	12/12/18		<	9	48
MCW-15c (City)	925	12/13/18		<	9	48
MCW-15c (City)	925	12/14/18		<	9	48
MCW-15c (City)	925	12/15/18		<	9	48
MCW-15c (City)	925	12/16/18		<	9	48
MCW-15c (City)	730	12/17/2018♦		<	9	48
MCW-15c (City)	730	12/18/18		<	9	48
MCW-15c (City)	730	12/19/18		<	9	48
MCW-15c (City)	730	12/20/18		<	9	47
MCW-15c (City)	730	12/21/18		<	9	46
MCW-15c (City)	730	12/22/18		<	9	45
MCW-15c (City)	730	12/23/18		<	9	44
MCW-15c (City)	730	12/24/18		<	9	43
MCW-15c (City)	730	12/25/18		<	9	42
MCW-15c (City)	1000	12/26/2018♦		<	9	41
MCW-15c (City)	1000	12/27/18		<	9	36
MCW-15c (City)	1000	12/28/18		<	9	31
MCW-15c (City)	1000	12/29/18		<	9	28
MCW-15c (City)	1000	12/30/18		<	9	24
MCW-15c (City)	1000	12/31/18		<	9	21
MCW-17 (City and County)	-	12/1/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/2/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/3/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/4/2018♦	Dry	<	9	9
MCW-17 (City and County)	-	12/5/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/6/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/7/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/8/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/9/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/10/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/11/2018♦	Dry	<	9	9
MCW-17 (City and County)	-	12/12/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/13/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/14/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/15/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/16/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/17/2018♦	Dry	<	9	9
MCW-17 (City and County)	-	12/18/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/19/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/20/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/21/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/22/2018	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17 (City and County)	-	12/23/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/24/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/25/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/26/2018♦	Dry	<	9	9
MCW-17 (City and County)	-	12/27/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/28/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/29/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/30/2018	Dry	<	9	9
MCW-17 (City and County)	-	12/31/2018	Dry	<	9	9
MCW-18 (County)	-	12/1/18	Dry	<	9	9
MCW-18 (County)	-	12/2/18	Dry	<	9	9
MCW-18 (County)	-	12/3/18	Dry	<	9	9
MCW-18 (County)	-	12/4/2018♦	Dry	<	9	9
MCW-18 (County)	-	12/5/18	Dry	<	9	9
MCW-18 (County)	-	12/6/18	Dry	<	9	9
MCW-18 (County)	-	12/7/18	Dry	<	9	9
MCW-18 (County)	-	12/8/18	Dry	<	9	9
MCW-18 (County)	-	12/9/18	Dry	<	9	9
MCW-18 (County)	-	12/10/18	Dry	<	9	9
MCW-18 (County)	-	12/11/2018♦	Dry	<	9	9
MCW-18 (County)	-	12/12/18	Dry	<	9	9
MCW-18 (County)	-	12/13/18	Dry	<	9	9
MCW-18 (County)	-	12/14/18	Dry	<	9	9
MCW-18 (County)	-	12/15/18	Dry	<	9	9
MCW-18 (County)	-	12/16/18	Dry	<	9	9
MCW-18 (County)	-	12/17/2018♦	Dry	<	9	9
MCW-18 (County)	-	12/18/18	Dry	<	9	9
MCW-18 (County)	-	12/19/18	Dry	<	9	9
MCW-18 (County)	-	12/20/18	Dry	<	9	9
MCW-18 (County)	-	12/21/18	Dry	<	9	9
MCW-18 (County)	-	12/22/18	Dry	<	9	9
MCW-18 (County)	-	12/23/18	Dry	<	9	9
MCW-18 (County)	-	12/24/18	Dry	<	9	9
MCW-18 (County)	-	12/25/18	Dry	<	9	9
MCW-18 (County)	-	12/26/2018♦	Dry	<	9	9
MCW-18 (County)	-	12/27/18	Dry	<	9	9
MCW-18 (County)	-	12/28/18	Dry	<	9	9
MCW-18 (County)	-	12/29/18	Dry	<	9	9
MCW-18 (County)	-	12/30/2018	Dry	<	9	9
MCW-18 (County)	-	12/31/2018	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling


Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations
Oak Park
MCW-12
MCW-14b
Ventura County
Los Angeles County
MCW-8b
Thousand Oaks
MCW-15c
MCW-9
MCW-18
MCW-17
Lake Sherwood
Legend
MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County
N
W
E
S
0
1.5
3 mi.
1 in = 2 miles

county of ventura

PUBLIC WORKS
VENTURA COUNTY

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Michaela Brown, Director

Watershed Protection
Glenn Shephard, Director

February 21, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of January 2019. Sites were sampled weekly on Tuesday (January 8, 15, 22 & 29) except one instance when sites were sampled Wednesday (January 2) due to the January 1st holiday. The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b (County)	-	1/2/2019♦			Dry
MCW-8b (County)	-	1/8/2019♦	Rain		Dry
MCW-8b (County)	-	1/15/2019♦	Rain		Dry
MCW-8b (County)	-	1/22/2019♦			Dry
MCW-8b (County)	-	1/29/2019♦			Dry
MCW-9 (County)	-	1/2/2019♦			Dry
MCW-9 (County)	-	1/8/2019♦	Rain		Dry
MCW-9 (County)	-	1/15/2019♦	Rain		Dry
MCW-9 (County)	-	1/22/2019♦			Dry
MCW-9 (County)	-	1/29/2019♦			Dry
MCW-12 (County)	1120	1/2/2019♦		=	20
MCW-12 (County)	1100	1/8/2019♦	Rain	=	490
MCW-12 (County)	1215	1/15/2019♦	Rain	=	1700
MCW-12 (County)	1130	1/22/2019♦		=	78
MCW-12 (County)	1115	1/29/2019♦		=	45
MCW-14b (City and County)	1045	1/2/2019♦		<	18
MCW-14b (City and County)	1030	1/8/2019♦	Rain	=	490
MCW-14b (City and County)	1135	1/15/2019♦	Rain	=	1,300
MCW-14b (City and County)	1100	1/22/2019♦		=	45
MCW-14b (City and County)	1030	1/29/2019♦		=	78
MCW-15c (City)	1000	1/2/2019♦		<	18
MCW-15c (City)	1000	1/8/2019♦	Rain	=	700
MCW-15c (City)	1100	1/15/2019♦	Rain	=	490
MCW-15c (City)	1030	1/22/2019♦		=	20
MCW-15c (City)	1000	1/29/2019♦		<	18
MCW-17 (City and County)	-	1/2/2019♦			Dry
MCW-17 (City and County)	-	1/8/2019♦	Rain		Dry
MCW-17 (City and County)	1030	1/15/2019♦	Rain	=	110
MCW-17 (City and County)	1000	1/22/2019♦		=	20
MCW-17 (City and County)	935	1/29/2019♦		=	78
MCW-18 (County)	-	1/2/2019♦			Dry
MCW-18 (County)	-	1/8/2019♦	Rain		Dry
MCW-18 (County)	1000	1/15/2019♦	Rain	=	1700
MCW-18 (County)	-	1/22/2019♦			Dry
MCW-18 (County)	-	1/29/2019♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦Date of sampling

- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-8b (County)	-	1/1/19	Dry	<	9	9
MCW-8b (County)	-	1/2/2019♦	Dry	<	9	9
MCW-8b (County)	-	1/3/19	Dry	<	9	9
MCW-8b (County)	-	1/4/19	Dry	<	9	9
MCW-8b (County)	-	1/5/19	Dry	<	9	9
MCW-8b (County)	-	1/6/19	Dry	<	9	9
MCW-8b (County)	-	1/7/19	Dry	<	9	9
MCW-8b (County)	-	1/8/2019♦	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/9/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/10/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/11/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/12/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/13/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/14/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/16/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/17/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/18/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/19/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/20/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/21/19	Rain		**Rain**	**Rain**
MCW-8b (County)	-	1/22/2019♦	Dry	<	9	9
MCW-8b (County)	-	1/23/19	Dry	<	9	9
MCW-8b (County)	-	1/24/19	Dry	<	9	9
MCW-8b (County)	-	1/25/19	Dry	<	9	9
MCW-8b (County)	-	1/26/19	Dry	<	9	9
MCW-8b (County)	-	1/27/19	Dry	<	9	9
MCW-8b (County)	-	1/28/19	Dry	<	9	9
MCW-8b (County)	-	1/29/2019♦	Dry	<	9	9
MCW-8b (County)	-	1/30/19	Dry	<	9	9
MCW-8b (County)	-	1/31/19	Dry	<	9	9
MCW-9 (County)	-	1/1/19	Dry	<	9	9
MCW-9 (County)	-	1/2/2019♦	Dry	<	9	9
MCW-9 (County)	-	1/3/19	Dry	<	9	9
MCW-9 (County)	-	1/4/19	Dry	<	9	9
MCW-9 (County)	-	1/5/19	Dry	<	9	9
MCW-9 (County)	-	1/6/19	Dry	<	9	9
MCW-9 (County)	-	1/7/19	Dry	<	9	9
MCW-9 (County)	-	1/8/2019♦	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/9/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/10/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/11/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/12/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/13/19	Rain		**Rain**	**Rain**

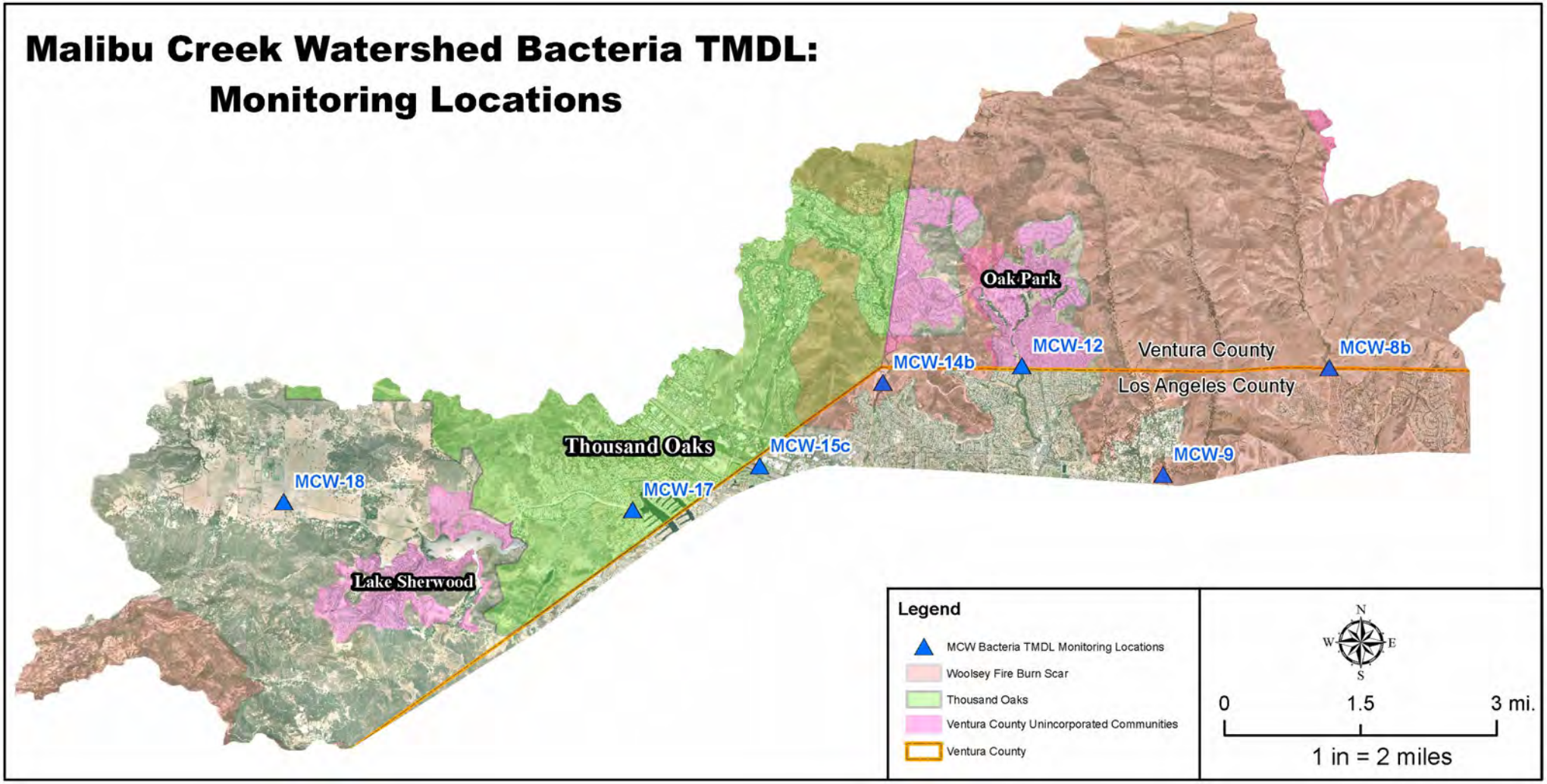
				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9 (County)	-	1/14/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/16/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/17/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/18/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/19/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/20/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/21/19	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/22/2019♦	Dry	<	9	9
MCW-9 (County)	-	1/23/19	Dry	<	9	9
MCW-9 (County)	-	1/24/19	Dry	<	9	9
MCW-9 (County)	-	1/25/19	Dry	<	9	9
MCW-9 (County)	-	1/26/19	Dry	<	9	9
MCW-9 (County)	-	1/27/19	Dry	<	9	9
MCW-9 (County)	-	1/28/19	Dry	<	9	9
MCW-9 (County)	-	1/29/2019♦	Dry	<	9	9
MCW-9 (County)	-	1/30/19	Dry	<	9	9
MCW-9 (County)	-	1/31/19	Dry	<	9	9
MCW-12 (County)	1120	1/1/19		<	9	36
MCW-12 (County)	1120	1/2/2019♦		=	20	37
MCW-12 (County)	1120	1/3/19		=	20	37
MCW-12 (County)	1120	1/4/19		=	20	37
MCW-12 (County)	1120	1/5/19		=	20	37
MCW-12 (County)	1120	1/6/19		=	20	37
MCW-12 (County)	1120	1/7/19		=	20	37
MCW-12 (County)	1100	1/8/2019♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	1/9/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	1/10/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	1/11/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	1/12/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	1/13/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	1/14/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/16/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/17/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/18/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/19/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/20/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1215	1/21/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	1/22/2019♦		=	78	38
MCW-12 (County)	1130	1/23/19		=	78	39
MCW-12 (County)	1130	1/24/19		=	78	41
MCW-12 (County)	1130	1/25/19		=	78	40

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12 (County)	1130	1/26/19		=	78	40
MCW-12 (County)	1130	1/27/19		=	78	39
MCW-12 (County)	1130	1/28/19		=	78	38
MCW-12 (County)	1130	1/29/2019♦		=	45	37
MCW-12 (County)	1130	1/30/19		=	45	36
MCW-12 (County)	1130	1/31/19		=	45	35
MCW-14b (City and County)	1040	1/1/19		=	45	36
MCW-14b (City and County)	1045	1/2/2019♦		<	9	33
MCW-14b (City and County)	1045	1/3/19		<	9	31
MCW-14b (City and County)	1045	1/4/19		<	9	29
MCW-14b (City and County)	1045	1/5/19		<	9	28
MCW-14b (City and County)	1045	1/6/19		<	9	26
MCW-14b (City and County)	1045	1/7/19		<	9	25
MCW-14b (City and County)	1030	1/8/2019♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	1/9/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	1/10/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	1/11/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	1/12/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	1/13/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	1/14/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/16/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/17/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/18/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/19/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/20/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1135	1/21/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	1/22/2019♦		=	45	25
MCW-14b (City and County)	1100	1/23/19		=	45	25
MCW-14b (City and County)	1100	1/24/19		=	45	25
MCW-14b (City and County)	1100	1/25/19		=	45	25
MCW-14b (City and County)	1100	1/26/19		=	45	24
MCW-14b (City and County)	1100	1/27/19		=	45	23
MCW-14b (City and County)	1100	1/28/19		=	45	22
MCW-14b (City and County)	1030	1/29/2019♦		=	78	22
MCW-14b (City and County)	1030	1/30/19		=	78	21
MCW-14b (City and County)	1030	1/31/19		=	78	23
MCW-15c (City)	1000	1/1/19		<	9	18
MCW-15c (City)	1000	1/2/2019♦		<	9	16
MCW-15c (City)	1000	1/3/19		<	9	15
MCW-15c (City)	1000	1/4/19		<	9	14
MCW-15c (City)	1000	1/5/19		<	9	13
MCW-15c (City)	1000	1/6/19		<	9	12
MCW-15c (City)	1000	1/7/19		<	9	11
MCW-15c (City)	1000	1/8/2019♦	Rain		**Rain**	**Rain**

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)		**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-15c (City)	1000	1/9/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1000	1/10/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1000	1/11/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1000	1/12/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1000	1/13/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1000	1/14/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/16/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/17/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/18/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/19/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/20/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	1/21/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1030	1/22/2019♦		=	20	11
MCW-15c (City)	1030	1/23/19		=	20	10
MCW-15c (City)	1030	1/24/19		=	20	10
MCW-15c (City)	1030	1/25/19		=	20	10
MCW-15c (City)	1030	1/26/19		=	20	10
MCW-15c (City)	1030	1/27/19		=	20	11
MCW-15c (City)	1030	1/28/19		=	20	11
MCW-15c (City)	1000	1/29/2019♦		<	9	11
MCW-15c (City)	1000	1/30/19		<	9	11
MCW-15c (City)	1000	1/31/19		<	9	11
MCW-17 (City and County)	-	1/1/19	Dry	<	9	9
MCW-17 (City and County)	-	1/2/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	1/3/19	Dry	<	9	9
MCW-17 (City and County)	-	1/4/19	Dry	<	9	9
MCW-17 (City and County)	-	1/5/19	Dry	<	9	9
MCW-17 (City and County)	-	1/6/19	Dry	<	9	9
MCW-17 (City and County)	-	1/7/19	Dry	<	9	9
MCW-17 (City and County)	-	1/8/2019♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/9/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/10/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/11/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/12/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/13/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/14/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/16/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/17/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/18/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/19/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/20/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	1/21/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1000	1/22/2019♦	Dry	=	20	9
MCW-17 (City and County)	1000	1/23/19	Dry	=	20	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17 (City and County)	1000	1/24/19	Dry	=	20	10
MCW-17 (City and County)	1000	1/25/19	Dry	=	20	10
MCW-17 (City and County)	1000	1/26/19	Dry	=	20	10
MCW-17 (City and County)	1000	1/27/19	Dry	=	20	11
MCW-17 (City and County)	1000	1/28/19	Dry	=	20	11
MCW-17 (City and County)	935	1/29/2019♦	Dry	=	78	12
MCW-17 (City and County)	935	1/30/19	Dry	=	78	12
MCW-17 (City and County)	935	1/31/19	Dry	=	78	13
MCW-18 (County)	-	1/1/19	Dry	<	9	9
MCW-18 (County)	-	1/2/2019♦	Dry	<	9	9
MCW-18 (County)	-	1/3/19	Dry	<	9	9
MCW-18 (County)	-	1/4/19	Dry	<	9	9
MCW-18 (County)	-	1/5/19	Dry	<	9	9
MCW-18 (County)	-	1/6/19	Dry	<	9	9
MCW-18 (County)	-	1/7/19	Dry	<	9	9
MCW-18 (County)	-	1/8/2019♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/9/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/10/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/11/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/12/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/13/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/14/19	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/15/2019♦	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/16/19	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/17/19	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/18/19	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/19/19	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/20/19	Rain		**Rain**	**Rain**
MCW-18 (County)	1000	1/21/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/22/2019♦	Dry	<	9	9
MCW-18 (County)	-	1/23/19	Dry	<	9	9
MCW-18 (County)	-	1/24/19	Dry	<	9	9
MCW-18 (County)	-	1/25/19	Dry	<	9	9
MCW-18 (County)	-	1/26/19	Dry	<	9	9
MCW-18 (County)	-	1/27/19	Dry	<	9	9
MCW-18 (County)	-	1/28/19	Dry	<	9	9
MCW-18 (County)	-	1/29/2019♦	Dry	<	9	9
MCW-18 (County)	-	1/30/19	Dry	<	9	9
MCW-18 (County)	-	1/31/19	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling


Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations
Oak Park
MCW-12
MCW-14b
Ventura County
Los Angeles County
MCW-8b
MCW-9
MCW-15c
Thousand Oaks
MCW-17
MCW-18
Lake Sherwood
Legend
MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County
N
W
E
S
0
1.5
3 mi.
1 in = 2 miles

county of ventura

PUBLIC WORKS
VENTURA COUNTY

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Michaela Brown, Director

Watershed Protection
Glenn Shephard, Director

VIA EMAIL

March 25, 2019

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: MALIBU CREEK AND LAGOON BACTERIA TMDL COMPLIANCE MONITORING FOR COUNTY OF VENTURA, VENTURA COUNTY WATERSHED PROTECTION DISTRICT, AND CITY OF THOUSAND OAKS

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of February 2019. Sites were sampled weekly on Tuesday (February 5, 12, 19 & 26). The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with ♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)

Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b (County)	1210	2/5/2019♦	Rain	=	170
MCW-8b (County)	1225	2/12/2019♦	Rain	<	18
MCW-8b (County)	1215	2/19/2019♦		<	18
MCW-8b (County)	1155	2/26/2019♦		<	18
MCW-9 (County)	-	2/5/2019♦	Rain		Dry
MCW-9 (County)	-	2/12/2019♦	Rain		Dry
MCW-9 (County)	-	2/19/2019♦			Dry
MCW-9 (County)	-	2/26/2019♦			Dry
MCW-12 (County)	1130	2/5/2019♦	Rain	=	1700
MCW-12 (County)	1150	2/12/2019♦	Rain	=	93
MCW-12 (County)	1145	2/19/2019♦		=	18
MCW-12 (County)	1115	2/26/2019♦		=	130
MCW-14b (City and County)	1100	2/5/2019♦	Rain	=	3,500
MCW-14b (City and County)	1125	2/12/2019♦	Rain	=	790
MCW-14b (City and County)	1115	2/19/2019♦		=	40
MCW-14b (City and County)	1040	2/26/2019♦		=	45
MCW-15c (City)	1025	2/5/2019♦	Rain	=	170
MCW-15c (City)	1100	2/12/2019♦	Rain	=	20
MCW-15c (City)	1055	2/19/2019♦		=	68
MCW-15c (City)	1015	2/26/2019♦		<	18
MCW-17 (City and County)	950	2/5/2019♦	Rain	=	330
MCW-17 (City and County)	1030	2/12/2019♦	Rain	=	130
MCW-17 (City and County)	1025	2/19/2019♦		=	78
MCW-17 (City and County)	940	2/26/2019♦		=	20
MCW-18 (County)	-	2/5/2019♦	Rain	=	700
MCW-18 (County)	-	2/12/2019♦	Rain		Dry
MCW-18 (County)	-	2/19/2019♦			Dry
MCW-18 (County)	-	2/26/2019♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-8b (County)	-	2/1/19		<	9	9
MCW-8b (County)	-	2/2/19		<	9	9
MCW-8b (County)	-	2/3/19		<	9	9
MCW-8b (County)	-	2/4/19		<	9	9
MCW-8b (County)	1210	2/5/2019♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1210	2/6/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1210	2/7/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1210	2/8/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1210	2/9/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1210	2/10/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1210	2/11/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/12/2019♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/13/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/14/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/15/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/16/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/17/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1225	2/18/19	Rain		**Rain**	**Rain**
MCW-8b (County)	1215	2/19/2019♦		<	9	9
MCW-8b (County)	1215	2/20/19		<	9	9
MCW-8b (County)	1215	2/21/19		<	9	9
MCW-8b (County)	1215	2/22/19		<	9	9
MCW-8b (County)	1215	2/23/19		<	9	9
MCW-8b (County)	1215	2/24/19		<	9	9
MCW-8b (County)	1215	2/25/19		<	9	9
MCW-8b (County)	1155	2/26/2019♦		<	9	9
MCW-8b (County)	1155	2/27/19		<	9	9
MCW-8b (County)	1155	2/28/19		<	9	9
MCW-9 (County)	-	2/1/19	Dry	<	9	9
MCW-9 (County)	-	2/2/19	Dry	<	9	9
MCW-9 (County)	-	2/3/19	Dry	<	9	9
MCW-9 (County)	-	2/4/19	Dry	<	9	9
MCW-9 (County)	-	2/5/2019♦	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/6/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/7/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/8/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/9/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/10/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/11/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/12/2019♦	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/13/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/14/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/15/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/16/19	Rain	<	**Rain**	**Rain**

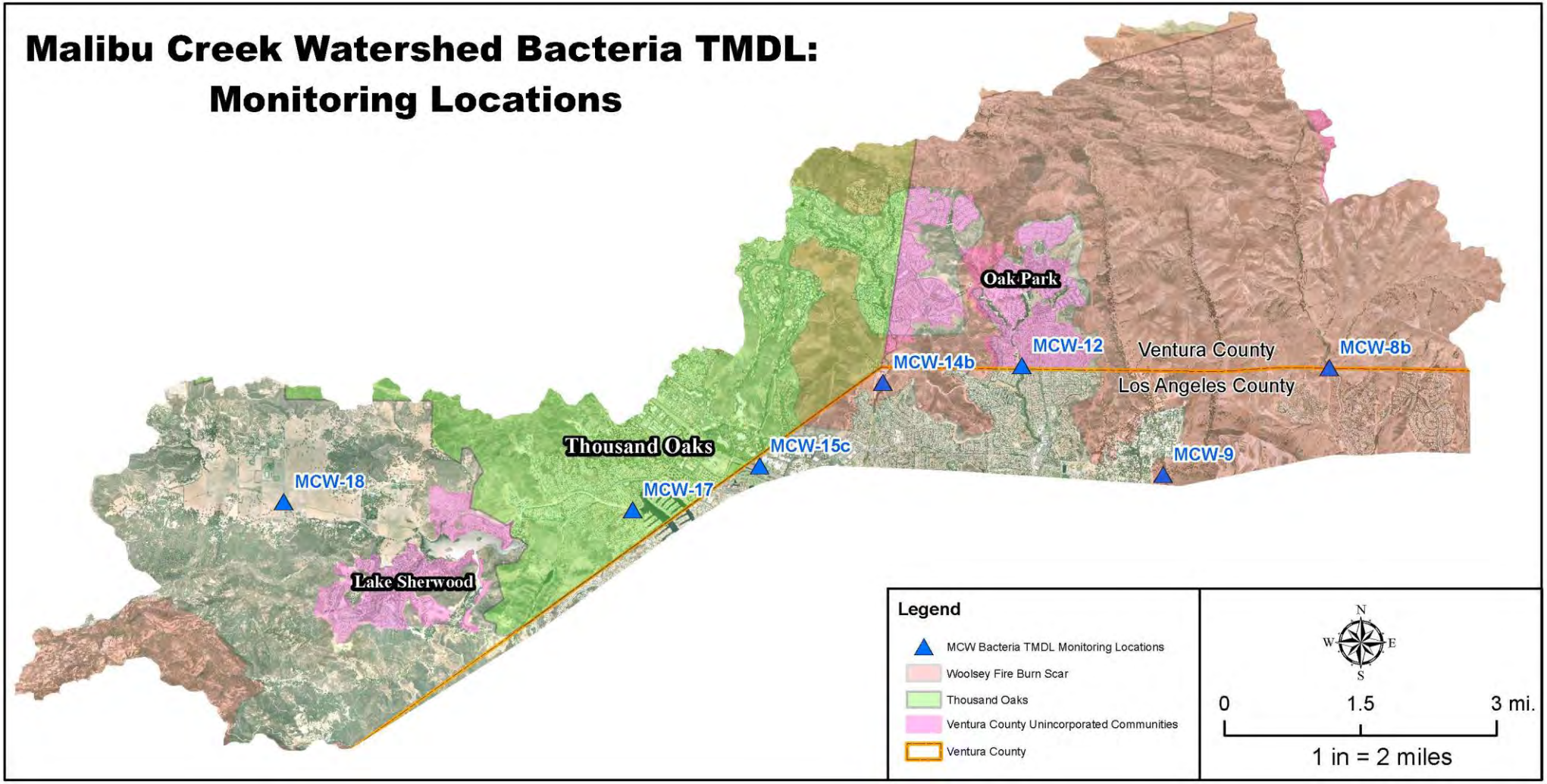
				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-9 (County)	-	2/17/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/18/19	Rain	<	**Rain**	**Rain**
MCW-9 (County)	-	2/19/2019♦	Dry	<	9	9
MCW-9 (County)	-	2/20/19	Dry	<	9	9
MCW-9 (County)	-	2/21/19	Dry	<	9	9
MCW-9 (County)	-	2/22/19	Dry	<	9	9
MCW-9 (County)	-	2/23/19	Dry	<	9	9
MCW-9 (County)	-	2/24/19	Dry	<	9	9
MCW-9 (County)	-	2/25/19	Dry	<	9	9
MCW-9 (County)	-	2/26/2019♦	Dry	<	9	9
MCW-9 (County)	-	2/27/19	Dry	<	9	9
MCW-9 (County)	-	2/28/19	Dry	<	9	9
MCW-12 (County)	1130	2/1/19		=	45	34
MCW-12 (County)	1130	2/2/19		=	45	34
MCW-12 (County)	1130	2/3/19		=	45	33
MCW-12 (County)	1130	2/4/19		=	45	33
MCW-12 (County)	1130	2/5/2019♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	2/6/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	2/7/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	2/8/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	2/9/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	2/10/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1130	2/11/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/12/2019♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/13/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/14/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/15/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/16/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/17/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1150	2/18/19	Rain		**Rain**	**Rain**
MCW-12 (County)	1145	2/19/2019♦		=	18	30
MCW-12 (County)	1145	2/20/19		=	18	29
MCW-12 (County)	1145	2/21/19		=	18	27
MCW-12 (County)	1145	2/22/19		=	18	28
MCW-12 (County)	1145	2/23/19		=	18	29
MCW-12 (County)	1145	2/24/19		=	18	29
MCW-12 (County)	1145	2/25/19		=	18	30
MCW-12 (County)	1115	2/26/2019♦		=	130	33
MCW-12 (County)	1115	2/27/19		=	130	36
MCW-12 (County)	1115	2/28/19		=	130	39
MCW-14b (City and County)	1030	2/1/19		=	78	25
MCW-14b (City and County)	1030	2/2/19		=	78	26
MCW-14b (City and County)	1030	2/3/19		=	78	28

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-14b (City and County)	1030	2/4/19		=	78	30
MCW-14b (City and County)	1100	2/5/2019♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/6/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/7/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/8/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/9/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/10/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/11/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/12/2019♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/13/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/14/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/15/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/16/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/17/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1125	2/18/19	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1115	2/19/2019♦		=	40	33
MCW-14b (City and County)	1115	2/20/19		=	40	35
MCW-14b (City and County)	1115	2/21/19		=	40	37
MCW-14b (City and County)	1115	2/22/19		=	40	37
MCW-14b (City and County)	1115	2/23/19		=	40	36
MCW-14b (City and County)	1115	2/24/19		=	40	36
MCW-14b (City and County)	1115	2/25/19		=	40	36
MCW-14b (City and County)	1040	2/26/2019♦		=	45	36
MCW-14b (City and County)	1040	2/27/19		=	45	36
MCW-14b (City and County)	1040	2/28/19		=	45	36
MCW-15c (City)	1000	2/1/19		<	9	11
MCW-15c (City)	1000	2/2/19		<	9	11
MCW-15c (City)	1000	2/3/19		<	9	11
MCW-15c (City)	1000	2/4/19		<	9	11
MCW-15c (City)	1025	2/5/2019♦	Rain		**Rain**	**Rain**
MCW-15c (City)	1025	2/6/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1025	2/7/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1025	2/8/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1025	2/9/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1025	2/10/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1025	2/11/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/12/2019♦	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/13/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/14/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/15/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/16/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/17/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1100	2/18/19	Rain		**Rain**	**Rain**
MCW-15c (City)	1055	2/19/2019♦		=	68	12
MCW-15c (City)	1055	2/20/19		=	68	12

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)		**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-15c (City)	1055	2/21/19		=	68	13
MCW-15c (City)	1055	2/22/19		=	68	14
MCW-15c (City)	1055	2/23/19		=	68	15
MCW-15c (City)	1055	2/24/19		=	68	16
MCW-15c (City)	1055	2/25/19		=	68	17
MCW-15c (City)	1015	2/26/2019♦		<	9	17
MCW-15c (City)	1015	2/27/19		<	9	17
MCW-15c (City)	1015	2/28/19		<	9	17
MCW-17 (City and County)	935	2/1/19		=	78	14
MCW-17 (City and County)	935	2/2/19		=	78	15
MCW-17 (City and County)	935	2/3/19		=	78	16
MCW-17 (City and County)	935	2/4/19		=	78	18
MCW-17 (City and County)	950	2/5/2019♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	950	2/6/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	950	2/7/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	950	2/8/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	950	2/9/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	950	2/10/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	950	2/11/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/12/2019♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/13/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/14/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/15/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/16/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/17/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1030	2/18/19	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1025	2/19/2019♦		=	78	19
MCW-17 (City and County)	1025	2/20/19		=	78	21
MCW-17 (City and County)	1025	2/21/19		=	78	22
MCW-17 (City and County)	1025	2/22/19		=	78	24
MCW-17 (City and County)	1025	2/23/19		=	78	26
MCW-17 (City and County)	1025	2/24/19		=	78	28
MCW-17 (City and County)	1025	2/25/19		=	78	30
MCW-17 (City and County)	940	2/26/2019♦		=	20	31
MCW-17 (City and County)	940	2/27/19		=	20	31
MCW-17 (City and County)	940	2/28/19		=	20	32
MCW-18 (County)	-	2/1/19	Dry	<	9	9
MCW-18 (County)	-	2/2/19	Dry	<	9	9
MCW-18 (County)	-	2/3/19	Dry	<	9	9
MCW-18 (County)	-	2/4/19	Dry	<	9	9
MCW-18 (County)	-	2/5/2019♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/6/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/7/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/8/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/9/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/10/19	Rain		**Rain**	**Rain**

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-18 (County)	-	2/11/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/12/2019♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/13/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/14/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/15/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/16/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/17/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/18/19	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/19/2019♦	Dry	<	9	9
MCW-18 (County)	-	2/20/19	Dry	<	9	9
MCW-18 (County)	-	2/21/19	Dry	<	9	9
MCW-18 (County)	-	2/22/19	Dry	<	9	9
MCW-18 (County)	-	2/23/19	Dry	<	9	9
MCW-18 (County)	-	2/24/19	Dry	<	9	9
MCW-18 (County)	-	2/25/19	Dry	<	9	9
MCW-18 (County)	-	2/26/2019♦	Dry	<	9	9
MCW-18 (County)	-	2/27/19	Dry	<	9	9
MCW-18 (County)	-	2/28/19	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling


Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations
Oak Park
MCW-12
MCW-14b
Ventura County
Los Angeles County
MCW-8b
MCW-9
MCW-15c
Thousand Oaks
MCW-17
MCW-18
Lake Sherwood
Legend
MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County
N
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1.5
3 mi.
1 in = 2 miles

county of ventura

PUBLIC WORKS
VENTURA COUNTY

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Michaela Brown, Director

Watershed Protection
Glenn Shephard, Director

April 25, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of March 2019. Sites were sampled weekly on Tuesday (March 5, 12, 19 & 26). The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with♦), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**
					(235 MPN)
MCW-8b (County)	1215	3/5/2019♦		<	18
MCW-8b (County)	1200	3/12/2019♦		=	68
MCW-8b (County)	1140	3/19/2019♦		<	18
MCW-8b (County)	1200	3/26/2019♦		<	18
MCW-9 (County)	-	3/5/2019♦			Dry
MCW-9 (County)	-	3/12/2019♦			Dry
MCW-9 (County)	-	3/19/2019♦			Dry
MCW-9 (County)	-	3/26/2019♦			Dry
MCW-12 (County)	1125	3/5/2019♦		=	130
MCW-12 (County)	1115	3/12/2019♦		=	490
MCW-12 (County)	1100	3/19/2019♦		=	130
MCW-12 (County)	1120	3/26/2019♦		=	40
MCW-14b (City and County)	1050	3/5/2019♦		=	330
MCW-14b (City and County)	1030	3/12/2019♦		=	330
MCW-14b (City and County)	1030	3/19/2019♦		=	170
MCW-14b (City and County)	1050	3/26/2019♦		=	170
MCW-15c (City)	1020	3/5/2019♦		=	40
MCW-15c (City)	1000	3/12/2019♦		=	130
MCW-15c (City)	1000	3/19/2019♦		=	130
MCW-15c (City)	1015	3/26/2019♦		=	20
MCW-17 (City and County)	955	3/5/2019♦		<	18
MCW-17 (City and County)	930	3/12/2019♦		=	78
MCW-17 (City and County)	940	3/19/2019♦		=	45
MCW-17 (City and County)	950	3/26/2019♦		=	78
MCW-18 (County)	-	3/5/2019♦			Dry
MCW-18 (County)	-	3/12/2019♦			Dry
MCW-18 (County)	-	3/19/2019♦			Dry
MCW-18 (County)	-	3/26/2019♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	1155	3/1/19		<	9	9
MCW-8b (County)	1155	3/2/19		<	9	9
MCW-8b (County)	1155	3/3/19		<	9	9
MCW-8b (County)	1155	3/4/19		<	9	9
MCW-8b (County)	1215	3/5/2019♦		<	9	9
MCW-8b (County)	1215	3/6/19		<	9	9
MCW-8b (County)	1215	3/7/19		<	9	9
MCW-8b (County)	1215	3/8/19		<	9	9
MCW-8b (County)	1215	3/9/19		<	9	9
MCW-8b (County)	1215	3/10/19		<	9	9
MCW-8b (County)	1215	3/11/19		<	9	9
MCW-8b (County)	1200	3/12/2019♦		=	68	10
MCW-8b (County)	1200	3/13/19		=	68	10
MCW-8b (County)	1200	3/14/19		=	68	11
MCW-8b (County)	1200	3/15/19		=	68	12
MCW-8b (County)	1200	3/16/19		=	68	13
MCW-8b (County)	1200	3/17/19		=	68	13
MCW-8b (County)	1200	3/18/19		=	68	14
MCW-8b (County)	1140	3/19/2019♦		<	9	14
MCW-8b (County)	1140	3/20/19		<	9	14
MCW-8b (County)	1140	3/21/19		<	9	14
MCW-8b (County)	1140	3/22/19		<	9	14
MCW-8b (County)	1140	3/23/19		<	9	14
MCW-8b (County)	1140	3/24/19		<	9	14
MCW-8b (County)	1140	3/25/19		<	9	14
MCW-8b (County)	1200	3/26/2019♦		<	9	14
MCW-8b (County)	1200	3/27/19		<	9	14
MCW-8b (County)	1200	3/28/19		<	9	14
MCW-8b (County)	1200	3/29/19		<	9	14
MCW-8b (County)	1200	3/30/19		<	9	14
MCW-8b (County)	1200	3/31/19		<	9	14
MCW-9 (County)	-	3/1/19	Dry	<	9	9
MCW-9 (County)	-	3/2/19	Dry	<	9	9
MCW-9 (County)	-	3/3/19	Dry	<	9	9
MCW-9 (County)	-	3/4/19	Dry	<	9	9
MCW-9 (County)	-	3/5/2019♦	Dry	<	9	9
MCW-9 (County)	-	3/6/19	Dry	<	9	9
MCW-9 (County)	-	3/7/19	Dry	<	9	9
MCW-9 (County)	-	3/8/19	Dry	<	9	9
MCW-9 (County)	-	3/9/19	Dry	<	9	9
MCW-9 (County)	-	3/10/19	Dry	<	9	9
MCW-9 (County)	-	3/11/19	Dry	<	9	9
MCW-9 (County)	-	3/12/2019♦	Dry	<	9	9
MCW-9 (County)	-	3/13/19	Dry	<	9	9

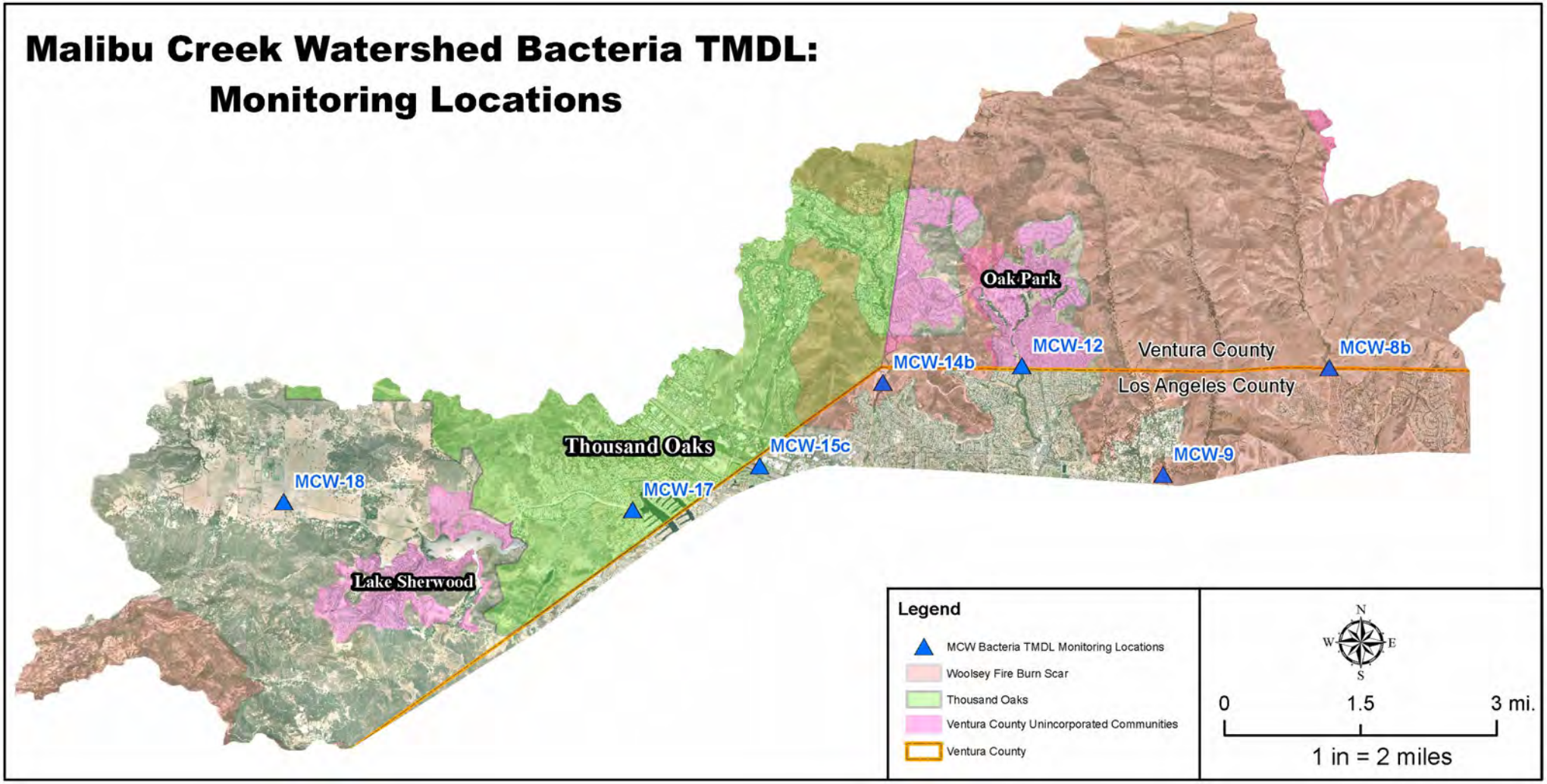
				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-9 (County)	-	3/14/19	Dry	<	9	9
MCW-9 (County)	-	3/15/19	Dry	<	9	9
MCW-9 (County)	-	3/16/19	Dry	<	9	9
MCW-9 (County)	-	3/17/19	Dry	<	9	9
MCW-9 (County)	-	3/18/19	Dry	<	9	9
MCW-9 (County)	-	3/19/2019♦	Dry	<	9	9
MCW-9 (County)	-	3/20/19	Dry	<	9	9
MCW-9 (County)	-	3/21/19	Dry	<	9	9
MCW-9 (County)	-	3/22/19	Dry	<	9	9
MCW-9 (County)	-	3/23/19	Dry	<	9	9
MCW-9 (County)	-	3/24/19	Dry	<	9	9
MCW-9 (County)	-	3/25/19	Dry	<	9	9
MCW-9 (County)	-	3/26/2019♦	Dry	<	9	9
MCW-9 (County)	-	3/27/19	Dry	<	9	9
MCW-9 (County)	-	3/28/19	Dry	<	9	9
MCW-9 (County)	-	3/29/19	Dry	<	9	9
MCW-9 (County)	-	3/30/19	Dry	<	9	9
MCW-9 (County)	-	3/31/19	Dry	<	9	9
MCW-12 (County)	1115	3/1/19		=	130	42
MCW-12 (County)	1115	3/2/19		=	130	44
MCW-12 (County)	1115	3/3/19		=	130	47
MCW-12 (County)	1115	3/4/19		=	130	50
MCW-12 (County)	1125	3/5/2019♦		=	130	53
MCW-12 (County)	1125	3/6/19		=	130	57
MCW-12 (County)	1125	3/7/19		=	130	58
MCW-12 (County)	1125	3/8/19		=	130	59
MCW-12 (County)	1125	3/9/19		=	130	60
MCW-12 (County)	1125	3/10/19		=	130	61
MCW-12 (County)	1125	3/11/19		=	130	62
MCW-12 (County)	1115	3/12/2019♦		=	490	66
MCW-12 (County)	1115	3/13/19		=	490	70
MCW-12 (County)	1115	3/14/19		=	490	76
MCW-12 (County)	1115	3/15/19		=	490	82
MCW-12 (County)	1115	3/16/19		=	490	89
MCW-12 (County)	1115	3/17/19		=	490	96
MCW-12 (County)	1115	3/18/19		=	490	104
MCW-12 (County)	1100	3/19/2019♦		=	130	108
MCW-12 (County)	1100	3/20/19		=	130	112
MCW-12 (County)	1100	3/21/19		=	130	119
MCW-12 (County)	1100	3/22/19		=	130	127
MCW-12 (County)	1100	3/23/19		=	130	136
MCW-12 (County)	1100	3/24/19		=	130	145
MCW-12 (County)	1100	3/25/19		=	130	155

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-12 (County)	1120	3/26/2019♦		=	40	159
MCW-12 (County)	1120	3/27/19		=	40	164
MCW-12 (County)	1120	3/28/19		=	40	157
MCW-12 (County)	1120	3/29/19		=	40	151
MCW-12 (County)	1120	3/30/19		=	40	146
MCW-12 (County)	1120	3/31/19		=	40	140
MCW-14b (City and County)	1040	3/1/19		=	45	38
MCW-14b (City and County)	1040	3/2/19		=	45	40
MCW-14b (City and County)	1040	3/3/19		=	45	42
MCW-14b (City and County)	1040	3/4/19		=	45	45
MCW-14b (City and County)	1050	3/5/2019♦		=	330	50
MCW-14b (City and County)	1050	3/6/19		=	330	57
MCW-14b (City and County)	1050	3/7/19		=	330	61
MCW-14b (City and County)	1050	3/8/19		=	330	65
MCW-14b (City and County)	1050	3/9/19		=	330	69
MCW-14b (City and County)	1050	3/10/19		=	330	74
MCW-14b (City and County)	1050	3/11/19		=	330	79
MCW-14b (City and County)	1030	3/12/2019♦		=	330	85
MCW-14b (City and County)	1030	3/13/19		=	330	90
MCW-14b (City and County)	1030	3/14/19		=	330	95
MCW-14b (City and County)	1030	3/15/19		=	330	100
MCW-14b (City and County)	1030	3/16/19		=	330	105
MCW-14b (City and County)	1030	3/17/19		=	330	110
MCW-14b (City and County)	1030	3/18/19		=	330	115
MCW-14b (City and County)	1030	3/19/2019♦		=	170	118
MCW-14b (City and County)	1030	3/20/19		=	170	121
MCW-14b (City and County)	1030	3/21/19		=	170	127
MCW-14b (City and County)	1030	3/22/19		=	170	133
MCW-14b (City and County)	1030	3/23/19		=	170	140
MCW-14b (City and County)	1030	3/24/19		=	170	147
MCW-14b (City and County)	1030	3/25/19		=	170	154
MCW-14b (City and County)	1050	3/26/2019♦		=	170	162
MCW-14b (City and County)	1050	3/27/19		=	170	170
MCW-14b (City and County)	1050	3/28/19		=	170	178
MCW-14b (City and County)	1050	3/29/19		=	170	186
MCW-14b (City and County)	1050	3/30/19		=	170	194
MCW-14b (City and County)	1050	3/31/19		=	170	203
MCW-15c (City)	1015	3/1/19		<	9	17
MCW-15c (City)	1015	3/2/19		<	9	17
MCW-15c (City)	1015	3/3/19		<	9	17
MCW-15c (City)	1015	3/4/19		<	9	17
MCW-15c (City)	1020	3/5/2019♦		=	40	18
MCW-15c (City)	1020	3/6/19		=	40	19
MCW-15c (City)	1020	3/7/19		=	40	20
MCW-15c (City)	1020	3/8/19		=	40	20

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)		Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c (City)	1020	3/9/19		=	40	21
MCW-15c (City)	1020	3/10/19		=	40	21
MCW-15c (City)	1020	3/11/19		=	40	22
MCW-15c (City)	1000	3/12/2019♦		=	130	23
MCW-15c (City)	1000	3/13/19		=	130	24
MCW-15c (City)	1000	3/14/19		=	130	27
MCW-15c (City)	1000	3/15/19		=	130	29
MCW-15c (City)	1000	3/16/19		=	130	32
MCW-15c (City)	1000	3/17/19		=	130	35
MCW-15c (City)	1000	3/18/19		=	130	38
MCW-15c (City)	1000	3/19/2019♦		=	130	42
MCW-15c (City)	1000	3/20/19		=	130	46
MCW-15c (City)	1000	3/21/19		=	130	47
MCW-15c (City)	1000	3/22/19		=	130	48
MCW-15c (City)	1000	3/23/19		=	130	49
MCW-15c (City)	1000	3/24/19		=	130	50
MCW-15c (City)	1000	3/25/19		=	130	51
MCW-15c (City)	1015	3/26/2019♦		=	20	49
MCW-15c (City)	1015	3/27/19		=	20	47
MCW-15c (City)	1015	3/28/19		=	20	48
MCW-15c (City)	1015	3/29/19		=	20	49
MCW-15c (City)	1015	3/30/19		=	20	51
MCW-15c (City)	1015	3/31/19		=	20	52
MCW-17 (City and County)	940	3/1/19		=	20	33
MCW-17 (City and County)	940	3/2/19		=	20	34
MCW-17 (City and County)	940	3/3/19		=	20	35
MCW-17 (City and County)	940	3/4/19		=	20	36
MCW-17 (City and County)	955	3/5/2019♦		<	9	36
MCW-17 (City and County)	955	3/6/19		<	9	36
MCW-17 (City and County)	955	3/7/19		<	9	35
MCW-17 (City and County)	955	3/8/19		<	9	34
MCW-17 (City and County)	955	3/9/19		<	9	33
MCW-17 (City and County)	955	3/10/19		<	9	32
MCW-17 (City and County)	955	3/11/19		<	9	31
MCW-17 (City and County)	930	3/12/2019♦		=	78	33
MCW-17 (City and County)	930	3/13/19		=	78	34
MCW-17 (City and County)	930	3/14/19		=	78	34
MCW-17 (City and County)	930	3/15/19		=	78	34
MCW-17 (City and County)	930	3/16/19		=	78	34
MCW-17 (City and County)	930	3/17/19		=	78	34
MCW-17 (City and County)	930	3/18/19		=	78	34
MCW-17 (City and County)	940	3/19/2019♦		=	45	34
MCW-17 (City and County)	940	3/20/19		=	45	33
MCW-17 (City and County)	940	3/21/19		=	45	32
MCW-17 (City and County)	940	3/22/19		=	45	32
MCW-17 (City and County)	940	3/23/19		=	45	31

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	**Time**	**Date**	**Rain**		**E. coli**	**E. coli**
					(235 MPN)	**(126 MPN)**
MCW-17 (City and County)	940	3/24/19		=	45	31
MCW-17 (City and County)	940	3/25/19		=	45	30
MCW-17 (City and County)	950	3/26/2019♦		=	78	30
MCW-17 (City and County)	950	3/27/19		=	78	30
MCW-17 (City and County)	950	3/28/19		=	78	32
MCW-17 (City and County)	950	3/29/19		=	78	33
MCW-17 (City and County)	950	3/30/19		=	78	35
MCW-17 (City and County)	950	3/31/19		=	78	36
MCW-18 (County)	-	3/1/19	Dry	<	9	9
MCW-18 (County)	-	3/2/19	Dry	<	9	9
MCW-18 (County)	-	3/3/19	Dry	<	9	9
MCW-18 (County)	-	3/4/19	Dry	<	9	9
MCW-18 (County)	-	3/5/2019♦	Dry	<	9	9
MCW-18 (County)	-	3/6/19	Dry	<	9	9
MCW-18 (County)	-	3/7/19	Dry	<	9	9
MCW-18 (County)	-	3/8/19	Dry	<	9	9
MCW-18 (County)	-	3/9/19	Dry	<	9	9
MCW-18 (County)	-	3/10/19	Dry	<	9	9
MCW-18 (County)	-	3/11/19	Dry	<	9	9
MCW-18 (County)	-	3/12/2019♦	Dry	<	9	9
MCW-18 (County)	-	3/13/19	Dry	<	9	9
MCW-18 (County)	-	3/14/19	Dry	<	9	9
MCW-18 (County)	-	3/15/19	Dry	<	9	9
MCW-18 (County)	-	3/16/19	Dry	<	9	9
MCW-18 (County)	-	3/17/19	Dry	<	9	9
MCW-18 (County)	-	3/18/19	Dry	<	9	9
MCW-18 (County)	-	3/19/2019♦	Dry	<	9	9
MCW-18 (County)	-	3/20/19	Dry	<	9	9
MCW-18 (County)	-	3/21/19	Dry	<	9	9
MCW-18 (County)	-	3/22/19	Dry	<	9	9
MCW-18 (County)	-	3/23/19	Dry	<	9	9
MCW-18 (County)	-	3/24/19	Dry	<	9	9
MCW-18 (County)	-	3/25/19	Dry	<	9	9
MCW-18 (County)	-	3/26/2019♦	Dry	<	9	9
MCW-18 (County)	-	3/27/19	Dry	<	9	9
MCW-18 (County)	-	3/28/19	Dry	<	9	9
MCW-18 (County)	-	3/29/19	Dry	<	9	9
MCW-18 (County)	-	3/30/19	Dry	<	9	9
MCW-18 (County)	-	3/31/19	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling


Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations
Oak Park
MCW-12
MCW-14b
Ventura County
Los Angeles County
MCW-8b
MCW-9
MCW-15c
Thousand Oaks
MCW-17
MCW-18
Lake Sherwood
Legend
MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County
N
W
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S
0
1.5
3 mi.
1 in = 2 miles

county of ventura

PUBLIC WORKS
VENTURA COUNTY

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Joseph Pope, Director

Watershed Protection
Glenn Shephard, Director

May 28, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of April 2019. Sites were sampled weekly on Tuesday (April 2, 9, 16, 23 & 30). The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with•), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

				Single Sample (as sampled)	
Location (Jurisdiction)	Time	Date	Rain		E. coli
					(235 MPN)
MCW-8b (County)	1200	4/2/2019♦		<	18
MCW-8b (County)	1150	4/9/2019♦		<	18
MCW-8b (County)	1230	4/16/2019♦		<	18
MCW-8b (County)	1150	4/23/2019♦		<	18
MCW-8b (County)	1155	4/30/2019♦		=	20
MCW-9 (County)	-	4/2/2019♦			Dry
MCW-9 (County)	-	4/9/2019♦			Dry
MCW-9 (County)	-	4/16/2019♦			Dry
MCW-9 (County)	-	4/23/2019♦			Dry
MCW-9 (County)	-	4/30/2019♦			Dry
MCW-12 (County)	1120	4/2/2019♦		=	78
MCW-12 (County)	1100	4/9/2019♦		=	170
MCW-12 (County)	1150	4/16/2019♦		=	45
MCW-12 (County)	1115	4/23/2019♦		=	230
MCW-12 (County)	1055	4/30/2019♦		=	45
MCW-14b (City and County)	1050	4/2/2019♦		=	490
MCW-14b (City and County)	1040	4/9/2019♦		=	68
MCW-14b (City and County)	1120	4/16/2019♦		=	78
MCW-14b (City and County)	1050	4/23/2019♦		<	18
MCW-14b (City and County)	1025	4/30/2019♦		=	170
MCW-15c (City)	1015	4/2/2019♦		<	18
MCW-15c (City)	1015	4/9/2019♦		<	18
MCW-15c (City)	1045	4/16/2019♦		<	18
MCW-15c (City)	1020	4/23/2019♦		=	20
MCW-15c (City)	955	4/30/2019♦		<	18
MCW-17 (City and County)	950	4/2/2019♦		=	20
MCW-17 (City and County)	945	4/9/2019♦		=	1,300
MCW-17 (City and County)	1015	4/16/2019♦		=	68
MCW-17 (City and County)	945	4/23/2019♦		=	20
MCW-17 (City and County)	930	4/30/2019♦		=	20
MCW-18 (County)	-	4/2/2019♦			Dry
MCW-18 (County)	-	4/9/2019♦			Dry
MCW-18 (County)	-	4/16/2019♦			Dry
MCW-18 (County)	-	4/23/2019♦			Dry
MCW-18 (County)		4/30/2019♦			Dry

Notes:

* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦Date of sampling

- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	1200	4/1/19		<	9	14
MCW-8b (County)	1200	4/2/2019♦		<	9	14
MCW-8b (County)	1200	4/3/19		<	9	14
MCW-8b (County)	1200	4/4/19		<	9	14
MCW-8b (County)	1200	4/5/19		<	9	14
MCW-8b (County)	1200	4/6/19		<	9	14
MCW-8b (County)	1200	4/7/19		<	9	14
MCW-8b (County)	1200	4/8/19		<	9	14
MCW-8b (County)	1150	4/9/2019♦		<	9	14
MCW-8b (County)	1150	4/10/19		<	9	14
MCW-8b (County)	1150	4/11/19		<	9	13
MCW-8b (County)	1150	4/12/19		<	9	13
MCW-8b (County)	1150	4/13/19		<	9	12
MCW-8b (County)	1150	4/14/19		<	9	11
MCW-8b (County)	1150	4/15/19		<	9	10
MCW-8b (County)	1230	4/16/2019♦		<	9	10
MCW-8b (County)	1230	4/17/19		<	9	9
MCW-8b (County)	1230	4/18/19		<	9	9
MCW-8b (County)	1230	4/19/19		<	9	9
MCW-8b (County)	1230	4/20/19		<	9	9
MCW-8b (County)	1230	4/21/19		<	9	9
MCW-8b (County)	1230	4/22/19		<	9	9
MCW-8b (County)	1150	4/23/2019♦		<	9	9
MCW-8b (County)	1150	4/24/19		<	9	9
MCW-8b (County)	1150	4/25/19		<	9	9
MCW-8b (County)	1150	4/26/19		<	9	9
MCW-8b (County)	1150	4/27/19		<	9	9
MCW-8b (County)	1150	4/28/19		<	9	9
MCW-8b (County)	1150	4/29/19		<	9	9
MCW-8b (County)	1155	4/30/2019♦		=	20	9
MCW-9 (County)	-	4/1/19	Dry	<	9	9
MCW-9 (County)	-	4/2/2019♦	Dry	<	9	9
MCW-9 (County)	-	4/3/19	Dry	<	9	9
MCW-9 (County)	-	4/4/19	Dry	<	9	9
MCW-9 (County)	-	4/5/19	Dry	<	9	9
MCW-9 (County)	-	4/6/19	Dry	<	9	9
MCW-9 (County)	-	4/7/19	Dry	<	9	9
MCW-9 (County)	-	4/8/19	Dry	<	9	9
MCW-9 (County)	-	4/9/2019♦	Dry	<	9	9
MCW-9 (County)	-	4/10/19	Dry	<	9	9
MCW-9 (County)	-	4/11/19	Dry	<	9	9
MCW-9 (County)	-	4/12/19	Dry	<	9	9
MCW-9 (County)	-	4/13/19	Dry	<	9	9
MCW-9 (County)	-	4/14/19	Dry	<	9	9
MCW-9 (County)	-	4/15/19	Dry	<	9	9
MCW-9 (County)	-	4/16/2019♦	Dry	<	9	9

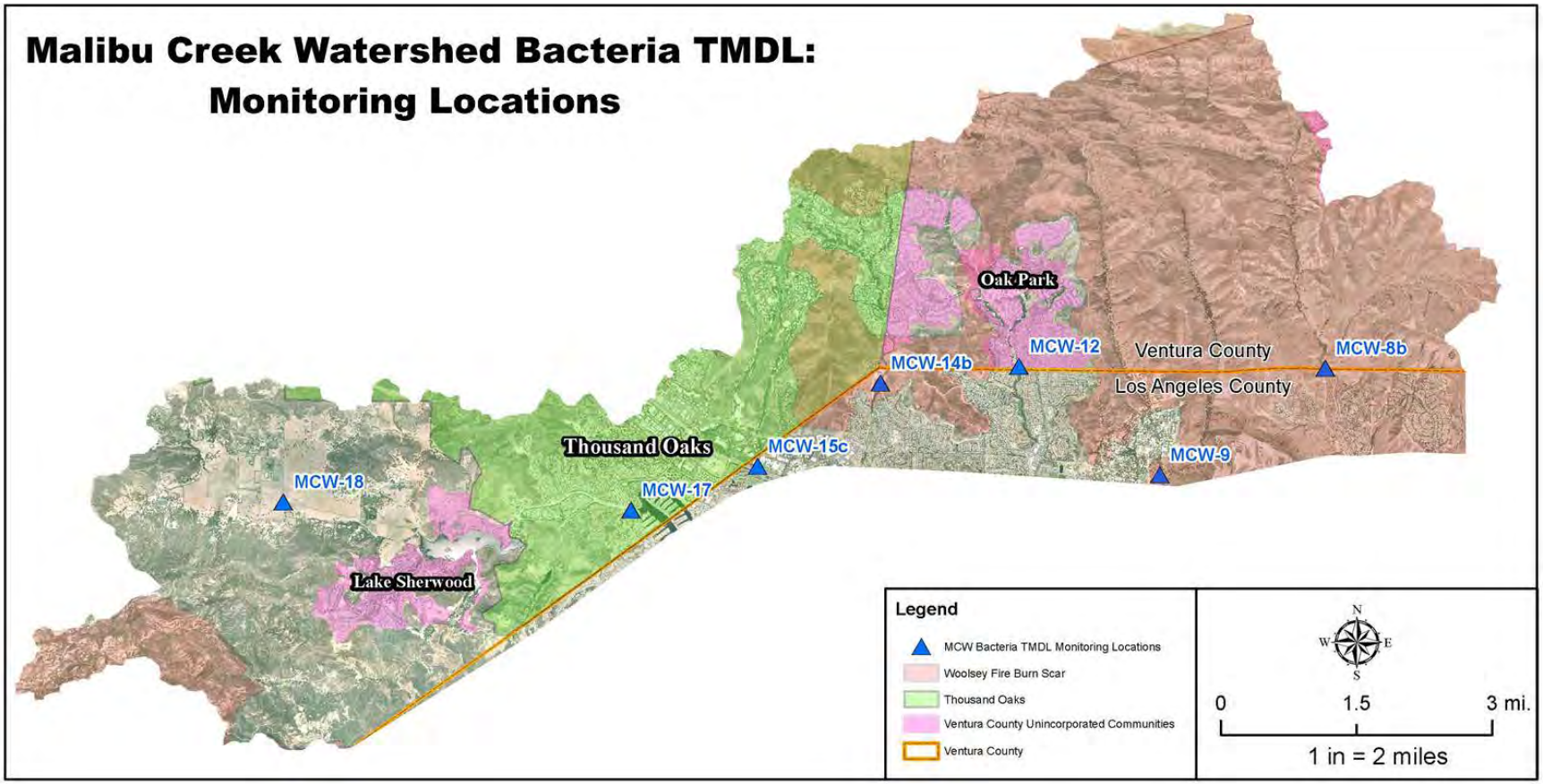
				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-9 (County)	-	4/17/19	Dry	<	9	9
MCW-9 (County)	-	4/18/19	Dry	<	9	9
MCW-9 (County)	-	4/19/19	Dry	<	9	9
MCW-9 (County)	-	4/20/19	Dry	<	9	9
MCW-9 (County)	-	4/21/19	Dry	<	9	9
MCW-9 (County)	-	4/22/19	Dry	<	9	9
MCW-9 (County)	-	4/23/2019♦	Dry	<	9	9
MCW-9 (County)	-	4/24/19	Dry	<	9	9
MCW-9 (County)	-	4/25/19	Dry	<	9	9
MCW-9 (County)	-	4/26/19	Dry	<	9	9
MCW-9 (County)	-	4/27/19	Dry	<	9	9
MCW-9 (County)	-	4/28/19	Dry	<	9	9
MCW-9 (County)	-	4/29/19	Dry	<	9	9
MCW-9 (County)	-	4/30/2019♦	Dry	<	9	9
MCW-12 (County)	1120	4/1/19		=	40	135
MCW-12 (County)	1120	4/2/2019♦		<	9	132
MCW-12 (County)	1120	4/3/19		<	9	130
MCW-12 (County)	1120	4/4/19		<	9	128
MCW-12 (County)	1120	4/5/19		<	9	126
MCW-12 (County)	1120	4/6/19		<	9	124
MCW-12 (County)	1120	4/7/19		<	9	122
MCW-12 (County)	1120	4/8/19		<	9	119
MCW-12 (County)	1100	4/9/2019♦		=	170	121
MCW-12 (County)	1100	4/10/19		=	170	122
MCW-12 (County)	1100	4/11/19		=	170	117
MCW-12 (County)	1100	4/12/19		=	170	113
MCW-12 (County)	1100	4/13/19		=	170	109
MCW-12 (County)	1100	4/14/19		=	170	106
MCW-12 (County)	1100	4/15/19		=	170	102
MCW-12 (County)	1150	4/16/2019♦		=	45	94
MCW-12 (County)	1150	4/17/19		=	45	87
MCW-12 (County)	1150	4/18/19		=	45	84
MCW-12 (County)	1150	4/19/19		=	45	81
MCW-12 (County)	1150	4/20/19		=	45	78
MCW-12 (County)	1150	4/21/19		=	45	75
MCW-12 (County)	1150	4/22/19		=	45	73
MCW-12 (County)	1115	4/23/2019♦		=	230	74
MCW-12 (County)	1115	4/24/19		=	230	76
MCW-12 (County)	1115	4/25/19		=	230	80
MCW-12 (County)	1115	4/26/19		=	230	85
MCW-12 (County)	1115	4/27/19		=	230	90
MCW-12 (County)	1115	4/28/19		=	230	96
MCW-12 (County)	1115	4/29/19		=	230	101
MCW-12 (County)	1055	4/30/2019♦		=	45	102
MCW-14b (City and County)	1050	4/1/19		=	170	212

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-14b (City and County)	1050	4/2/2019♦		=	490	230
MCW-14b (City and County)	1050	4/3/19		=	490	249
MCW-14b (City and County)	1050	4/4/19		=	490	252
MCW-14b (City and County)	1050	4/5/19		=	490	255
MCW-14b (City and County)	1050	4/6/19		=	490	259
MCW-14b (City and County)	1050	4/7/19		=	490	262
MCW-14b (City and County)	1050	4/8/19		=	490	266
MCW-14b (City and County)	1040	4/9/2019♦		=	68	252
MCW-14b (City and County)	1040	4/10/19		=	68	239
MCW-14b (City and County)	1040	4/11/19		=	68	227
MCW-14b (City and County)	1040	4/12/19		=	68	215
MCW-14b (City and County)	1040	4/13/19		=	68	204
MCW-14b (City and County)	1040	4/14/19		=	68	194
MCW-14b (City and County)	1040	4/15/19		=	68	184
MCW-14b (City and County)	1120	4/16/2019♦		=	78	175
MCW-14b (City and County)	1120	4/17/19		=	78	167
MCW-14b (City and County)	1120	4/18/19		=	78	163
MCW-14b (City and County)	1120	4/19/19		=	78	158
MCW-14b (City and County)	1120	4/20/19		=	78	154
MCW-14b (City and County)	1120	4/21/19		=	78	150
MCW-14b (City and County)	1120	4/22/19		=	78	147
MCW-14b (City and County)	1050	4/23/2019♦		<	9	133
MCW-14b (City and County)	1050	4/24/19		<	9	120
MCW-14b (City and County)	1050	4/25/19		<	9	109
MCW-14b (City and County)	1050	4/26/19		<	9	99
MCW-14b (City and County)	1050	4/27/19		<	9	90
MCW-14b (City and County)	1050	4/28/19		<	9	81
MCW-14b (City and County)	1050	4/29/19		<	9	74
MCW-14b (City and County)	1025	4/30/2019♦		=	170	74
MCW-15c (City)	1015	4/1/19		=	20	53
MCW-15c (City)	1050	4/2/2019♦		<	9	53
MCW-15c (City)	1050	4/3/19		<	9	53
MCW-15c (City)	1050	4/4/19		<	9	51
MCW-15c (City)	1050	4/5/19		<	9	48
MCW-15c (City)	1050	4/6/19		<	9	46
MCW-15c (City)	1050	4/7/19		<	9	44
MCW-15c (City)	1050	4/8/19		<	9	42
MCW-15c (City)	1015	4/9/2019♦		<	9	40
MCW-15c (City)	1015	4/10/19		<	9	38
MCW-15c (City)	1015	4/11/19		<	9	34
MCW-15c (City)	1015	4/12/19		<	9	32
MCW-15c (City)	1015	4/13/19		<	9	29
MCW-15c (City)	1015	4/14/19		<	9	26
MCW-15c (City)	1015	4/15/19		<	9	24

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c (City)	1045	4/16/2019♦		<	9	22
MCW-15c (City)	1045	4/17/19		<	9	20
MCW-15c (City)	1045	4/18/19		<	9	18
MCW-15c (City)	1045	4/19/19		<	9	17
MCW-15c (City)	1045	4/20/19		<	9	15
MCW-15c (City)	1045	4/21/19		<	9	14
MCW-15c (City)	1045	4/22/19		<	9	13
MCW-15c (City)	1020	4/23/2019♦		=	20	12
MCW-15c (City)	1020	4/24/19		=	20	11
MCW-15c (City)	1020	4/25/19		=	20	11
MCW-15c (City)	1020	4/26/19		=	20	11
MCW-15c (City)	1020	4/27/19		=	20	11
MCW-15c (City)	1020	4/28/19		=	20	11
MCW-15c (City)	1020	4/29/19		=	20	11
MCW-15c (City)	955	4/30/2019♦		<	9	11
MCW-17 (City and County)	950	4/1/19		=	78	38
MCW-17 (City and County)	950	4/2/2019♦		=	20	38
MCW-17 (City and County)	950	4/3/19		=	20	38
MCW-17 (City and County)	950	4/4/19		=	20	39
MCW-17 (City and County)	950	4/5/19		=	20	40
MCW-17 (City and County)	950	4/6/19		=	20	41
MCW-17 (City and County)	950	4/7/19		=	20	42
MCW-17 (City and County)	950	4/8/19		=	20	43
MCW-17 (City and County)	945	4/9/2019♦		=	1,300	51
MCW-17 (City and County)	945	4/10/19		=	1,300	60
MCW-17 (City and County)	945	4/11/19		=	1,300	66
MCW-17 (City and County)	945	4/12/19		=	1,300	73
MCW-17 (City and County)	945	4/13/19		=	1,300	80
MCW-17 (City and County)	945	4/14/19		=	1,300	88
MCW-17 (City and County)	945	4/15/19		=	1,300	96
MCW-17 (City and County)	1015	4/16/2019♦		=	68	96
MCW-17 (City and County)	1015	4/17/19		=	68	95
MCW-17 (City and County)	1015	4/18/19		=	68	97
MCW-17 (City and County)	1015	4/19/19		=	68	98
MCW-17 (City and County)	1015	4/20/19		=	68	99
MCW-17 (City and County)	1015	4/21/19		=	68	101
MCW-17 (City and County)	1015	4/22/19		=	68	102
MCW-17 (City and County)	945	4/23/2019♦		=	20	99
MCW-17 (City and County)	945	4/24/19		=	20	97
MCW-17 (City and County)	945	4/25/19		=	20	93
MCW-17 (City and County)	945	4/26/19		=	20	88
MCW-17 (City and County)	945	4/27/19		=	20	85
MCW-17 (City and County)	945	4/28/19		=	20	81
MCW-17 (City and County)	945	4/29/19		=	20	77
MCW-17 (City and County)	930	4/30/2019♦		=	20	74
MCW-18 (County)	-	4/1/19	Dry	<	9	9

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-18 (County)	-	4/2/2019♦	Dry	<	9	9
MCW-18 (County)	-	4/3/19	Dry	<	9	9
MCW-18 (County)	-	4/4/19	Dry	<	9	9
MCW-18 (County)	-	4/5/19	Dry	<	9	9
MCW-18 (County)	-	4/6/19	Dry	<	9	9
MCW-18 (County)	-	4/7/19	Dry	<	9	9
MCW-18 (County)	-	4/8/19	Dry	<	9	9
MCW-18 (County)	-	4/9/2019♦	Dry	<	9	9
MCW-18 (County)	-	4/10/19	Dry	<	9	9
MCW-18 (County)	-	4/11/19	Dry	<	9	9
MCW-18 (County)	-	4/12/19	Dry	<	9	9
MCW-18 (County)	-	4/13/19	Dry	<	9	9
MCW-18 (County)	-	4/14/19	Dry	<	9	9
MCW-18 (County)	-	4/15/19	Dry	<	9	9
MCW-18 (County)	-	4/16/2019♦	Dry	<	9	9
MCW-18 (County)	-	4/17/19	Dry	<	9	9
MCW-18 (County)	-	4/18/19	Dry	<	9	9
MCW-18 (County)	-	4/19/19	Dry	<	9	9
MCW-18 (County)	-	4/20/19	Dry	<	9	9
MCW-18 (County)	-	4/21/19	Dry	<	9	9
MCW-18 (County)	-	4/22/19	Dry	<	9	9
MCW-18 (County)	-	4/23/2019♦	Dry	<	9	9
MCW-18 (County)	-	4/24/19	Dry	<	9	9
MCW-18 (County)	-	4/25/19	Dry	<	9	9
MCW-18 (County)	-	4/26/19	Dry	<	9	9
MCW-18 (County)	-	4/27/19	Dry	<	9	9
MCW-18 (County)	-	4/28/19	Dry	<	9	9
MCW-18 (County)	-	4/29/19	Dry	<	9	9
MCW-18 (County)	-	4/30/2019♦	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦Date of sampling


Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations
Oak Park
MCW-12
Ventura County
MCW-8b
MCW-14b
Los Angeles County
Thousand Oaks
MCW-15c
MCW-9
MCW-18
MCW-17
Lake Sherwood
Legend
MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County
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1.5
3 mi.
1 in = 2 miles

county of ventura

PUBLIC WORKS
VENTURA COUNTY

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Joseph Pope, Director

Watershed Protection
Glenn Shephard, Director

June 24, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of May 2019. Sites were sampled weekly on Tuesday (May 7, 14, & 28), except one instance when sites were sampled Monday (May 20) due to staffing conflicts. The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with•), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
Ewelina Mutkowska, County of Ventura (via email)
Paul Jorgensen, City of Thousand Oaks (via email)
Joe Bellomo, Willdan Associates (via email)
Kelly Fisher, City of Agoura Hills (via email)
Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain	Single Sample (as sampled)	
					E. coli (235 MPN)
MCW-8b (County)	1215	5/7/2019♦		=	18
MCW-8b (County)	1200	5/14/2019♦		=	68
MCW-8b (County)	1155	5/20/2019♦		=	20
MCW-8b (County)	1200	5/28/2019♦		<	18
MCW-9 (County)	-	5/7/2019♦			Dry
MCW-9 (County)	-	5/14/2019♦			Dry
MCW-9 (County)	-	5/20/2019♦			Dry
MCW-9 (County)	-	5/28/2019♦			Dry
MCW-12 (County)	1130	5/7/2019♦		<	18
MCW-12 (County)	1130	5/14/2019♦		=	20
MCW-12 (County)	1115	5/20/2019♦		<	18
MCW-12 (County)	1100	5/28/2019♦		=	20
MCW-14b (City and County)	1100	5/7/2019♦		=	1,700
MCW-14b (City and County)	1100	5/14/2019♦		=	230
MCW-14b (City and County)	1040	5/20/2019♦		=	40
MCW-14b (City and County)	1030	5/28/2019♦		=	78
MCW-15c (City)	1030	5/7/2019♦		=	92
MCW-15c (City)	1030	5/14/2019♦		=	78
MCW-15c (City)	1015	5/20/2019♦		=	230
MCW-15c (City)	1000	5/28/2019♦		=	18
MCW-17 (City and County)	955	5/7/2019♦		<	18
MCW-17 (City and County)	1000	5/14/2019♦		=	45
MCW-17 (City and County)	945	5/20/2019♦		=	140
MCW-17 (City and County)	945	5/28/2019♦		=	790
MCW-18 (County)	-	5/7/2019♦			Dry
MCW-18 (County)	-	5/14/2019♦			Dry
MCW-18 (County)	-	5/20/2019♦			Dry
MCW-18 (County)	-	5/28/2019♦			Dry

Notes:

* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦ Date of sampling

- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	1155	5/1/19		=	20	9
MCW-8b (County)	1155	5/2/19		=	20	10
MCW-8b (County)	1155	5/3/19		=	20	10
MCW-8b (County)	1155	5/4/19		=	20	10
MCW-8b (County)	1155	5/5/19		=	20	11
MCW-8b (County)	1155	5/6/19		=	20	11
MCW-8b (County)	1215	5/7/2019♦		=	18	11
MCW-8b (County)	1215	5/8/19		=	18	11
MCW-8b (County)	1215	5/9/19		=	18	12
MCW-8b (County)	1215	5/10/19		=	18	12
MCW-8b (County)	1215	5/11/19		=	18	12
MCW-8b (County)	1215	5/12/19		=	18	12
MCW-8b (County)	1215	5/13/19		=	18	13
MCW-8b (County)	1200	5/14/2019♦		=	68	14
MCW-8b (County)	1200	5/15/19		=	68	15
MCW-8b (County)	1200	5/16/19		=	68	16
MCW-8b (County)	1200	5/17/19		=	68	17
MCW-8b (County)	1200	5/18/19		=	68	18
MCW-8b (County)	1200	5/19/19		=	68	19
MCW-8b (County)	1155	5/20/2019♦		=	20	20
MCW-8b (County)	1155	5/21/19		=	20	20
MCW-8b (County)	1155	5/22/19		=	20	21
MCW-8b (County)	1155	5/23/19		=	20	21
MCW-8b (County)	1155	5/24/19		=	20	22
MCW-8b (County)	1155	5/25/19		=	20	22
MCW-8b (County)	1155	5/26/19		=	20	23
MCW-8b (County)	1155	5/27/19		=	20	24
MCW-8b (County)	1200	5/28/2019♦		<	9	24
MCW-8b (County)	1200	5/29/19		<	9	24
MCW-8b (County)	1200	5/30/19		<	9	23
MCW-8b (County)	1200	5/31/19		<	9	22
MCW-9 (County)	-	5/1/19	Dry	<	9	9
MCW-9 (County)	-	5/2/19	Dry	<	9	9
MCW-9 (County)	-	5/3/19	Dry	<	9	9
MCW-9 (County)	-	5/4/19	Dry	<	9	9
MCW-9 (County)	-	5/5/19	Dry	<	9	9
MCW-9 (County)	-	5/6/19	Dry	<	9	9
MCW-9 (County)	-	5/7/2019♦	Dry	<	9	9
MCW-9 (County)	-	5/8/19	Dry	<	9	9
MCW-9 (County)	-	5/9/19	Dry	<	9	9
MCW-9 (County)	-	5/10/19	Dry	<	9	9
MCW-9 (County)	-	5/11/19	Dry	<	9	9
MCW-9 (County)	-	5/12/19	Dry	<	9	9
MCW-9 (County)	-	5/13/19	Dry	<	9	9
MCW-9 (County)	-	5/14/2019♦	Dry	<	9	9
MCW-9 (County)	-	5/15/19	Dry	<	9	9

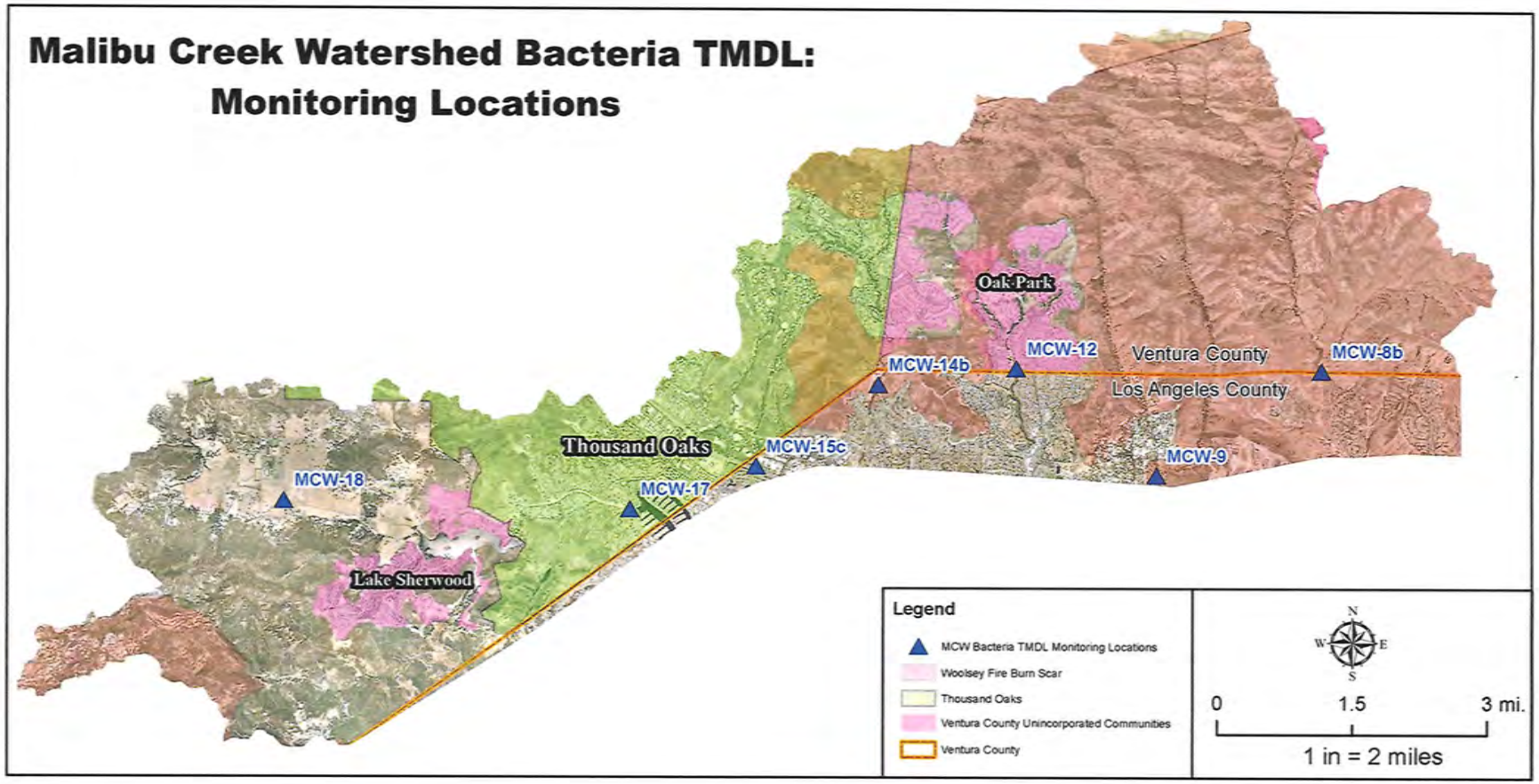
Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geomean
					E. coli (235 MPN)	E. coli (126 MPN)
MCW-9 (County)	-	5/16/19	Dry	<	9	9
MCW-9 (County)	-	5/17/19	Dry	<	9	9
MCW-9 (County)	-	5/18/19	Dry	<	9	9
MCW-9 (County)	-	5/19/19	Dry	<	9	9
MCW-9 (County)	-	5/20/2019♦	Dry	<	9	9
MCW-9 (County)	-	5/21/19	Dry	<	9	9
MCW-9 (County)	-	5/22/19	Dry	<	9	9
MCW-9 (County)	-	5/23/19	Dry	<	9	9
MCW-9 (County)	-	5/24/19	Dry	<	9	9
MCW-9 (County)	-	5/25/19	Dry	<	9	9
MCW-9 (County)	-	5/26/19	Dry	<	9	9
MCW-9 (County)	-	5/27/19	Dry	<	9	9
MCW-9 (County)	-	5/28/2019♦	Dry	<	9	9
MCW-9 (County)	-	5/29/19	Dry	<	9	9
MCW-9 (County)	-	5/30/19	Dry	<	9	9
MCW-9 (County)	-	5/31/19	Dry	<	9	9
MCW-12 (County)	1055	5/1/19		=	45	102
MCW-12 (County)	1055	5/2/19		=	45	100
MCW-12 (County)	1055	5/3/19		=	45	98
MCW-12 (County)	1055	5/4/19		=	45	97
MCW-12 (County)	1055	5/5/19		=	45	95
MCW-12 (County)	1055	5/6/19		=	45	93
MCW-12 (County)	1130	5/7/2019♦		<	9	87
MCW-12 (County)	1130	5/8/19		<	9	81
MCW-12 (County)	1130	5/9/19		<	9	73
MCW-12 (County)	1130	5/10/19		<	9	66
MCW-12 (County)	1130	5/11/19		<	9	60
MCW-12 (County)	1130	5/12/19		<	9	55
MCW-12 (County)	1130	5/13/19		<	9	49
MCW-12 (County)	1130	5/14/2019♦		=	20	46
MCW-12 (County)	1130	5/15/19		=	20	43
MCW-12 (County)	1130	5/16/19		=	20	42
MCW-12 (County)	1130	5/17/19		=	20	41
MCW-12 (County)	1130	5/18/19		=	20	40
MCW-12 (County)	1130	5/19/19		=	20	38
MCW-12 (County)	1115	5/20/2019♦		<	9	36
MCW-12 (County)	1115	5/21/19		<	9	35
MCW-12 (County)	1115	5/22/19		<	9	33
MCW-12 (County)	1115	5/23/19		<	9	29
MCW-12 (County)	1115	5/24/19		<	9	26
MCW-12 (County)	1115	5/25/19		<	9	24
MCW-12 (County)	1115	5/26/19		<	9	21
MCW-12 (County)	1115	5/27/19		=	20	20
MCW-12 (County)	1100	5/28/2019♦		=	20	18
MCW-12 (County)	1100	5/29/19		=	20	17

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-12 (County)	1100	5/30/19		=	20	16
MCW-12 (County)	1100	5/31/19		=	20	16
MCW-14b (City and County)	1025	5/1/19		=	170	74
MCW-14b (City and County)	1025	5/2/19		=	170	71
MCW-14b (City and County)	1025	5/3/19		=	170	69
MCW-14b (City and County)	1025	5/4/19		=	170	66
MCW-14b (City and County)	1025	5/5/19		=	170	64
MCW-14b (City and County)	1025	5/6/19		=	170	62
MCW-14b (City and County)	1100	5/7/2019♦		=	1,700	64
MCW-14b (City and County)	1100	5/8/19		=	1,700	67
MCW-14b (City and County)	1100	5/9/19		=	1,700	75
MCW-14b (City and County)	1100	5/10/19		=	1,700	83
MCW-14b (City and County)	1100	5/11/19		=	1,700	93
MCW-14b (City and County)	1100	5/12/19		=	1,700	103
MCW-14b (City and County)	1100	5/13/19		=	1,700	115
MCW-14b (City and County)	1100	5/14/2019♦		=	230	120
MCW-14b (City and County)	1100	5/15/19		=	230	125
MCW-14b (City and County)	1100	5/16/19		=	230	129
MCW-14b (City and County)	1100	5/17/19		=	230	134
MCW-14b (City and County)	1100	5/18/19		=	230	139
MCW-14b (City and County)	1100	5/19/19		=	230	144
MCW-14b (City and County)	1040	5/20/2019♦		=	40	141
MCW-14b (City and County)	1040	5/21/19		=	40	138
MCW-14b (City and County)	1040	5/22/19		=	40	135
MCW-14b (City and County)	1040	5/23/19		=	40	142
MCW-14b (City and County)	1040	5/24/19		=	40	149
MCW-14b (City and County)	1040	5/25/19		=	40	156
MCW-14b (City and County)	1040	5/26/19		=	40	164
MCW-14b (City and County)	1040	5/27/19		=	40	173
MCW-14b (City and County)	1030	5/28/2019♦		=	78	186
MCW-14b (City and County)	1030	5/29/19		=	78	199
MCW-14b (City and County)	1030	5/30/19		=	78	194
MCW-14b (City and County)	1030	5/31/19		=	78	189
MCW-15c (City)	955	5/1/19		<	9	11
MCW-15c (City)	955	5/2/19		<	9	11
MCW-15c (City)	955	5/3/19		<	9	11
MCW-15c (City)	955	5/4/19		<	9	11
MCW-15c (City)	955	5/5/19		<	9	11
MCW-15c (City)	955	5/6/19		<	9	11
MCW-15c (City)	1030	5/7/2019♦		=	92	12
MCW-15c (City)	1030	5/8/19		=	92	13
MCW-15c (City)	1030	5/9/19		=	92	14
MCW-15c (City)	1030	5/10/19		=	92	15
MCW-15c (City)	1030	5/11/19		=	92	16

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geomean
					E. coli (235 MPN)	E. coli (126 MPN)
MCW-15c (City)	1030	5/12/19		=	92	17
MCW-15c (City)	1030	5/13/19		=	92	19
MCW-15c (City)	1030	5/14/2019♦		=	78	20
MCW-15c (City)	1030	5/15/19		=	78	22
MCW-15c (City)	1030	5/16/19		=	78	23
MCW-15c (City)	1030	5/17/19		=	78	25
MCW-15c (City)	1030	5/18/19		=	78	27
MCW-15c (City)	1030	5/19/19		=	78	29
MCW-15c (City)	1015	5/20/2019♦		=	230	32
MCW-15c (City)	1015	5/21/19		=	230	36
MCW-15c (City)	1015	5/22/19		=	230	40
MCW-15c (City)	1015	5/23/19		=	230	43
MCW-15c (City)	1015	5/24/19		=	230	47
MCW-15c (City)	1015	5/25/19		=	230	51
MCW-15c (City)	1015	5/26/19		=	230	55
MCW-15c (City)	1015	5/27/19		=	230	60
MCW-15c (City)	1000	5/28/2019♦		=	18	59
MCW-15c (City)	1000	5/29/19		=	18	59
MCW-15c (City)	1000	5/30/19		=	18	61
MCW-15c (City)	1000	5/31/19		=	18	62
MCW-17 (City and County)	930	5/1/19		=	20	70
MCW-17 (City and County)	930	5/2/19		=	20	70
MCW-17 (City and County)	930	5/3/19		=	20	70
MCW-17 (City and County)	930	5/4/19		=	20	70
MCW-17 (City and County)	930	5/5/19		=	20	70
MCW-17 (City and County)	930	5/6/19		=	20	70
MCW-17 (City and County)	955	5/7/2019♦		<	9	69
MCW-17 (City and County)	955	5/8/19		<	9	67
MCW-17 (City and County)	955	5/9/19		<	9	57
MCW-17 (City and County)	955	5/10/19		<	9	48
MCW-17 (City and County)	955	5/11/19		<	9	41
MCW-17 (City and County)	955	5/12/19		<	9	34
MCW-17 (City and County)	955	5/13/19		<	9	29
MCW-17 (City and County)	1000	5/14/2019♦		=	45	26
MCW-17 (City and County)	1000	5/15/19		=	45	23
MCW-17 (City and County)	1000	5/16/19		=	45	23
MCW-17 (City and County)	1000	5/17/19		=	45	23
MCW-17 (City and County)	1000	5/18/19		=	45	22
MCW-17 (City and County)	1000	5/19/19		=	45	22
MCW-17 (City and County)	945	5/20/2019♦		=	140	23
MCW-17 (City and County)	945	5/21/19		=	140	23
MCW-17 (City and County)	945	5/22/19		=	140	24
MCW-17 (City and County)	945	5/23/19		=	140	25
MCW-17 (City and County)	945	5/24/19		=	140	27
MCW-17 (City and County)	945	5/25/19		=	140	29
MCW-17 (City and County)	945	5/26/19		=	140	31

				Single Sample (adjusted for rain, dry and NDs)		Geomean
Location (Jurisdiction)	Time	Date	Rain		E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17 (City and County)	945	5/27/19		=	140	33
MCW-17 (City and County)	945	5/28/2019♦		=	790	37
MCW-17 (City and County)	945	5/29/19		=	790	42
MCW-17 (City and County)	945	5/30/19		=	790	47
MCW-17 (City and County)	945	5/31/19		=	790	54
MCW-18 (County)	-	5/1/19	Dry	<	9	9
MCW-18 (County)	-	5/2/19	Dry	<	9	9
MCW-18 (County)	-	5/3/19	Dry	<	9	9
MCW-18 (County)	-	5/4/19	Dry	<	9	9
MCW-18 (County)	-	5/5/19	Dry	<	9	9
MCW-18 (County)	-	5/6/19	Dry	<	9	9
MCW-18 (County)	-	5/7/2019♦	Dry	<	9	9
MCW-18 (County)	-	5/8/19	Dry	<	9	9
MCW-18 (County)	-	5/9/19	Dry	<	9	9
MCW-18 (County)	-	5/10/19	Dry	<	9	9
MCW-18 (County)	-	5/11/19	Dry	<	9	9
MCW-18 (County)	-	5/12/19	Dry	<	9	9
MCW-18 (County)	-	5/13/19	Dry	<	9	9
MCW-18 (County)	-	5/14/2019♦	Dry	<	9	9
MCW-18 (County)	-	5/15/19	Dry	<	9	9
MCW-18 (County)	-	5/16/19	Dry	<	9	9
MCW-18 (County)	-	5/17/19	Dry	<	9	9
MCW-18 (County)	-	5/18/19	Dry	<	9	9
MCW-18 (County)	-	5/19/19	Dry	<	9	9
MCW-18 (County)	-	5/20/2019♦	Dry	<	9	9
MCW-18 (County)	-	5/21/19	Dry	<	9	9
MCW-18 (County)	-	5/22/19	Dry	<	9	9
MCW-18 (County)	-	5/23/19	Dry	<	9	9
MCW-18 (County)	-	5/24/19	Dry	<	9	9
MCW-18 (County)	-	5/25/19	Dry	<	9	9
MCW-18 (County)	-	5/26/19	Dry	<	9	9
MCW-18 (County)	-	5/27/19	Dry	<	9	9
MCW-18 (County)	-	5/28/2019♦	Dry	<	9	9
MCW-18 (County)	-	5/29/19	Dry	<	9	9
MCW-18 (County)	-	5/30/19	Dry	<	9	9
MCW-18 (County)	-	5/31/19	Dry	<	9	9

Notes:
Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010
♦ Date of sampling


Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations
Oak Park
MCW-14b
MCW-12
Ventura County
MCW-8b
Los Angeles County
Thousand Oaks
MCW-15c
MCW-9
MCW-18
MCW-17
Lake Sherwood
Legend
MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County
N
W
E
S
0
1.5
3 mi.
1 in = 2 miles

June 14, 2019

Jenny Newman
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: 2019 SEMI-ANNUAL MONITORING REPORT FOR SANTA CLARA RIVER BACTERIA TOTAL MAXIMUM DAILY LOAD

Dear Ms. Newman,

The Santa Clara River (SCR) Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria Total Maximum Daily Load (Bacteria TMDL) was adopted by the Los Angeles Regional Water Quality Control Board (Regional Water Board) on July 8, 2010 and came into effect on March 21, 2012. The Bacteria TMDL incorporates the reaches listed on the 303(d) list, Reach 3 which was added to the 303(d) list in the 2016 Integrated Report, and all tributaries to the impaired SCR reaches.

The Cities of Fillmore, Oxnard, Santa Paula, and Ventura, and the County of Ventura are working collaboratively to implement Bacteria TMDL requirements for the lower SCR to address impairments to the SCR Estuary and Reach 3. The Bacteria TMDL required an in-stream compliance bacteria water quality Monitoring Plan, as well as an Implementation Plan (including an Outfall Monitoring Plan) to outline how the TMDL Responsible Agencies will achieve compliance with the Bacteria TMDL Waste Load Allocations and Load Allocations for the lower Santa Clara River. In accordance with the *Bacteria TMDL final in-stream Compliance Monitoring Plan* (CMP), in-stream monitoring for the Reach 3 (SCRR3-RW1) and SCR Estuary (SCRE-R005) has been conducted since October 11, 2016. The Regional Water Board accepted the *Implementation Plan for the Lower Santa Clara River Watershed* (Implementation Plan) in a letter dated December 26, 2017, and following an extension granted by Ms. Newman on May 25, 2018, the outfall monitoring has been conducted in accordance with the Implementation Plan's Outfall Monitoring Plan at five jurisdictional outfalls since September 18, 2018.[1]

This semi-annual report presents monitoring results for sampling events completed between October 30, 2018 and April 30, 2019. The attached tables summarize the results of weekly monitoring required by the CMP and monthly monitoring required by the Outfall Monitoring Plan. Weekly sampling occurs on Tuesdays at in-stream receiving water monitoring locations, and monthly at the five jurisdictional outfall monitoring locations (in coordination with in-stream receiving water monitoring activities).

Table 1 displays the semi-annual sampling results for both in-stream receiving water and outfall monitoring locations, while Table 2 presents weekly results rolling 30-day geometric means for the in-stream receiving water monitoring locations. Sample collection dates are marked with a

[1] One jurisdictional outfall was selected per agency in Fillmore, Santa Paula, Ventura, Oxnard, and County unincorporated Saticoy (MO-FIL, -SPA, -VEN, -SRG, and -SAT respectively)

diamond (♦) symbol. Daily geometric means for wet weather and dry weather using the past 30 days of the respective sampling data (Table 2). Non-sampling-day bacteria values are assigned the value of the most recent sampling event. To meet the prescribed dry weather geometric mean frequency, statistics are calculated for dry events at SCRR3-RW1 by assigning a concentration value of 0.01 colony-forming unit (CFU) (rather than 0.0 CFU) when the site was not flowing. A zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.

Samples were collected by Ventura City's Wastewater Treatment Plant (WWTP) staff at SCRE-R005 and by Rincon Consultants at SCRR3-RW1, MO-FIL, MO-SPA, MO-VEN, MO-SRG, and MO-SAT for bacteria analysis by Ventura City's WWTP Laboratory. This report was prepared by Rincon Consultants, Inc.

If you have any questions regarding the results or activities related to the lower SCR Bacteria TMDL monitoring, please contact Ewelina Mutkowska at (805) 645-1382.

Sincerely,

Ewelina Mutkowska
Stormwater Program Manager,
Ventura County Public Works Agency

CC: Jun Zhu, Regional Water Quality Control Board – Los Angeles Region
Jeff Pratt, Ventura County Public Works Agency
Glenn Shephard, Ventura County Watershed Protection District
Arne Anselm, Ventura County Watershed Protection District
Joe Yahner, City of Ventura
Peter Shallenberger, City of Ventura
Roxanne Hughes, City of Fillmore
Tai Chau, City of Santa Paula
Caesar Hernandez, City of Santa Paula
Jan Hauser, City of Oxnard
Badaoui Mouderres, City of Oxnard

Table 1.
Sampling Results for Receiving Water (Weekly) and Outfalls (Monhtly)

Location	Time	Date		Rain		Single Sample E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)
						(235 MPN)		(10,000 MPN)		(400 MPN)		(104 MPN)
Santa Clara River Reach 3												
SCRR3-RW1	8:10	10/30/2018	♦	Dry		n/s		n/a		n/a		n/a
SCRR3-RW1	11:26	11/6/2018	♦	Dry		n/s		n/a		n/a		n/a
SCRR3-RW1	8:51	11/13/2018	♦	Dry		n/s		n/a		n/a		n/a
SCRR3-RW1	7:57	11/20/2018	♦	Dry		n/s		n/a		n/a		n/a
SCRR3-RW1	7:56	11/27/2018	♦	Dry		n/s		n/a		n/a		n/a
SCRR3-RW1	8:15	12/4/2018	♦	Dry	=	579.4		n/a		n/a		n/a
SCRR3-RW1	8:50	12/11/2018	♦	Dry	=	108.1		n/a		n/a		n/a
SCRR3-RW1	8:05	12/18/2018	♦	Dry	=	88.2		n/a		n/a		n/a
SCRR3-RW1	8:50	12/26/2018	♦	Dry	=	93.3		n/a		n/a		n/a
SCRR3-RW1	7:55	1/2/2019	♦	Dry	=	75.9		n/a		n/a		n/a
SCRR3-RW1	9:05	1/8/2019	♦	Wet	=	686.7		n/a		n/a		n/a
SCRR3-RW1	8:18	1/15/2019	♦	Wet	=	260.2		n/a		n/a		n/a
SCRR3-RW1	8:15	1/22/2019	♦	Dry	=	44.1		n/a		n/a		n/a
SCRR3-RW1	10:00	1/29/2019	♦	Dry	=	43.5		n/a		n/a		n/a
SCRR3-RW1	9:00	2/5/2019	♦	Wet	=	278.0		n/a		n/a		n/a
SCRR3-RW1	8:20	2/12/2019	♦	Wet	=	27.5		n/a		n/a		n/a
SCRR3-RW1	8:05	2/19/2019	♦	Wet	=	8.6		n/a		n/a		n/a
SCRR3-RW1	10:15	2/26/2019	♦	Dry	=	38.4		n/a		n/a		n/a
SCRR3-RW1	8:10	3/5/2019	♦	Wet	=	65.2		n/a		n/a		n/a
SCRR3-RW1	8:30	3/12/2019	♦	Dry	=	34.1		n/a		n/a		n/a
SCRR3-RW1	9:00	3/19/2019	♦	Dry	=	1,732.9		n/a		n/a		n/a
SCRR3-RW1	8:25	3/26/2019	♦	Dry	=	39.1		n/a		n/a		n/a
SCRR3-RW1	9:00	4/2/2019	♦	Dry	=	24.2		n/a		n/a		n/a
SCRR3-RW1	8:25	4/9/2019	♦	Dry	=	53.4		n/a		n/a		n/a
SCRR3-RW1	8:45	4/16/2019	♦	Dry	=	57.1		n/a		n/a		n/a
SCRR3-RW1	8:25	4/23/2019	♦	Dry	=	95.9		n/a		n/a		n/a
SCRR3-RW1	9:00	4/30/2019	♦	Dry	=	59.8		n/a		n/a		n/a
Santa Clara River Estuary												
SCRE-R005	9:12	10/30/2018	♦	Dry		n/a	>	16,000.0	=	4.0	=	23.8
SCRE-R005	10:30	11/6/2018	♦	Dry		n/a	=	170.0	=	20.0	<	1.0
SCRE-R005	9:28	11/14/2018	♦	Dry		n/a	=	152.0	=	13.0	=	19.0
SCRE-R005	9:38	11/20/2018	♦	Dry		n/a	=	330.0	=	20.0	=	21.0
SCRE-R005	7:38	11/27/2018	♦	Dry		n/a	=	9,200.0	=	40.0	=	7.0
SCRE-R005	8:09	12/4/2018	♦	Dry		n/a	>	16,000.0	=	130.0	=	56.0
SCRE-R005	8:49	12/11/2018	♦	Dry		n/a	>	16,000.0	=	220.0	=	68.9
SCRE-R005	7:56	12/18/2018	♦	Dry		n/a	>	16,000.0	=	490.0	=	2.0
SCRE-R005	9:57	12/26/2018	♦	Dry		n/a	=	9,200.0	=	310.0	=	16.2
SCRE-R005	9:57	1/2/2019	♦	Dry		n/a	=	1,700.0	=	20.0	=	9.7
SCRE-R005	9:05	1/8/2019	♦	Wet		n/a	>	16,000.0	=	3,500.0	=	1553.1
SCRE-R005	8:10	1/15/2019	♦	Wet		n/a	>	16,000.0	=	>16000	>	2419.2
SCRE-R005	8:59	1/22/2019	♦	Dry		n/a	=	9,200.0	=	1,400.0	=	137.4

Table 1.
Sampling Results for Receiving Water (Weekly) and Outfalls (Monhtly)

Location	Time	Date		Rain		Single Sample E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)
						(235 MPN)		(10,000 MPN)		(400 MPN)		(104 MPN)
SCRE-R005	9:00	1/29/2019	♦	Dry		n/a	=	1,700.0	=	170.0	=	145.0
SCRE-R005	9:58	2/5/2019	♦	Wet		n/a	>	16,000.0	=	1,700.0	=	217.8
SCRE-R005	8:12	2/12/2019	♦	Wet		n/a	=	3,500.0	=	330.0	=	238.2
SCRE-R005	8:10	2/19/2019	♦	Wet		n/a	=	16,000.0	=	210.0	=	178.9
SCRE-R005	8:29	2/26/2019	♦	Dry		n/a	=	5,400.0	=	120.0	=	135.4
SCRE-R005	11:00	3/5/2019	♦	Wet		n/a	=	9,200.0	=	1,300.0	=	435.2
SCRE-R005	9:02	3/12/2019	♦	Dry		n/a	=	3,500.0	=	140.0	=	275.5
SCRE-R005	9:56	3/19/2019	♦	Dry		n/a	=	9,200.0	=	270.0	=	75.9
SCRE-R005	9:52	3/26/2019	♦	Dry		n/a	=	1,100.0	=	460.0	=	70.3
SCRE-R005	9:43	4/2/2019	♦	Dry		n/a	=	9,200.0	=	490.0	=	133.4
SCRE-R005	10:09	4/9/2019	♦	Dry		n/a	=	700.0	=	20.0	=	29.9
SCRE-R005	10:30	4/16/2019	♦	Dry		n/a	=	1,400.0	=	49.0	=	167.4
SCRE-R005	10:17	4/23/2019	♦	Dry		n/a	=	1,700.0	=	310.0	=	137.4
SCRE-R005	13:15	4/30/2019	♦	Dry		n/a	>	16,000.0	=	2,800.0	=	68.1
Fillmore Outfall												
MO-FIL	8:03	11/20/2018	♦	Dry	>	2419.2	>	16000	=	16000	>	2419.2
MO-FIL	7:26	12/18/2018	♦	Dry	>	2419.2	=	5400	=	490	=	920.8
MO-FIL	7:40	1/15/2019	♦	Wet	>	2419.2	>	16000	=	5400	>	2419.2
MO-FIL	7:25	2/19/2019	♦	Dry	=	83.6	=	9200	=	270	=	285.1
MO-FIL	8:25	3/19/2019	♦	Dry	>	2419.2	>	16000	=	1700	>	2419.2
MO-FIL	8:30	4/16/2019	♦	Dry	=	2419.2	>	16000	>	16000	>	2419.2
Santa Paula Outfall												
MO-SPA	8:08	11/20/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SPA	8:12	12/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SPA	8:10	1/15/2019	♦	Wet	>	2419.2	>	16000	>	16000	>	2419.2
MO-SPA	8:14	2/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-SPA	9:11	3/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-SPA	9:16	4/16/2019	♦	Dry		n/s		n/s		n/s		n/s
Ventura Outfall												n/s
MO-VEN	9:01	11/20/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-VEN	8:57	12/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-VEN	8:42	1/15/2019	♦	Wet		n/s		n/s		n/s		n/s
MO-VEN	9:09	2/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-VEN	9:46	3/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-VEN	10:02	4/16/2019	♦	Dry		n/s		n/s		n/s		n/s
Oxnard Outfall												
MO-SRG	9:14	11/20/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SRG	9:08	12/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SRG	9:10	1/15/2019	♦	Wet	=	1413.56	>	16000	=	1300	>	2419.2
MO-SRG	9:21	2/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-SRG	10:01	3/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-SRG	10:13	4/16/2019	♦	Dry		n/s		n/s		n/s		n/s

Table 1.
Sampling Results for Receiving Water (Weekly) and Outfalls (Monhtly)

Location	Time	Date		Rain		Single Sample E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)
						(235 MPN)		(10,000 MPN)		(400 MPN)		(104 MPN)
Saticoy Outfall												
MO-SAT	8:40	11/20/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SAT	8:36	12/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SAT	8:31	1/15/2019	♦	Wet		n/s		n/s		n/s		n/s
MO-SAT	8:48	2/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-SAT	9:37	3/19/2019	♦	Dry		n/s		n/s		n/s		n/s
MO-SAT	9:41	4/16/2019	♦	Dry		n/s		n/s		n/s		n/s

Notes:

♦ Date of Sampling

MPN - most probably number

TMDL - Total Maximum Daily Load

E.coli - Escherichia coli

n/s - not sampled due to dry conditions

n/a - not applicable to site

> - greater than

< - less than

= - equal to

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL)	30-Day Geomean E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)	30-Day Geomean Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)	30-Day Geomean Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)	30-Day Geomean Enterococcus (MPN/100mL)
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
Santa Clara River Reach 3																
SCRR3-RW1	10/30/2018	♦	8:10	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/31/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/1/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/2/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/3/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/4/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/5/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/6/2018	♦	11:26	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/7/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/8/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/9/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/10/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/11/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/12/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/13/2018	♦	8:51	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/14/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/15/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/16/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/17/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/18/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/19/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/20/2018	♦	7:57	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/21/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/22/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/23/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/24/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/25/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/26/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/27/2018	♦	7:56	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/28/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/29/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/30/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/1/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/2/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/3/2018		-	Dry		n/s	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/4/2018	♦	8:15	Dry	=	579.4	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/5/2018		-	Dry	=	579.4	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/6/2018		-	Dry	=	579.4	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/7/2018		-	Dry	=	579.4	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/8/2018		-	Dry	=	579.4	0.1		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	12/9/2018		-	Dry	=	579.4	0.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/10/2018		-	Dry	=	579.4	0.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/11/2018	♦	8:50	Dry	=	108.1	0.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/12/2018		-	Dry	=	108.1	0.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/13/2018		-	Dry	=	108.1	0.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/14/2018		-	Dry	=	108.1	0.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/15/2018		-	Dry	=	108.1	0.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/16/2018		-	Dry	=	108.1	0.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/17/2018		-	Dry	=	108.1	1.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/18/2018	♦	8:05	Dry	=	88.2	1.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/19/2018		-	Dry	=	88.2	2.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/20/2018		-	Dry	=	88.2	2.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/21/2018		-	Dry	=	88.2	3.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/22/2018		-	Dry	=	88.2	5.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/23/2018		-	Dry	=	88.2	6.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/24/2018		-	Dry	=	88.2	9.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/25/2018		-	Dry	=	88.2	12.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/26/2018	♦	8:50	Dry	=	93.3	17.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/27/2018		-	Dry	=	93.3	23.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/28/2018		-	Dry	=	93.3	31.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/29/2018		-	Dry	=	93.3	43.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/30/2018		-	Dry	=	93.3	58.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/31/2018		-	Dry	=	93.3	79.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/1/2019		-	Dry	=	93.3	107.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/2/2019	♦	7:55	Dry	=	75.9	144.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/3/2019		-	Dry	=	75.9	135.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/4/2019		-	Dry	=	75.9	126.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/5/2019		-	Dry	=	75.9	118.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/6/2019		-	Dry	=	75.9	110.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/7/2019		-	Dry	=	75.9	103.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/8/2019	♦	9:05	Wet	=	686.7	313.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/9/2019		-	Wet	=	686.7	338.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/10/2019		-	Wet	=	686.7	324.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/11/2019		-	Wet	=	686.7	311.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/12/2019		-	Wet	=	686.7	298.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/13/2019		-	Wet	=	686.7	286.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/14/2019		-	Wet	=	686.7	274.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/15/2019	♦	8:18	Wet	=	260.2	254.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/16/2019		-	Wet	=	260.2	236.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/17/2019		-	Wet	=	260.2	239.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/18/2019		-	Wet	=	260.2	242.4		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL) (235 MPN)	30-Day Geomean E.coli (MPN/100mL) (126 MPN)		Single Sample Total Coliform (MPN/100mL) (10,000 MPN)	30-Day Geomean Total Coliform (MPN/100mL) (1,000 MPN)		Single Sample Fecal Coliform (MPN/100mL) (400 MPN)	30-Day Geomean Fecal Coliform (MPN/100mL) (200 MPN)		Single Sample Enterococcus (MPN/100mL) (104 MPN)	30-Day Geomean Enterococcus (MPN/100mL) (35 MPN)
SCRR3-RW1	1/19/2019		-	Wet	=	260.2	245.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/20/2019		-	Wet	=	260.2	248.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/21/2019		-	Wet	=	260.2	251.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/22/2019	♦	8:15	Dry	=	44.1	94.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/23/2019		-	Dry	=	44.1	86.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/24/2019		-	Dry	=	44.1	84.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/25/2019		-	Dry	=	44.1	81.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/26/2019		-	Dry	=	44.1	79.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/27/2019		-	Dry	=	44.1	77.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/28/2019		-	Dry	=	44.1	74.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/29/2019	♦	10:00	Dry	=	43.5	72.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/30/2019		-	Dry	=	43.5	70.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/31/2019		-	Dry	=	43.5	68.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/1/2019		-	Dry	=	43.5	67.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/2/2019		-	Dry	=	43.5	65.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/3/2019		-	Dry	=	43.5	64.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/4/2019		-	Dry	=	43.5	62.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/5/2019	♦	9:00	Wet	=	278.0	255.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/6/2019		-	Wet	=	278.0	259.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/7/2019		-	Wet	=	278.0	260.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/8/2019		-	Wet	=	278.0	262.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/9/2019		-	Wet	=	278.0	264.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/10/2019		-	Wet	=	278.0	266.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/11/2019		-	Wet	=	278.0	267.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/12/2019	♦	8:20	Wet	=	27.5	249.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/13/2019		-	Wet	=	27.5	232.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/14/2019		-	Wet	=	27.5	216.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/15/2019		-	Wet	=	27.5	208.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/16/2019		-	Wet	=	27.5	199.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/17/2019		-	Wet	=	27.5	191.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/18/2019		-	Wet	=	27.5	183.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/19/2019	♦	8:05	Wet	=	8.6	169.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/20/2019		-	Wet	=	8.6	156.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/21/2019		-	Wet	=	8.6	135.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/22/2019		-	Wet	=	8.6	116.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/23/2019		-	Wet	=	8.6	100.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/24/2019		-	Wet	=	8.6	87.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/25/2019		-	Wet	=	8.6	75.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/26/2019	♦	10:15	Dry	=	38.4	60.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/27/2019		-	Dry	=	38.4	59.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/28/2019		-	Dry	=	38.4	57.6		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	3/1/2019		-	Dry	=	38.4	55.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/2/2019		-	Dry	=	38.4	54.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/3/2019		-	Dry	=	38.4	52.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/4/2019		-	Dry	=	38.4	51.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/5/2019	♦	8:10	Wet	=	65.2	69.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/6/2019		-	Wet	=	65.2	64.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/7/2019		-	Wet	=	65.2	61.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/8/2019		-	Wet	=	65.2	58.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/9/2019		-	Wet	=	65.2	56.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/10/2019		-	Wet	=	65.2	53.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/11/2019		-	Wet	=	65.2	51.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/12/2019	♦	8:30	Dry	=	34.1	49.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/13/2019		-	Dry	=	34.1	47.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/14/2019		-	Dry	=	34.1	46.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/15/2019		-	Dry	=	34.1	45.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/16/2019		-	Dry	=	34.1	43.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/17/2019		-	Dry	=	34.1	42.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/18/2019		-	Dry	=	34.1	41.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/19/2019	♦	9:00	Dry	=	1,732.9	46.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/20/2019		-	Dry	=	1,732.9	51.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/21/2019		-	Dry	=	1,732.9	57.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/22/2019		-	Dry	=	1,732.9	65.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/23/2019		-	Dry	=	1,732.9	73.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/24/2019		-	Dry	=	1,732.9	83.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/25/2019		-	Dry	=	1,732.9	94.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/26/2019	♦	8:25	Dry	=	39.1	94.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/27/2019		-	Dry	=	39.1	93.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/28/2019		-	Dry	=	39.1	93.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/29/2019		-	Dry	=	39.1	93.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/30/2019		-	Dry	=	39.1	92.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/31/2019		-	Dry	=	39.1	92.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/1/2019		-	Dry	=	39.1	92.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/2/2019	♦	9:00	Dry	=	24.2	90.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/3/2019		-	Dry	=	24.2	88.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/4/2019		-	Dry	=	24.2	87.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/5/2019		-	Dry	=	24.2	85.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/6/2019		-	Dry	=	24.2	84.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/7/2019		-	Dry	=	24.2	83.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/8/2019		-	Dry	=	24.2	81.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/9/2019	♦	8:25	Dry	=	53.4	82.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/10/2019		-	Dry	=	53.4	83.7		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	4/11/2019		-	Dry	=	53.4	85.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/12/2019		-	Dry	=	53.4	86.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/13/2019		-	Dry	=	53.4	87.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/14/2019		-	Dry	=	53.4	88.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/15/2019		-	Dry	=	53.4	90.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/16/2019	♦	8:45	Dry	=	57.1	91.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/17/2019		-	Dry	=	57.1	93.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/18/2019		-	Dry	=	57.1	83.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/19/2019		-	Dry	=	57.1	74.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/20/2019		-	Dry	=	57.1	66.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/21/2019		-	Dry	=	57.1	59.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/22/2019		-	Dry	=	57.1	52.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/23/2019	♦	8:25	Dry	=	95.9	48.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/24/2019		-	Dry	=	95.9	43.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/25/2019		-	Dry	=	95.9	44.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/26/2019		-	Dry	=	95.9	46.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/27/2019		-	Dry	=	95.9	47.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/28/2019		-	Dry	=	95.9	49.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/29/2019		-	Dry	=	95.9	50.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/30/2019	♦	9:00	Dry	=	59.8	51.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/1/2019		-	Dry	=	59.8	52.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/2/2019		-	Dry	=	59.8	53.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/3/2019		-	Dry	=	59.8	55.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/4/2019		-	Dry	=	59.8	57.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/5/2019		-	Dry	=	59.8	58.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/6/2019		-	Dry	=	59.8	60.6		n/a	n/a		n/a	n/a		n/a	n/a
Santa Clara River Estuary																
SCRE-R005	10/30/2018	♦	9:12	Dry		n/a	n/a	>	16,000.0	9,147.7	=	4.0	15.4	=	23.8	8.9
SCRE-R005	10/31/2018		-	Dry		n/a	n/a	>	16,000.0	9,324.9	=	4.0	14.8	=	23.8	8.8
SCRE-R005	11/1/2018		-	Dry		n/a	n/a	>	16,000.0	9,324.9	=	4.0	14.3	=	23.8	9.4
SCRE-R005	11/2/2018		-	Dry		n/a	n/a	>	16,000.0	9,324.9	=	4.0	13.7	=	23.8	9.9
SCRE-R005	11/3/2018		-	Dry		n/a	n/a	>	16,000.0	9,324.9	=	4.0	13.2	=	23.8	10.5
SCRE-R005	11/4/2018		-	Dry		n/a	n/a	>	16,000.0	9,324.9	=	4.0	12.7	=	23.8	11.2
SCRE-R005	11/5/2018		-	Dry		n/a	n/a	>	16,000.0	9,324.9	=	4.0	12.2	=	23.8	11.8
SCRE-R005	11/6/2018	♦	10:30	Dry		n/a	n/a	=	170.0	8,014.1	=	20.0	12.4	<	1.0	11.3
SCRE-R005	11/7/2018		-	Dry		n/a	n/a	=	170.0	6,887.5	=	20.0	12.5	<	1.0	10.8
SCRE-R005	11/8/2018		-	Dry		n/a	n/a	=	170.0	6,034.0	=	20.0	12.2	<	1.0	9.8
SCRE-R005	11/9/2018		-	Dry		n/a	n/a	=	170.0	5,286.2	=	20.0	11.8	<	1.0	8.9
SCRE-R005	11/10/2018		-	Dry		n/a	n/a	=	170.0	4,631.1	=	20.0	11.4	<	1.0	8.1
SCRE-R005	11/11/2018		-	Dry		n/a	n/a	=	170.0	4,057.2	=	20.0	11.1	<	1.0	7.4
SCRE-R005	11/12/2018		-	Dry		n/a	n/a	=	170.0	3,554.4	=	20.0	10.8	<	1.0	6.7

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	11/13/2018		-	Dry		n/a	n/a	=	170.0	3,113.9	=	20.0	10.4	<	1.0	6.1
SCRE-R005	11/14/2018	♦	9:28	Dry		n/a	n/a	=	152.0	2,717.8	=	13.0	10.0	=	19.0	6.1
SCRE-R005	11/15/2018		-	Dry		n/a	n/a	=	152.0	2,419.1	=	13.0	10.4	=	19.0	6.3
SCRE-R005	11/16/2018		-	Dry		n/a	n/a	=	152.0	2,153.2	=	13.0	10.8	=	19.0	6.4
SCRE-R005	11/17/2018		-	Dry		n/a	n/a	=	152.0	1,916.5	=	13.0	11.2	=	19.0	6.6
SCRE-R005	11/18/2018		-	Dry		n/a	n/a	=	152.0	1,705.9	=	13.0	11.7	=	19.0	6.8
SCRE-R005	11/19/2018		-	Dry		n/a	n/a	=	152.0	1,518.3	=	13.0	12.1	=	19.0	6.9
SCRE-R005	11/20/2018	♦	9:38	Dry		n/a	n/a	=	330.0	1,386.8	=	20.0	12.8	=	21.0	7.1
SCRE-R005	11/21/2018		-	Dry		n/a	n/a	=	330.0	1,266.7	=	20.0	13.5	=	21.0	7.3
SCRE-R005	11/22/2018		-	Dry		n/a	n/a	=	330.0	1,134.5	=	20.0	13.4	=	21.0	7.6
SCRE-R005	11/23/2018		-	Dry		n/a	n/a	=	330.0	1,016.2	=	20.0	13.3	=	21.0	7.9
SCRE-R005	11/24/2018		-	Dry		n/a	n/a	=	330.0	910.1	=	20.0	13.1	=	21.0	8.2
SCRE-R005	11/25/2018		-	Dry		n/a	n/a	=	330.0	815.2	=	20.0	13.0	=	21.0	8.5
SCRE-R005	11/26/2018		-	Dry		n/a	n/a	=	330.0	730.1	=	20.0	12.9	=	21.0	8.8
SCRE-R005	11/27/2018	♦	7:38	Dry		n/a	n/a	=	9,200.0	730.6	=	40.0	13.0	=	7.0	8.8
SCRE-R005	11/28/2018		-	Dry		n/a	n/a	=	9,200.0	731.2	=	40.0	13.2	=	7.0	8.7
SCRE-R005	11/29/2018		-	Dry		n/a	n/a	=	9,200.0	717.8	=	40.0	14.3	=	7.0	8.4
SCRE-R005	11/30/2018		-	Dry		n/a	n/a	=	9,200.0	704.7	=	40.0	15.4	=	7.0	8.1
SCRE-R005	12/1/2018		-	Dry		n/a	n/a	=	9,200.0	691.8	=	40.0	16.6	=	7.0	7.7
SCRE-R005	12/2/2018		-	Dry		n/a	n/a	=	9,200.0	679.2	=	40.0	17.9	=	7.0	7.4
SCRE-R005	12/3/2018		-	Dry		n/a	n/a	=	9,200.0	666.8	=	40.0	19.4	=	7.0	7.1
SCRE-R005	12/4/2018	♦	8:09	Dry		n/a	n/a	>	16,000.0	666.8	=	130.0	21.8	=	56.0	7.3
SCRE-R005	12/5/2018		-	Dry		n/a	n/a	>	16,000.0	666.8	=	130.0	24.4	=	56.0	7.6
SCRE-R005	12/6/2018		-	Dry		n/a	n/a	>	16,000.0	775.8	=	130.0	26.0	=	56.0	8.6
SCRE-R005	12/7/2018		-	Dry		n/a	n/a	>	16,000.0	902.7	=	130.0	27.7	=	56.0	9.9
SCRE-R005	12/8/2018		-	Dry		n/a	n/a	>	16,000.0	1,050.3	=	130.0	29.5	=	56.0	11.3
SCRE-R005	12/9/2018		-	Dry		n/a	n/a	>	16,000.0	1,222.1	=	130.0	31.4	=	56.0	12.9
SCRE-R005	12/10/2018		-	Dry		n/a	n/a	>	16,000.0	1,422.0	=	130.0	33.4	=	56.0	14.8
SCRE-R005	12/11/2018	♦	8:49	Dry		n/a	n/a	>	16,000.0	1,654.6	=	220.0	36.2	=	68.9	17.0
SCRE-R005	12/12/2018		-	Dry		n/a	n/a	>	16,000.0	1,925.3	=	220.0	39.2	=	68.9	19.6
SCRE-R005	12/13/2018		-	Dry		n/a	n/a	>	16,000.0	2,240.2	=	220.0	42.4	=	68.9	22.6
SCRE-R005	12/14/2018		-	Dry		n/a	n/a	>	16,000.0	2,616.3	=	220.0	46.6	=	68.9	23.5
SCRE-R005	12/15/2018		-	Dry		n/a	n/a	>	16,000.0	3,055.6	=	220.0	51.2	=	68.9	24.6
SCRE-R005	12/16/2018		-	Dry		n/a	n/a	>	16,000.0	3,568.7	=	220.0	56.3	=	68.9	25.7
SCRE-R005	12/17/2018		-	Dry		n/a	n/a	>	16,000.0	4,167.9	=	220.0	61.9	=	68.9	26.8
SCRE-R005	12/18/2018	♦	7:56	Dry		n/a	n/a	>	16,000.0	4,867.7	=	490.0	69.8	=	2.0	24.8
SCRE-R005	12/19/2018		-	Dry		n/a	n/a	>	16,000.0	5,685.1	=	490.0	78.8	=	2.0	23.0
SCRE-R005	12/20/2018		-	Dry		n/a	n/a	>	16,000.0	6,470.3	=	490.0	87.7	=	2.0	21.3
SCRE-R005	12/21/2018		-	Dry		n/a	n/a	>	16,000.0	7,363.9	=	490.0	97.5	=	2.0	19.7
SCRE-R005	12/22/2018		-	Dry		n/a	n/a	>	16,000.0	8,381.0	=	490.0	108.5	=	2.0	18.2
SCRE-R005	12/23/2018		-	Dry		n/a	n/a	>	16,000.0	9,538.5	=	490.0	120.7	=	2.0	16.8

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	12/24/2018		-	Dry		n/a	n/a	>	16,000.0	10,856.0	=	490.0	134.3	=	2.0	15.6
SCRE-R005	12/25/2018		-	Dry		n/a	n/a	>	16,000.0	12,355.4	=	490.0	149.4	=	2.0	14.4
SCRE-R005	12/26/2018	♦	9:57	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	163.7	=	16.2	14.3
SCRE-R005	12/27/2018		-	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	175.3	=	16.2	14.7
SCRE-R005	12/28/2018		-	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	187.7	=	16.2	15.1
SCRE-R005	12/29/2018		-	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	200.9	=	16.2	15.5
SCRE-R005	12/30/2018		-	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	215.1	=	16.2	16.0
SCRE-R005	12/31/2018		-	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	230.3	=	16.2	16.4
SCRE-R005	1/1/2019		-	Dry		n/a	n/a	=	9,200.0	13,804.8	=	310.0	246.6	=	16.2	16.9
SCRE-R005	1/2/2019	♦	9:57	Dry		n/a	n/a	=	1,700.0	13,049.3	=	20.0	240.9	=	9.7	17.1
SCRE-R005	1/3/2019		-	Dry		n/a	n/a	=	1,700.0	12,109.6	=	20.0	226.4	=	9.7	16.1
SCRE-R005	1/4/2019		-	Dry		n/a	n/a	=	1,700.0	11,237.6	=	20.0	212.7	=	9.7	15.2
SCRE-R005	1/5/2019		-	Dry		n/a	n/a	=	1,700.0	10,428.4	=	20.0	199.8	=	9.7	14.3
SCRE-R005	1/6/2019		-	Dry		n/a	n/a	=	1,700.0	9,677.5	=	20.0	187.7	=	9.7	13.5
SCRE-R005	1/7/2019		-	Dry		n/a	n/a	=	1,700.0	8,980.7	=	20.0	176.4	=	9.7	12.7
SCRE-R005	1/8/2019	♦	9:05	Wet		n/a	n/a	>	16,000.0	3,353.5	=	3,500.0	288.4	=	1553.1	97.3
SCRE-R005	1/9/2019		-	Wet		n/a	n/a	>	16,000.0	3,666.5	=	3,500.0	321.9	=	1553.1	108.6
SCRE-R005	1/10/2019		-	Wet		n/a	n/a	>	16,000.0	4,008.7	=	3,500.0	359.2	=	1553.1	121.2
SCRE-R005	1/11/2019		-	Wet		n/a	n/a	>	16,000.0	4,382.9	=	3,500.0	400.9	=	1553.1	135.3
SCRE-R005	1/12/2019		-	Wet		n/a	n/a	>	16,000.0	4,792.1	=	3,500.0	447.4	=	1553.1	151.1
SCRE-R005	1/13/2019		-	Wet		n/a	n/a	>	16,000.0	5,239.4	=	3,500.0	499.3	=	1553.1	168.7
SCRE-R005	1/14/2019		-	Wet		n/a	n/a	>	16,000.0	5,728.5	=	3,500.0	557.2	=	1553.1	188.4
SCRE-R005	1/15/2019	♦	8:10	Wet		n/a	n/a	>	16,000.0	6,263.2	=	>16000	585.9	>	2419.2	213.4
SCRE-R005	1/16/2019		-	Wet		n/a	n/a	>	16,000.0	6,809.8	=	>16000	606.7	>	2419.2	236.3
SCRE-R005	1/17/2019		-	Wet		n/a	n/a	>	16,000.0	7,404.1	=	>16000	630.0	>	2419.2	261.6
SCRE-R005	1/18/2019		-	Wet		n/a	n/a	>	16,000.0	8,050.3	=	>16000	656.0	>	2419.2	289.7
SCRE-R005	1/19/2019		-	Wet		n/a	n/a	>	16,000.0	8,752.9	=	>16000	685.3	>	2419.2	320.7
SCRE-R005	1/20/2019		-	Wet		n/a	n/a	>	16,000.0	9,516.8	=	>16000	718.5	>	2419.2	355.1
SCRE-R005	1/21/2019		-	Wet		n/a	n/a	>	16,000.0	10,347.4	=	>16000	756.4	>	2419.2	393.2
SCRE-R005	1/22/2019	♦	8:59	Dry		n/a	n/a	=	9,200.0	8,816.5	=	1,400.0	190.9	=	137.4	13.1
SCRE-R005	1/23/2019		-	Dry		n/a	n/a	=	9,200.0	8,655.4	=	1,400.0	206.6	=	137.4	13.5
SCRE-R005	1/24/2019		-	Dry		n/a	n/a	=	9,200.0	8,497.2	=	1,400.0	219.8	=	137.4	13.8
SCRE-R005	1/25/2019		-	Dry		n/a	n/a	=	9,200.0	8,341.9	=	1,400.0	233.8	=	137.4	14.2
SCRE-R005	1/26/2019		-	Dry		n/a	n/a	=	9,200.0	8,189.4	=	1,400.0	248.6	=	137.4	14.5
SCRE-R005	1/27/2019		-	Dry		n/a	n/a	=	9,200.0	8,039.7	=	1,400.0	264.5	=	137.4	14.8
SCRE-R005	1/28/2019		-	Dry		n/a	n/a	=	9,200.0	7,892.8	=	1,400.0	281.3	=	137.4	15.2
SCRE-R005	1/29/2019	♦	9:00	Dry		n/a	n/a	=	1,700.0	7,324.5	=	170.0	278.9	=	145.0	15.6
SCRE-R005	1/30/2019		-	Dry		n/a	n/a	=	1,700.0	6,797.0	=	170.0	276.5	=	145.0	16.0
SCRE-R005	1/31/2019		-	Dry		n/a	n/a	=	1,700.0	6,307.6	=	170.0	266.9	=	145.0	18.4
SCRE-R005	2/1/2019		-	Dry		n/a	n/a	=	1,700.0	5,853.4	=	170.0	257.7	=	145.0	21.2
SCRE-R005	2/2/2019		-	Dry		n/a	n/a	=	1,700.0	5,431.9	=	170.0	248.7	=	145.0	24.5

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	2/3/2019		-	Dry		n/a	n/a	=	1,700.0	5,040.8	=	170.0	240.1	=	145.0	28.2
SCRE-R005	2/4/2019		-	Dry		n/a	n/a	=	1,700.0	4,677.8	=	170.0	231.8	=	145.0	32.6
SCRE-R005	2/5/2019	♦	9:58	Wet		n/a	n/a	>	16,000.0	11,250.5	=	1,700.0	826.8	=	217.8	401.8
SCRE-R005	2/6/2019		-	Wet		n/a	n/a	>	16,000.0	12,232.4	=	1,700.0	903.6	=	217.8	410.5
SCRE-R005	2/7/2019		-	Wet		n/a	n/a	>	16,000.0	12,469.2	=	1,700.0	987.7	=	217.8	415.6
SCRE-R005	2/8/2019		-	Wet		n/a	n/a	>	16,000.0	12,710.7	=	1,700.0	1,079.5	=	217.8	420.7
SCRE-R005	2/9/2019		-	Wet		n/a	n/a	>	16,000.0	12,956.8	=	1,700.0	1,179.9	=	217.8	425.8
SCRE-R005	2/10/2019		-	Wet		n/a	n/a	>	16,000.0	13,207.7	=	1,700.0	1,289.5	=	217.8	431.1
SCRE-R005	2/11/2019		-	Wet		n/a	n/a	>	16,000.0	13,463.5	=	1,700.0	1,409.4	=	217.8	436.4
SCRE-R005	2/12/2019	♦	8:12	Wet		n/a	n/a	=	3,500.0	13,046.2	=	330.0	1,434.5	=	238.2	443.0
SCRE-R005	2/13/2019		-	Wet		n/a	n/a	=	3,500.0	12,641.9	=	330.0	1,460.0	=	238.2	449.8
SCRE-R005	2/14/2019		-	Wet		n/a	n/a	=	3,500.0	12,250.1	=	330.0	1,404.9	=	238.2	471.0
SCRE-R005	2/15/2019		-	Wet		n/a	n/a	=	3,500.0	11,870.4	=	330.0	1,351.8	=	238.2	493.1
SCRE-R005	2/16/2019		-	Wet		n/a	n/a	=	3,500.0	11,502.6	=	330.0	1,300.8	=	238.2	516.3
SCRE-R005	2/17/2019		-	Wet		n/a	n/a	=	3,500.0	11,146.1	=	330.0	1,251.6	=	238.2	540.6
SCRE-R005	2/18/2019		-	Wet		n/a	n/a	=	3,500.0	10,800.6	=	330.0	1,204.4	=	238.2	566.0
SCRE-R005	2/19/2019	♦	8:10	Wet		n/a	n/a	=	16,000.0	11,009.8	=	210.0	1,136.3	=	178.9	587.0
SCRE-R005	2/20/2019		-	Wet		n/a	n/a	=	16,000.0	11,223.0	=	210.0	1,072.1	=	178.9	608.8
SCRE-R005	2/21/2019		-	Wet		n/a	n/a	=	16,000.0	11,223.0	=	210.0	948.7	=	178.9	566.5
SCRE-R005	2/22/2019		-	Wet		n/a	n/a	=	16,000.0	11,223.0	=	210.0	839.5	=	178.9	527.1
SCRE-R005	2/23/2019		-	Wet		n/a	n/a	=	16,000.0	11,223.0	=	210.0	742.8	=	178.9	490.5
SCRE-R005	2/24/2019		-	Wet		n/a	n/a	=	16,000.0	11,223.0	=	210.0	657.3	=	178.9	456.4
SCRE-R005	2/25/2019		-	Wet		n/a	n/a	=	16,000.0	11,223.0	=	210.0	581.6	=	178.9	424.7
SCRE-R005	2/26/2019	♦	8:29	Dry		n/a	n/a	=	5,400.0	4,511.5	=	120.0	221.2	=	135.4	37.5
SCRE-R005	2/27/2019		-	Dry		n/a	n/a	=	5,400.0	4,351.0	=	120.0	211.0	=	135.4	43.1
SCRE-R005	2/28/2019		-	Dry		n/a	n/a	=	5,400.0	4,196.3	=	120.0	201.4	=	135.4	49.6
SCRE-R005	3/1/2019		-	Dry		n/a	n/a	=	5,400.0	4,122.4	=	120.0	195.1	=	135.4	53.3
SCRE-R005	3/2/2019		-	Dry		n/a	n/a	=	5,400.0	4,049.9	=	120.0	189.0	=	135.4	57.2
SCRE-R005	3/3/2019		-	Dry		n/a	n/a	=	5,400.0	3,978.6	=	120.0	183.1	=	135.4	61.4
SCRE-R005	3/4/2019		-	Dry		n/a	n/a	=	5,400.0	3,908.6	=	120.0	177.4	=	135.4	65.9
SCRE-R005	3/5/2019	♦	11:00	Wet		n/a	n/a	=	9,200.0	11,017.8	=	1,300.0	557.1	=	435.2	407.0
SCRE-R005	3/6/2019		-	Wet		n/a	n/a	=	9,200.0	10,816.5	=	1,300.0	533.6	=	435.2	390.1
SCRE-R005	3/7/2019		-	Wet		n/a	n/a	=	9,200.0	10,618.8	=	1,300.0	553.8	=	435.2	368.5
SCRE-R005	3/8/2019		-	Wet		n/a	n/a	=	9,200.0	10,424.7	=	1,300.0	573.0	=	435.2	348.0
SCRE-R005	3/9/2019		-	Wet		n/a	n/a	=	9,200.0	10,234.2	=	1,300.0	591.4	=	435.2	328.6
SCRE-R005	3/10/2019		-	Wet		n/a	n/a	=	9,200.0	10,047.1	=	1,300.0	608.9	=	435.2	310.4
SCRE-R005	3/11/2019		-	Wet		n/a	n/a	=	9,200.0	9,863.5	=	1,300.0	625.6	=	435.2	293.1
SCRE-R005	3/12/2019	♦	9:02	Dry		n/a	n/a	=	3,500.0	3,784.6	=	140.0	172.8	=	275.5	72.4
SCRE-R005	3/13/2019		-	Dry		n/a	n/a	=	3,500.0	3,664.7	=	140.0	168.3	=	275.5	79.6
SCRE-R005	3/14/2019		-	Dry		n/a	n/a	=	3,500.0	3,548.5	=	140.0	163.9	=	275.5	87.5
SCRE-R005	3/15/2019		-	Dry		n/a	n/a	=	3,500.0	3,634.9	=	140.0	174.9	=	275.5	97.8

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	3/16/2019		-	Dry		n/a	n/a	=	3,500.0	3,723.5	=	140.0	186.6	=	275.5	109.3
SCRE-R005	3/17/2019		-	Dry		n/a	n/a	=	3,500.0	3,814.2	=	140.0	199.1	=	275.5	122.3
SCRE-R005	3/18/2019		-	Dry		n/a	n/a	=	3,500.0	3,907.1	=	140.0	212.4	=	275.5	136.7
SCRE-R005	3/19/2019	♦	9:56	Dry		n/a	n/a	=	9,200.0	4,133.4	=	270.0	231.7	=	75.9	146.4
SCRE-R005	3/20/2019		-	Dry		n/a	n/a	=	9,200.0	4,372.7	=	270.0	252.7	=	75.9	156.8
SCRE-R005	3/21/2019		-	Dry		n/a	n/a	=	9,200.0	4,372.7	=	270.0	239.2	=	75.9	153.7
SCRE-R005	3/22/2019		-	Dry		n/a	n/a	=	9,200.0	4,372.7	=	270.0	226.4	=	75.9	150.7
SCRE-R005	3/23/2019		-	Dry		n/a	n/a	=	9,200.0	4,372.7	=	270.0	214.3	=	75.9	147.7
SCRE-R005	3/24/2019		-	Dry		n/a	n/a	=	9,200.0	4,372.7	=	270.0	202.9	=	75.9	144.8
SCRE-R005	3/25/2019		-	Dry		n/a	n/a	=	9,200.0	4,372.7	=	270.0	192.0	=	75.9	142.0
SCRE-R005	3/26/2019	♦	9:52	Dry		n/a	n/a	=	1,100.0	4,073.8	=	460.0	185.1	=	70.3	138.9
SCRE-R005	3/27/2019		-	Dry		n/a	n/a	=	1,100.0	3,795.4	=	460.0	178.3	=	70.3	135.8
SCRE-R005	3/28/2019		-	Dry		n/a	n/a	=	1,100.0	3,740.7	=	460.0	184.3	=	70.3	132.6
SCRE-R005	3/29/2019		-	Dry		n/a	n/a	=	1,100.0	3,686.8	=	460.0	190.5	=	70.3	129.4
SCRE-R005	3/30/2019		-	Dry		n/a	n/a	=	1,100.0	3,633.7	=	460.0	197.0	=	70.3	126.3
SCRE-R005	3/31/2019		-	Dry		n/a	n/a	=	1,100.0	3,581.4	=	460.0	203.6	=	70.3	123.3
SCRE-R005	4/1/2019		-	Dry		n/a	n/a	=	1,100.0	3,529.8	=	460.0	210.5	=	70.3	120.4
SCRE-R005	4/2/2019	♦	9:43	Dry		n/a	n/a	=	9,200.0	3,734.1	=	490.0	218.0	=	133.4	120.0
SCRE-R005	4/3/2019		-	Dry		n/a	n/a	=	9,200.0	3,950.4	=	490.0	225.9	=	133.4	119.7
SCRE-R005	4/4/2019		-	Dry		n/a	n/a	=	9,200.0	4,021.1	=	490.0	236.7	=	133.4	119.6
SCRE-R005	4/5/2019		-	Dry		n/a	n/a	=	9,200.0	4,093.2	=	490.0	248.1	=	133.4	119.6
SCRE-R005	4/6/2019		-	Dry		n/a	n/a	=	9,200.0	4,166.5	=	490.0	260.0	=	133.4	119.5
SCRE-R005	4/7/2019		-	Dry		n/a	n/a	=	9,200.0	4,241.2	=	490.0	272.5	=	133.4	119.5
SCRE-R005	4/8/2019		-	Dry		n/a	n/a	=	9,200.0	4,317.2	=	490.0	285.6	=	133.4	119.4
SCRE-R005	4/9/2019	♦	10:09	Dry		n/a	n/a	=	700.0	4,033.0	=	20.0	269.0	=	29.9	113.5
SCRE-R005	4/10/2019		-	Dry		n/a	n/a	=	700.0	3,767.5	=	20.0	253.4	=	29.9	108.0
SCRE-R005	4/11/2019		-	Dry		n/a	n/a	=	700.0	3,570.7	=	20.0	237.5	=	29.9	100.3
SCRE-R005	4/12/2019		-	Dry		n/a	n/a	=	700.0	3,384.2	=	20.0	222.6	=	29.9	93.1
SCRE-R005	4/13/2019		-	Dry		n/a	n/a	=	700.0	3,207.4	=	20.0	208.6	=	29.9	86.5
SCRE-R005	4/14/2019		-	Dry		n/a	n/a	=	700.0	3,039.9	=	20.0	195.5	=	29.9	80.3
SCRE-R005	4/15/2019		-	Dry		n/a	n/a	=	700.0	2,881.1	=	20.0	183.2	=	29.9	74.6
SCRE-R005	4/16/2019	♦	10:30	Dry		n/a	n/a	=	1,400.0	2,794.4	=	49.0	176.9	=	167.4	73.3
SCRE-R005	4/17/2019		-	Dry		n/a	n/a	=	1,400.0	2,710.3	=	49.0	170.8	=	167.4	72.1
SCRE-R005	4/18/2019		-	Dry		n/a	n/a	=	1,400.0	2,545.5	=	49.0	161.4	=	167.4	74.1
SCRE-R005	4/19/2019		-	Dry		n/a	n/a	=	1,400.0	2,390.6	=	49.0	152.5	=	167.4	76.0
SCRE-R005	4/20/2019		-	Dry		n/a	n/a	=	1,400.0	2,245.2	=	49.0	144.0	=	167.4	78.1
SCRE-R005	4/21/2019		-	Dry		n/a	n/a	=	1,400.0	2,108.6	=	49.0	136.1	=	167.4	80.2
SCRE-R005	4/22/2019		-	Dry		n/a	n/a	=	1,400.0	1,980.4	=	49.0	128.5	=	167.4	82.3
SCRE-R005	4/23/2019	♦	10:17	Dry		n/a	n/a	=	1,700.0	1,872.0	=	310.0	129.1	=	137.4	83.9
SCRE-R005	4/24/2019		-	Dry		n/a	n/a	=	1,700.0	1,769.5	=	310.0	129.7	=	137.4	85.6
SCRE-R005	4/25/2019		-	Dry		n/a	n/a	=	1,700.0	1,795.4	=	310.0	128.0	=	137.4	87.6

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	4/26/2019		-	Dry		n/a	n/a	=	1,700.0	1,821.6	=	310.0	126.4	=	137.4	89.5
SCRE-R005	4/27/2019		-	Dry		n/a	n/a	=	1,700.0	1,848.3	=	310.0	124.7	=	137.4	91.6
SCRE-R005	4/28/2019		-	Dry		n/a	n/a	=	1,700.0	1,875.3	=	310.0	123.1	=	137.4	93.6
SCRE-R005	4/29/2019		-	Dry		n/a	n/a	=	1,700.0	1,902.7	=	310.0	121.5	=	137.4	95.7
SCRE-R005	4/30/2019	♦	13:15	Dry		n/a	n/a	>	16,000.0	2,080.3	=	2,800.0	129.0	=	68.1	95.6
SCRE-R005	5/1/2019		-	Dry		n/a	n/a	>	16,000.0	2,274.5	=	2,800.0	137.0	=	68.1	95.5
SCRE-R005	5/2/2019		-	Dry		n/a	n/a	>	16,000.0	2,316.8	=	2,800.0	145.2	=	68.1	93.4
SCRE-R005	5/3/2019		-	Dry		n/a	n/a	>	16,000.0	2,360.0	=	2,800.0	153.9	=	68.1	91.3
SCRE-R005	5/4/2019		-	Dry		n/a	n/a	>	16,000.0	2,403.9	=	2,800.0	163.1	=	68.1	89.3
SCRE-R005	5/5/2019		-	Dry		n/a	n/a	>	16,000.0	2,448.7	=	2,800.0	172.9	=	68.1	87.3
SCRE-R005	5/6/2019		-	Dry		n/a	n/a	>	16,000.0	2,494.2	=	2,800.0	183.2	=	68.1	85.4

Notes:

♦ Date of Sampling

Weeks with alternating wet weather samples (collected 72 hours after a day with >0.1" rainfall) and dry weather samples, previous 30 days of either wet weather samples or dry weather samples were used to calculate daily geomean.

Rain gages H245 – Wilson Ranch and H066 – Ventura City Hall for Reach 3 and the Estuary, respectively. Data can be found at http://www.vcwatershed.net/fws/gmap.html.

To meet the prescribed dry weather geometric mean frequency, statistics were calculated for dry events at SCRR3-RW1 by assigning a concentration value of 0.01 colony-forming unit (CFU) (rather than 0.0 CFU) when the site was not flowing. A zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.

MPN - most probably number
TMDL - Total Maximum Daily Load
E.coli - Escherichia coli
n/a - not applicable to site

> - greater than
< - less than
= - equal to

December 18, 2018

Ms. Jenny Newman, Regional Programs Section Chief
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013 (via email: losangeles@waterboards.ca.gov)

Subject: **FINAL COMPLIANCE REPORT FOR THE HARBOR BEACHES OF VENTURA COUNTY BACTERIA TMDL DATED DECEMBER 18, 2018**

Dear Ms. Newman:

The County of Ventura, Ventura County Watershed Protection District, and City of Oxnard are pleased to submit Final Compliance Report for the Harbor Beaches of Ventura County Bacteria TMDL in accordance with TMDL implementation schedule (Table 7-28.3 in Attachment A) of the Los Angeles Regional Water Quality Control Board Resolution No. R2007-017. The TMDL requires the first Compliance Report to be submitted on December 18, 2018 and to include an evaluation of compliance with dry-weather allocations, wet-weather allocations, and rolling 30-day geometric mean targets.

If you have any questions, please contact Ewelina Mutkowska at (805) 645-1382.

Arne Anselm,
Deputy Director,
Ventura County
Watershed Protection District

Thien Ng,
Deputy Director,
City of Oxnard

CC: Jenny Newman, Los Angeles Regional Water Quality Control Board
L.B. Nye, Los Angeles Regional Water Quality Control Board
Man Voong, Los Angeles Regional Water Quality Control Board
Jeff Pratt, Ventura County Public Works Agency
Glenn Shephard, Ventura County Watershed Protection District
Ewelina Mutkowska, Ventura County Public Works Agency
Mark Sandoval, Ventura County Harbor Department
Thien Ng, City of Oxnard
Jan Hauser, City of Oxnard
Badaoui Mouderres, City of Oxnard

Bacteria Total Maximum Daily Load Final Compliance Report - Draft

Harbor Beaches of Ventura County (Kiddie Beach and Hobie Beach)

Prepared for

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1. INTRODUCTION

The water quality of the Harbor Beaches of Ventura County, Kiddie and Hobie, is regulated by a Bacteria Total Maximum Daily Load (TMDL) (Resolution R2007-017) effective December 18, 2008. The TMDL requires weekly beach monitoring, the implementation of Best Management Practices (BMPs) to control sources of bacteria, and achievement of Waste Load Allocations (WLAs) (expressed as allowable exceedance days). The TMDL requires responsible MS4 agencies to submit compliance reports by six years (December 18, 2014), eight years (December 18, 2016), and ten years (December 18, 2018) after the effective date of the TMDL. These Compliance Reports must include: an evaluation of monitoring data with regards to dry weather, wet weather, and rolling 30-day geometric mean WLAs; a summary of recently completely TMDL special studies; and an assessment of BMPs currently implemented.

As required by the TMDL, compliance reports were submitted for the County of Ventura and Ventura County Watershed Protection District (Geosyntec Consultants, 2014b) and for the City of Oxnard (Geosyntec Consultants, 2014a) in December 2014, and a compliance report for the County of Ventura, Ventura County Watershed Protection District, and the City of Oxnard was submitted in December 2016 (Geosyntec Consultants, 2016). This Compliance Report satisfies the 2018 final TMDL reporting requirements for the County of Ventura (County), the Ventura County Watershed Protection District (VCWPD), and the City of Oxnard (City).

1.1 TMDL Background

The Clean Water Act (CWA) of 1972 provides the basis for the protection of all inland surface waters, estuaries, and coastal waters. The federal Environmental Protection Agency (EPA) is responsible for administering the CWA and developing regulations, but may delegate its authority to the State.

California‘s primary statute governing water quality is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the California State Water Resources Control Board (State Board) and nine California Regional Water Quality Control Boards broad powers to protect water quality, and it is the primary vehicle for the administration of California’s regulations under the federally delegated responsibilities of the CWA. The governing Regional Board for the Los Angeles area watersheds is the Los Angeles Regional Water Quality Control Board (LARWQCB).

The Porter Cologne Act is implemented in the Los Angeles Region by the California Water Quality Control Plan, Los Angeles Region (Basin Plan). The Basin Plan sets water

quality standards for the Los Angeles Region, which includes beneficial uses for surface and groundwater with numeric and narrative objectives necessary to support those uses.

Section 303(d) of the CWA requires that states conduct a biennial assessment of waters and identify those waters that are not achieving water quality objectives, referred to as the 303(d) list. The 303(d) list outlines the impaired waterbody and the specific pollutant(s) for which it is impaired. Once listed on the 303(d) list, all waterbodies are subject to the development of a TMDL. A TMDL establishes the maximum amount of a pollutant that a waterbody can receive and still meet the applicable water quality standard for that pollutant.

1.2 TMDL Requirements

The State Board identified the Harbor Beaches of Ventura County (Harbor Beaches) as impaired by indicator bacteria based on REC-1 water quality objectives and placed them on the 303(d) list in 2006. REC-1 water quality objectives for marine waters include the following:

1. Rolling 30-day Geometric Mean Limits[1]
    a. Total coliform density shall not exceed 1,000/100 mL
    b. Fecal coliform density shall not exceed 200/100 mL
    c. Enterococcus density shall not exceed 35/100 mL
2. Single Sample Limits
    a. Total coliform density shall not exceed 10,000/100 mL
    b. Fecal coliform density shall not exceed 400/100 mL
    c. Enterococcus density shall not exceed 104/100 mL
    d. Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1

On December 18, 2008, the EPA made effective the TMDL for bacteria as an amendment to the Basin Plan (Resolution R2007-017). The TMDL was then incorporated into the current version of the Ventura County MS4 permit in 2009[1]. Allowable pollutant loadings under the TMDL, WLAs, are expressed as an allowable number of days per year that the water quality objectives can be exceeded. The allowable number of exceedance days for each monitoring site is based on the more stringent of two criteria: (1) exceedance days

[1] The geometric mean WLAs are an exception as they were included in the TMDL but not incorporated in the 2009 Ventura County MS4 permit. However, the MS4 Permit is currently being renewed by the LARWQCB and is expected to incorporate geometric mean WLAs to reflect the TMDL.

in the designated reference system, or (2) exceedance days based on historical bacteriological data at the monitoring site, because the TMDL was developed based on a reference system/antidegradation approach. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality.

Both interim and final single sample and geometric mean exceedance WLAs are provided in the TMDL for the County, VCWPD, the City, and Caltrans[2]. The WLAs are provided in the TMDL for three different seasonal conditions within the TMDL year (November 1 – October 31), which include summer (April 1 – October 31), winter (November 1 – March 31) and wet weather[3] (for single sample WLA only). Interim WLAs became effective upon the effective date of the TMDL (December 18, 2008) and are assigned for the duration of the implementation schedule. Final WLAs became effective five years after TMDL approval (December 18, 2013) for dry weather and geometric means and go into effect ten years after TMDL approval (December 18, 2018) for wet weather.

The TMDL requires that weekly beach monitoring continue at the two compliance monitoring locations where monitoring is conducted to comply with Assembly Bill No. 411 (AB411): Ventura County Environmental Health Division (VCEHD) 36000 (at Hobie Beach) and VCEHD 37000 (at Kiddie Beach). The monitoring should be conducted on a year-round basis in ankle- to knee-high water, consistent with AB411 compliance monitoring requirements. In the situation that WLAs are exceeded at the compliance monitoring locations, then structural or non-structural BMPs are required to be implemented.

2. BACKGROUND

2.1 Channel Islands Harbor and Harbor Beaches

The Harbor Beaches are located within the Channel Islands Harbor (Harbor), along the southern California coast in Ventura County (Figure 1). The Harbor Beaches are located near the Harbor entrance at the southern terminus of the Harbor along the east side of the main channel as it turns north. Towards the north, the main channel divides into a West Channel and an East Channel. The West Channel becomes Edison Canal, which continues north past the Mandalay Bay Generating Station and, prior to 2018, reentered the Pacific Ocean approximately 3.6 miles north of the southern entrance to the Harbor after it passed through the generating station ocean water cooling system. In 2018 the Mandalay

[2] Caltrans activities are not included in this Compliance Report.
[3] defined as days with 0.1 inch of rain or greater and the three days following

Generating Station was decommissioned, and no water now flows through to the ocean at this point. The Channel Islands Harbor includes approximately 2,150 boat slips, four yacht clubs, and nine marinas. The tributary area draining to the Harbor is approximately 11.58 square miles in size and is comprised of areas within the jurisdictions of the County (3.07 square miles), the City of Oxnard (7.93 square miles) and the City of Port Hueneme (0.58 square miles).

The Army Corp of Engineers designed and created the Kiddie and Hobie Beaches as "surge beaches" to collectively absorb the impact of tidal surges and, as a consequence, prevent infrastructure damage in the Harbor. Protection against tidal surges remains the primary purpose of the Harbor Beaches and each beach also possesses a surge wall designed for this purpose. Providing water contact recreation was not the Harbor Beaches' original purpose, but rather has evolved to be a beneficial use. Kiddie Beach, comprised mainly of sand, and Hobie Beach, comprised mainly of rocks, are situated adjacent to one another. Kiddie Beach is located at the end of the southern entrance jetty and Hobie beach is located just to the north of Kiddie Beach. Kiddie Beach is approximately 430 feet long with a width ranging from about 120 feet wide at Mean Lower Low Water (MLLW) to 70 feet at Mean Higher High Water (MHHW). Hobie Beach is approximately 400 feet long with a width ranging from 75 to 250 feet at MLLW to being nearly completely inundated at MHHW.

2.2 County MS4 Area Draining to the Harbor Beaches

The County owns a single MS4 outfall that discharges wet weather runoff directly to the Harbor Beaches and dry weather flows are diverted year-round (since April 2015) to the sewer system[4]. This outfall, located immediately on the south side of Kiddie Beach, is the discharge point for a small storm drain network (33 acres) in the Silver Strand Neighborhood (Figure 2). The County owns additional MS4 outfalls that discharge to the greater Harbor area, including an MS4 that drains a portion of the Hollywood-by-the-sea neighborhood (west of the Harbor Beaches), and approximately 17 outfalls which drain a section of Harbor Blvd. and the Harbor parking lots to the northwest of the Harbor Beaches. Additionally, the VCWPD owns one MS4 that discharges into Edison Canal north of West 5th Street collecting runoff from mostly agricultural land uses and the Oxnard Airport. County urban land use in the Harbor watershed includes single-family residential (19.1%), multi-family residential (15.3%), commercial (10.1%), marina water facilities (28.8%), and parks and recreation (26.7%).

[4] See Section 5.3.3 for details regarding the San Nicholas pump station and diversion structure.

The predominant MS4 network of the watershed (the Oxnard West Drain) discharges into the Harbor on the north side of Channel Islands Boulevard, approximately one mile north of the Harbor Beaches. The Oxnard West Drain, owned by VCWPD, starts in the upper reaches of the watershed, runs south along Ventura Road and then west along Channel Islands Boulevard to the Harbor. The majority of the Harbor watershed (4.37 square miles of single- and multi-family residential, education, commercial and industrial land uses) drains into the Oxnard West Drain.

2.3 City MS4 Area Draining to the Harbor Beaches

The City owns a single MS4 outfall that discharges directly to the Harbor Beaches. This outfall, located immediately on the north side of Hobie Beach, is the discharge point for a short storm drain connecting two street inlets on Victoria Avenue to the Harbor (Figure 3). The City owns additional MS4 outfalls that discharge to the greater Harbor area, all of which are located to the north of the Harbor Beaches.

The City of Oxnard also owns smaller drains along Hemlock and Wooley Road that collect runoff from single- and multi-family residential and commercial land uses that discharge into the Harbor between Channel Islands Boulevard and west 5th Street, as well as sheet flow from adjacent land uses (vacant, single- and multi-family land uses) to the west of the Harbor.

City land use in the Harbor watershed include single-family residential housing (48.0%), multi-family residential housing (14.8%), commercial (12.2%), agricultural (6.5%), vacant (4.3%), transportation (4.1%), education (3.8%), parks and recreation (3.7%), industrial areas (1.4%), and marina water facilities (1.3%) (shown in Figure 3).

3. COMPLIANCE MONITORING

Appendix A contains a detailed discussion of (1) the compliance monitoring data that were collected after the TMDL effective date; (2) the data analysis performed; and (3) the data analysis results that were obtained. The following sections briefly summarize the analysis methodology and the data analysis results

3.1 Analysis methodology

Monitoring at the CIH Beaches is based on TMDL and State monitoring requirements. Monitoring occurs at the beach compliance monitoring locations on a weekly frequency, year-round. An exception is during dry weather, when follow-up samples are typically collected the day after a sample exceeds the single sample water quality objective. The

following analysis includes all data (i.e., weekly and follow-up samples) collected from February 4, 2009 through October 31, 2018[5] and is described in detail in Appendix A.

The interim and final single sample WLAs, based on a weekly sampling frequency and expressed as annual allowable exceedance days (AEDs), are shown in Table 1.

Table 1. Interim and Final Single Sample WLAs for Weekly Sampled Sites

Season	Interim WLAs (AEDs)			Final WLAs (AEDs)		
	Compliance Deadline	Hobie Beach	Kiddie Beach	Compliance Deadline	Hobie Beach	Kiddie Beach
Summer Dry	Dec. 18, 2008	6	8	Dec. 18, 2013	0	0
Winter Dry		4	4		1	1
Wet		6	5	Dec. 18, 2018	3	3

The geometric mean WLAs are not incorporated into the Ventura County MS4 permit, however they are defined in the TMDL and have been evaluated here for informational purposes. The interim and final 30-day rolling geometric mean WLAs, based on a weekly sampling frequency and expressed as AEDs, are shown in Table 2.

Table 2. Interim and Final 30-day Rolling Geometric Mean WLAs for Weekly Sampled Sites

Season	Interim WLAs (AEDs)			Final WLAs (AEDs)		
	Compliance Deadline	Hobie Beach	Kiddie Beach	Compliance Deadline	Hobie Beach	Kiddie Beach
Summer	Dec. 18, 2008	12	8	Dec. 18, 2013	0	0
Winter		13	14		0	0

For each sample result, the measured indicator bacteria concentrations were compared to the single sample water quality objectives. If any one of the objectives were exceeded, one exceedance was counted, with exceedance counts summed by season to compare with weekly sampling allowed exceedance days. Rolling 30-day geometric means were calculated on sample days based on a minimum of five samples in the 30-day period during each TMDL season (November 1 – October 31). Similar to single sample results,

[5] This time period represents monitoring since the TMDL effective date through the end of the 2018 TMDL year, as monitoring data was available. This period does not include 12/18/2008 through 1/28/2009 (as described in Appendix A) because no funding was available for monitoring during this time (i.e., state budget cuts for ocean water testing).

calculated geometric means were compared to geometric mean water quality objectives to determine total exceedance counts by season.

3.2 Data analysis results

The following results are summarized by TMDL season. Both beaches had instances of missing weekly samples due to unavailability of funding (12/18/2008 – 1/28/2009) and no public access caused by maintenance/dredging activities; these periods with missing data are identified and explained in Appendix A.

3.2.1 Summer season

Table 3 summarizes summer season exceedance results. No exceedances of the interim AEDs were observed. The final single sample AEDs were exceeded once at Hobie Beach during the 2017 TMDL year, and three times at Kiddie Beach during the 2014, 2017, and 2018 TMDL years. The final geometric mean AEDs were exceeded once at Kiddie Beach during the 2014 TMDL year.

Table 3. Summer Exceedances (April 1 - October 31)

TMDL Year[1]	Single Sample Exceedances (excludes wet weather)[2,3]		Geometric Mean Exceedances (dry and wet weather)[2,3]	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
Interim AEDs	*6*	*8*	*12*	*8*
2009	2.0	1.3	0	0
2010	0	0.14	0	0
2011	1.4	0	0	0
2012	1.3	2.0	0	3.0
2013	0.14	0.43	0	2.0
Final AEDs	*0*	*0*	*0*	*0*
2014	0	**1.3**	0	**2.0**
2015	0	0	0	0
2016	0	0	0	0
2017	**0.14**	**2.0**	0	0
2018	0	**2.1**	0	0

1. The summer season includes days between April 1 and October 31.
2. As discussed in Appendix A, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
3. Exceedances in **bold** are above the applicable WLA

3.2.2 Winter season

Winter season exceedance results are summarized in Table 4. The 2014 TMDL year winter results are compared to interim AEDs for data collected before December 18, 2013 (five years after the TMDL effective date), while data collected for the remainder of the 2014 TMDL year are compared to final AEDs. No exceedances of the interim AEDs were observed. Single sample and geometric mean final AEDs were exceeded at Kiddie Beach in 2014, 2015, 2016, and 2017. No exceedances of the final AEDs occurred at Hobie Beach.

Table 4. Winter Exceedances (Nov. 1 – Mar. 31)

TMDL Year[1]	Single Sample Exceedances (excludes wet weather)[2,3]		Geometric Mean Exceedances (dry and wet weather)[2,3]	
	Hobie Beach	**Kiddie Beach**	**Hobie Beach**	**Kiddie Beach**
Interim AEDs	*4*	*4*	*13*	*14*
2009	2.0	0	5.0	0
2010	1.1	0.14	5.0	5.1
2011	0	1.0	0	9.0
2012	0	1.1	0	3.0
2013	0	0	0	0
2014 (Interim)[4]	1.0	2.0	0	3.0
Final AEDs	*1*	*1*	*0*	*0*
2014 (Final)[5]	0	**3.0**	0	**3.0**
2015	1.0	**3.0**	0	**12.0**
2016	1.0	**2.0**	0	**1.0**
2017	0	**2.0**	0	**13.0**
2018	0	1.0	0	0

1. The winter season includes days between November 1 and March 31. The TMDL year is the year in which the season ends (e.g., November 1, 2008 through March 31, 2009 is TMDL year 2009).
2. As discussed in Appendix A, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
3. Exceedances in **bold** are above the applicable WLA
4. 2014 (Interim) includes data collected before December 18, 2013.
5. 2014 (Final) includes data collected on December 18, 2013 and subsequent days.

3.2.3 Wet Weather

Table 5 summarizes wet weather single sample exceedance results for each TMDL year. Interim AEDs were only exceeded once at Kiddie Beach in 2011. Final AEDs for wet weather are not yet in effect (they become effective December 18, 2018).

Table 5. Wet Weather Exceedances

TMDL Year[1]	Single Sample Exceedances[2]	
	Hobie Beach	Kiddie Beach
Interim AEDs	*6*	*5*
2009	2	1
2010	3	3
2011	1	**6**
2012	3	2
2013	1	2
2014	0	0
2015	5	5
2016	1	1
2017	1	4
2018	1	0
Final AEDs	3	3

1. Includes wet weather days between Nov. 1 and Oct. 31. The TMDL year is the year in which the year ends (e.g., November 1, 2008 through October 31, 2009 is TMDL year 2009).
2. Exceedances in **bold** are above the applicable WLA

4. TMDL SPECIAL STUDIES

There have been numerous studies conducted at the Harbor Beaches to identify bacteria sources and appropriate measures to decrease bacteria concentrations. Many of the studies that occurred before the TMDL effective date were described in the Harbor Beaches Dry and Wet Weather TMDL Implementation Plans (IPs) for the County and the VCWPD (Malcolm Pirnie, Inc. and Geosyntec Consultants, 2009 and Geosyntec Consultants, 2010, respectively) and the City's Dry Weather TMDL IP (City of Oxnard, 2012), and are listed below (Section 4.1). Several other significant studies have been or are currently being undertaken that provide insight into the bacteria sources at the Harbor Beaches. The methodology and findings of these studies are summarized in Section 4.2 and 4.5, respectively.

4.1 Previously Summarized Studies (Completed Prior to 2010)

Studies that are summarized in detail in the Harbor Beaches Dry and Wet Weather IPs include:

Harbor Beaches Monitoring Studies

- Weekly water quality beach monitoring since 1999;

- Tidal water quality monitoring in 1999 and 2000;
- Sediment disturbance water quality monitoring in 2000;
- Beach transect sampling studies in August and October of 2000;

Harbor Monitoring Studies

- Quarterly water quality monitoring in the Harbor since 1999;
- Wash-off pathogen monitoring in 2000;
- Bacteria survey along the surge wall 2000;
- Water quality monitoring at additional Harbor locations in 2000;
- Water quality monitoring of seepage from rock riprap area in 2001;

Harbor Circulation Studies

- Current and tidal hydraulics study in 2000;
- Harbor Circulation Study in 2003;
- Field surveys of circulation patterns in 2009;

Sanitary Sewer Studies

- Sewer/Storm drain interaction study in 1999;
- CCTV investigation of sanitary sewer lateral from Kiddie Beach bathroom in 2000;

Storm Drain Studies

- Storm drain water quality weekly sampling in 1999;
- CCTV investigation of storm drain in 1999;
- Dye testing of Silver Strand Pump station in 2000;

Bacteria Source Tracking and Control Studies

- Dry weather bacteria source study using DNA typing method in 2003; and
- Bird control measures efficacy study in 2006.

4.2 2012 SCCWRP Dry Weather QMRA

The objectives of this study were to calculate illnesses related to swimming at the Harbor Beaches, and to support the development of site-specific indicator bacteria objectives based on the EPA's tolerable illness rates, if calculated rates were found to be low.

The QMRA study involved five steps: 1) select beach; 2) perform a source identification study; 3) determine the pathogen load linked to each source; 4) quantify exposure of swimmers to pathogen; and 5) perform risk modeling and characterization to predict the illness rates in swimmers based on exposure, ingestion, and infectious dose.

Weekly monitoring data were reviewed from 57 beach sites in Ventura County from January 1, 2007 to December 31, 2011. Both Kiddie Beach and Hobie Beach were classified in the top five beaches with the highest frequency of water quality objective exceedances. To identify possible sources of contamination at Kiddie and Hobie Beaches, observational data were collected. As a result, possible fecal sources at the beaches were found to include human (leaking sewer lines or discharge from boat holding tanks), birds, cats, dogs, and regrowth of indicator bacteria (in sand, biofilms, kelp or seagrass, or trash).

Daily dry weather samples were collected at the Harbor Beaches for eight weeks at eight locations (three at Hobie and five at Kiddie) between June 26 and August 20, 2012. All samples were analyzed for cultural Enterococcus, which was detected at all sites (Figure 4). Site 1 (Hobie Beach) showed the highest levels of Enterococcus, exceeding the single sample water quality objective (104 MPN/100 mL) on over half of the sampling days. The highest exceedance rates at Kiddie Beach were observed at Site 5, with approximately seven percent of sampling days exceeding standards. Approximately 11 percent of all samples exceeded the single sample water quality objective for Enterococcus.

Rapid molecular methods (qPCR) were also performed for an Enterococcus marker (Entero1A) and two human fecal markers (HF183 and HumM2). HF183 was detected during at least 40 percent of sampling days at all eight locations and was found in two-thirds of all samples. HumM2, which is less sensitive than HF183 but more specific to human fecal pollution, was detected in seven percent of all samples. There was no correlation between HF183 and tide height or amplitude, but spatial correlation showed that the Kiddie Beach locations likely share a common source of HF183. These observations suggest evidence of a constant, diffuse source of human fecal pollution at both beaches.

Evidence suggests that the Enterococcus and human markers could be associated with different sources. Several possible sources of fecal indicators at the beaches were identified based on visual observations: a storm drain, sewer infrastructure, birds, domesticated dogs, or feral cats.

A storm drain outlet at the north end of Hobie Beach, submerged during high tides, had observable flow during low tides due to tidal backwater. Strong decreasing gradients in Enterococcus concentrations and exceedance rates were observed from the drain outlet along the beach sampling sites. Only two catch basins from the adjacent road drain to the outlet, and no surface runoff or illicit connections or discharges were observed. The drain outlet was found to function as a reservoir for Enterococcus with sources such as biofilms

or entrapment of decaying organic material. No human markers were detected in the single grab sample from within the drain.

Sewer infrastructure near the beaches may also be a source of Enterococcus and human contamination, possibly through groundwater discharge. The storm drain outlet near Site 7 (shown in Figure 4) was diverted to the sanitary sewer prior to the study, but the gravel bedding outside the storm drain pipe could potentially serve as a conduit for transport of sewage-impacted groundwater if a nearby sewer is leaking. However, Enterococcus concentrations and exceedance rates near this drain outlet (Sites 7 and 8) were among the lowest in this study.

A significant population of seabirds was observed near the sampling sites, therefore it is possible that seabird waste is a source of Enterococcus at the beaches. The domesticated dogs brought to the beach by their owners were also identified as a possible fecal source based on local observations. And feral cats living in the jetty rocks were also identified as possible fecal sources, by deposit and wash-off.

Results indicated human fecal influence at the beaches, therefore the remaining phases of the QMRA study were placed on hold until the contamination has been resolved. Photographs of SCCWRP monitoring activities are shown in Appendix B.

4.3 2014/2015 Dry Weather MST Study

The SCCWRP QMRA suggested that likely sources contributing bacteria to Kiddie Beach include sanitary sewer lines, birds, and dogs. Additionally, 2014 dredging activities in the harbor entrance channel appeared to coincide with elevated bacteria levels at the beach, based on weekly water quality monitoring. Therefore, in 2014 and 2015 the VCWPD conducted an MST study (VCWPD, 2015) to determine the specific sources (i.e., humans, birds, and dogs) that are likely contributing bacteria to the beaches and investigate whether dredging activities in the channel were correlated with high levels of bacteria.

Sixteen samples from Kiddie Beach, collected during the period from 5/6/2014 to 1/20/2015, were analyzed[6] for indicator bacteria and human (HF183), dog (DogBact) and bird (BirdGFD) genetic markers. The majority of samples were collected in dry weather, with the exception of 11/3/2014, 12/15/2014, and 1/12/2015, which were collected during wet weather. Observations of human, dog, and bird activity at Kiddie Beach were also

[6] Two labs were used for analyzing samples: Weston Solutions and Source Molecular Corporation. Both laboratories participated in the Source Identification Protocol Project (SIPP) in 2011.

noted, in addition to observation of any deposits from these sources. A summary of the MST samples, including enterococcus results, genetic marker results, and other relevant activities are shown in Table 6 and a memo describing the MST study is included in Appendix B.

Table 6. Summary of 2014-15 MST Sampling Results at Kiddie Beach

Date	Entero-coccus (MPN/ 100 mL)	Human (HF183)	Dog	Bird	Observed Activity	Observed Deposit	Channel dredging[1]	New sewer[2]
5/6/2014	31	ND	ND	10,551	Human/dog	Bird	No	No
5/13/2014	<10	ND	ND	3,508	Human	ND	No	No
5/20/2014	31	ND	ND	18,215	ND	ND	No	No
5/27/2014	<10	ND	ND	10,413	Human/dog	ND	No	No
6/3/2014	<10	ND	ND	3,575	ND	Bird	No	No
9/30/2014	<10	ND	ND	ND	ND	ND	No	Constr.
10/7/2014	42	ND	DNQ	8,678	ND	ND	No	Constr.
10/14/2014	<10	ND	ND	2,220	ND	ND	No	Constr.
10/21/2014	659	ND	ND	ND	Bird	Bird	Yes	Constr.
10/22/2014	738	n/a	n/a	n/a	n/a	n/a	Yes	Yes
10/28/2014	31	ND	ND	3,152	ND	ND	Yes	Yes
11/3/2014	<31	ND	1,580	266	ND	ND	Yes	Yes
12/8/2014	165	ND	DNQ	4,400	ND	Bird	Yes	Yes
12/15/2014	222	1,540	DNQ	1,620	Human	ND	Yes	Yes
12/22/2014	124	ND	1,440	4,720	ND	ND	Yes	Yes
1/12/2015	324	ND	16,600	573	ND	ND	Yes	Yes
1/20/2015	364	ND	ND	298	ND	ND	Yes	Yes

Note: ND = not detected, DNQ = detected but not quantifiable, n/a = not analyzed.

1. Dredging activities at the channel entrance west of Kiddie Beach.
2. Rehabilitated force main was placed back in service on 10/22/2014.

Significant findings include:

- The highest Enterococcus concentrations occurred during dredging activities in the harbor entrance channel.
- The human marker was only detected (at low concentrations) in one sample and human activity was observed at the beach coinciding with this sample.

- Dog markers were detected in six samples (but not quantifiable in three) and did not correspond to observed dog activity on the beach. In addition, dog fecal deposits were not observed on the beach.
- Bird markers were detected in most (fourteen) of the samples and did not correspond to observed bird activity or deposits on the beach.
- Correlations between enterococcus and each genetic marker were analyzed using a Spearman's rank correlation text. No correlations with statistical significance (p-value > 0.05) were found between enterococcus and any of the markers tested.

The MST study did not identify a specific source primarily contributing to the exceedances at Kiddie Beach. Therefore, the MST study recommended if TMDL AED exceedances continue after operation of the County storm drain diversion (discussed in Section 5.3.1 below) is updated to a year-round schedule and the implementation of other improvements (i.e., sewer rehabilitation), additional source investigations may be useful in further evaluating whether dogs, birds, and dredging activities may be the main contributors of bacteria at these beaches. Also, although the human marker was only detected once at Kiddie Beach, additional human marker sampling is needed, at both Hobie and Kiddie Beaches, to conclusively determine if human waste is now absent from the beaches.

4.4 2017-18 SCCWRP Wet Weather MST Investigation

The County, VCWPD, and the City entered into an agreement with SCCWRP to conduct a wet weather source ID study starting in winter of 2017/2018. The following study objectives were discussed with the RWQCB's staff in November 2017 prior to initiation of sampling activities:

1. Determine whether bacterial indicators measured at the Kiddie and Hobie Beaches during wet weather exceed TMDL numeric targets for indicator bacteria.

2. Determine the spatial distribution of indicator bacteria to identify alongshore and offshore gradients across Kiddie and Hobie beaches during wet weather.

3. Determine the presence and spatial distribution of human markers at Kiddie and Hobie Beaches and identify alongshore and offshore gradients across Kiddie and Hobie beaches during wet weather. If a gradient is present and bacterial levels are high at the beach and decrease going away from shore, this would suggest the origin of contamination is likely confined to the beach, and potential sources such as the storm drain outfall or contaminated groundwater should be

investigated. However, If the gradient of bacteria is higher at offshore sites, this would indicate that most of contamination is coming from the harbor onto the beach and an extensive source investigation study of the harbor should be undertaken.

To characterize the water quality and look for spatial patterns across the beach during wet weather, indicator bacteria and human markers (HF183) samples were taken from sites onshore and offshore from Hobie and Kiddie Beaches, including from historical compliance monitoring stations. In order to determine if there was a North-South gradient of contamination or an onshore-offshore gradient of contamination, 8 sites across Kiddie and Hobie Beaches (sites 1-8 in Figure 7) and 8 sites located just offshore from the beaches (sites 9-16 in Figure 7) were targeted. One of the offshore sites was at the discharge point of an MS4 near the Coast Guard station (Site 1 in Figure 7) and one site (Site 17 in Figure 7) was taken from the San Nicolas pump station located at the South end of Kiddie Beach. Some of the field work was completed in collaboration with California State University Channel Island (CSUCI). Field work photos and a news article covering the study are provided in Appendix B.

Appendix C provides the full study report including the analytical results and analysis completed by SCCWRP. Data analysis indicated that moderate to high levels of indicator bacteria and human marker were ubiquitous and persistent both on and offshore following storm events at Kiddie and Hobie Beaches. Neither discernable gradient of indicator bacteria between the shoreline and directly offshore of the beach, nor gradient across the beach was found. The persistence of indicator bacteria and human marker concentrations in the water suggests both local and remote sources are at play. High levels of human marker in the pump station sump at Kiddie Beach suggest the storm drain outfall is a point source of contamination, but concentrations in the sump were not high enough to explain the levels of human marker seen across and offshore of the beaches. Consistent human marker levels in the first samples following rain across the beach suggest a common source at these sites, possibly exfiltration of contaminated groundwater.

The data from this study support two options for next steps. The first option is to investigate sources only at Kiddie and Hobie Beaches. The second option is to conduct a costlier harbor-wide wet weather source investigation study to identify both sources and relative contributions of bacterial contamination entering the harbor.

The storm drain at Kiddie Beach, which was shown to be a source of both indicator bacteria and human waste contamination, warrants investigation to determine the origin(s) of the problem. Similarly, elevated human marker concentrations across Hobie

and Kiddie beaches immediately following the onset of rain suggest that contaminated groundwater seeping through the beach may be responsible. Investigating sources will directly address the TMDL at the beaches and is the less expensive of the two options. However, while focusing remediation efforts on Kiddie and Hobie beaches may somewhat improve wet weather water quality in the immediate vicinity, it will only partially address the larger issue of contamination coming to the beach from the harbor and may not be adequate to meet TMDL goals for these beaches.

The consistency of indicator bacteria and human marker concentrations in offshore samples in the days following rain events suggests a harbor-wide microbial water quality problem, which supports undertaking a wet weather source investigation of the broader harbor. To account for and prioritize among the sources of contamination, a mass loading approach is recommended. This will require the identification of all potential inputs of storm water, including those identified at Hobie and Kiddie Beaches. Once identified, storm water flow and human marker concentrations at major discharges should be measured simultaneously to determine relative loading from each discharge. In addition, multiple storm events will be required to capture the variability in loading from the drains during storms of different sizes. The mass loading approach will not only identify sources, but also quantify the relative amount of contamination entering the harbor from each source. While this option will provide the exact information managers need to prioritize and carry out remediation efforts, it is also the dramatically more expensive of the two options.

4.5 2018 Harbor Water Quality Monitoring

In June of 2018, the City channels at Seabridge, Westport and Mandalay (north of W Channel Island Blvd.) experienced a water degradation event, resulting in brown, murky water and some marine life death. The City quickly mobilized, forming a response team and setting up a hotline number for residents to report issues and concerns. City staff began performing daily water quality testing in 26 locations[7] for dissolved oxygen, temperature, salinity and pH. Additionally, indicator bacteria testing was completed on five dates at seven locations[8], and all results were below water quality objectives. Water Sampling Point 1, located at the entrance to the Harbor, is the only sampling site located near the Harbor Beaches, and dissolved oxygen concentrations here were consistently above applicable objectives (in contrast with consistent dissolved oxygen levels below

[7] Sampling locations and results are available at the City's website: https://www.oxnard.org/city-department/publicworks/channel-islands-harbor-water-quality/

[8] Total Coliform, Fecal Coliform, and Enterococcus were analyzed for samples collected 7/23, 8/22, 9/24, 10/1, and 11/1/2018 from locations 4, 6, 7, 20, 22, 23, and 24,

applicable objectives in the City channels) indicating that water quality effects have not extended to this end of the Harbor. Water quality monitoring is ongoing.

The City also initiated a circulation study and nutrient study in the Seabridge, Westport and Mandalay channels to further understand the potential causes of the degradation event. The circulation study will utilize an Environmental Fluid Dynamics Code (EFDC) model to update the 2001 circulation study (Moffatt & Nichol Engineers, 2001) of the City channels. The study will evaluate in greater detail the residence times within the Seabridge, Westport and Mandalay channels accounting for the closure of the Mandalay Power Generating Station in March 2018. The nutrient study will investigate the sinks and sources (such as agricultural and MS4 runoff) of nutrients in the City channels. These studies are intended to support scientifically-based decisions regarding possible engineering mitigations or regulatory steps to address water quality conditions in the back basins of City channels. Although these studies are focused on the City channels, they also may provide insight into Harbor-wide circulation issues and nutrient sources, and such sources may also be accompanied by elevated bacteria. These study results will be reviewed to determine whether they shed light on potential contributing factors to elevated bacteria levels at Kiddie and Hobie Beach.

Additional information on the water quality testing, circulation study, and nutrient study can be found on the City's website:

https://www.oxnard.org/city-department/publicworks/channel-islands-harbor-water-quality/

4.6 Conclusions based on various studies

Based on the previous studies conducted at the Harbor Beaches, the following findings are noted:

- Dry weather exceedances are infrequent, at low concentrations, and generally near or below the AEDs;
- Dry weather exceedances at the Harbor Beaches are localized and spatially limited to within a short distance of the beach wave wash area;
- Dry weather exceedances at the Harbor Beaches occur as a result of a variety of diffuse local sources that may include birds, bathers, sewers/groundwater (although the nearest main sewer line was repaired, so this source is now unlikely), and storm drains (although the San Nicholas Pump Station became operational year-round during dry weather [see Section 5.3.1], so this source is now unlikely);

- Dredging activities may directly impact indicator bacteria concentrations by stirring up sediment;
- Humans are not likely the source of indicator bacteria;
- Wet weather exceedances are infrequent, at low concentrations, and generally near or below the AEDs;
- Wet weather sources to the beaches (beyond just the two nearby storm drain outfalls) are less well known, including to what extent the greater harbor waters and other storm drain outfalls contribute to these beach indicator bacteria concentrations.

4.7 Future Additional Studies

The County submitted two concept study applications to the Clean Beaches Initiative Grant Program, but a grant was not awarded. The first study (submitted in 2013) proposed to conduct source identification during wet-weather and the second study (submitted in 2014) was focused on dry-weather monitoring to evaluate effectiveness of implemented BMPs and infrastructure improvements. Implementation of those studies will be pending future funding opportunities.

5. BMP IMPLEMENTATION

The Dry and Wet Weather TMDL IPs identified an implementation approach for the County and VCWPD to comply with the requirements of the TMDL. The City's 2012 Dry Weather TMDL Workplan also identified various implementation measures the City intended to address for dry weather exceedances. The following section provides an overview of the wet and dry weather BMPs that the County, VCWPD, and the City have implemented (Table 7 provides an overview).

Table 7. BMP Implementation Status

	BMPs recommended in the County and VCWPD Dry Weather IP	BMPs recommended in the City Dry Weather IP	BMPs recommended in the County and VCWPD Wet Weather IP	Additional BMPs Not Identified in the IPs
BMPs Implemented	1. Public Information and Participation Program 2. Proper Pet Waste Disposal 3. Feral Cat Abatement 4. Fish Waste Disposal Ordinance and Enforcement 5. Bathroom Maintenance 6. Code and Ordinance Review Program* 7. Beach Grooming 8. Bird Control Measures* 9. Mobile High Pressure Flushing*	1. Educational Signage 2. Public Outreach 3. Catch Basin Monitoring and Maintenance 4. Street Sweeping 5. Bathroom Maintenance 6. Trash Management 7. Proper Pet Waste Disposal 8. Code and Ordinance Review Program*	1. Downspout Disconnect Program* 2. Pet Ownership Outreach and Enforcement Program 3. Catch Basin Cleaning 4. Structural BMPs	1. Sewer line replacement* 2. Dry-Weather Diversions 3. Parking Lot Drain Removal* 4. Marina Facilities 5. Ordinances*
BMPs Not Implemented	1. Pilot Enhanced Circulation Devices*		1. Storm Drain Monitoring Program*	Not Applicable

* Historic BMP implementation that is previously summarized in the 2016 CIH Bacteria TMDL Compliance Report.

5.1 Implementation of Dry Weather IP Recommended BMPs

5.1.1 Source and Early Action Controls

5.1.1.1 Educational Signage - City

Educational signs are located at both Kiddie and Hobie Beach to educate the community and beach-goers of water quality issues at the Harbor Beaches. Signage encourages the public to properly dispose of pet waste, refrain from feeding feral cats and birds, use diapers on small children while swimming, and properly dispose of trash. Examples of educational signage are included in Appendix B.

Discouraging beach visitors and residents from feeding feral cats and shore birds aids in limiting the cat and bird populations near the beaches, reducing bacterial contributions from fecal waste to the harbor waters. Proper disposal of pet waste also helps to reduce bacteria contributions, either directly into the harbor waters or through runoff, attributed to animal waste.

5.1.1.2 Public Information and Participation Program (PIPP) - County

The goals of the Public Information and Participation Program (PIPP) are to increase public knowledge of the MS4, including the adverse impacts of storm water pollution on receiving waters, and to change public behavior to implement appropriate solutions regarding waste disposal and storm water pollution. The program aims to engage communities to participate in mitigating the impacts of storm water pollution. The County has engaged in numerous actions to educate the public on issues relating to water quality. In addition to the activities discussed in the Downspout Disconnect Program and Pet Ownership Outreach Program sections, the County's ongoing efforts include the following.

- Installation of additional signage at Kiddie and Hobie Beaches, in both English and Spanish, describing potential bacteria contamination from birds and cats and advising the public not to feed the cats or birds. Signs have also been redesigned to include brighter colors and more graphics. Examples of this signage are shown in Appendix B.
- The County continues to provide information to boaters, dock tenants, and live aboards regarding water quality issues and reminders of the prohibitions against dumping in the harbor. Dye tabs also continue to be provided that reveal if holding tanks were emptied in the harbor.

- The County included a reminder for pet owners to clean up after pets in the Channel Islands Beach Community Services District News Brief issued in February 2011, May 2014, and September 2016.

- The County offered seven EcoHero Shows for seven elementary schools located in unincorporated areas including Hollywood Beach Elementary school for estimated 370 students on March 21, 2018. Young, fun hip hop-inspired performer Mr. Eco and his EcoHero Show inspire the next generation of eco-friendly citizens through lyrics about environmental issues, teaching kids to take action against pollution, littering, plastic waste, and others environmentally harmful behaviors.

Implementation of the PIPP, utilizing several methods such as advertising campaigns, public service announcements, signage, and educational materials, educates the public on how they can assist in keeping the beaches clean and open for full public use. These efforts encourage the public to be conscious of their actions relating to pet waste management, feeding of feral cats and birds, use of bathroom facilities before swimming, and other issues.

5.1.1.3 Public Outreach – City

Public outreach efforts aim to educate the public on how water quality at the beaches can be potentially impacted through the storm drain system. The City website includes information explaining how pollutants travel through the storm drain system and ultimately into the ocean. The website educates on how the community can manage their use of fertilizers/pesticides, household hazardous wastes, and auto care activities to avoid releasing pollutants into the storm drains. Information about the benefits of implementing permeable pavement, rain barrels, and grass swales is also included. This educational information included on the City website is shown in Appendix B. The two storm drain detention basins were labeled with the City's "Don't Dump – Drains to Ocean" message on a placard located on the face of the inlet, and the placards continue to be maintained and replaced as needed. These outreach efforts educate the public on how they can assist in keeping the beaches clean and open for full public use by refraining from illegal dumping to the storm drain system.

5.1.1.4 Proper Pet Waste Disposal – County and City

County Public Health Ordinance No. 4466 states that dog and cat feces must be removed from public beaches, sidewalks, parks, school grounds or County property, and a sign is

maintained to advise beach visitors of the ordinance (Ventura County Animal Control Department).

There are 20 dog waste stations located throughout the harbor and beaches, and approximately 200,000 biodegradable pet waste disposal bags are purchased by the County annually to supply the waste stations. The most popular County dog waste station is located on the jetty walkway south west of Kiddie Beach. This station is stocked daily with 200 waste bags, or approximately 73,000 bags per year.

There is also a County-owned dog waste station located at Kiddie Beach that is stocked with biodegradable pet waste bags. Approximately 2,000 to 4,000 bags are used on a monthly basis, with higher usage during the summer months. Outreach relating to pet waste is also implemented through television, internet resources (Cleanwatershed.org and the City website), and radio spots. Examples of a pet waste disposal station and outreach information are shown in Appendix B.

Encouraging pet owners to adhere to proper pet waste management helps to reduce bacteria contributions, either directly into the harbor waters or through runoff, attributed to pet waste.

5.1.1.5 Feral Cat Abatement – County

The County's Harbor Department contracts with the Greyfoot Cat Rescue, at a cost of $6,000 per year to remove feral cats from the area, keeping the population to a manageable level but allowing a limited number of cats to remain to aid in rodent control.

Approximately 20 feral cats are captured, neutered, and removed from the beach annually to maintain a low feral cat population at the beaches; 23 were removed in 2016 and 20 were removed in 2017. Maintaining a limited population of feral cats near the beaches reduces bacterial contributions from cat waste to the harbor waters, and discouraging beach visitors and neighborhood residents from feeding feral cats aids in maintaining a low cat population.

5.1.1.6 Fish Waste Disposal Ordinance and Enforcement – County

The majority of fish waste is disposed of properly, but the TMDL staff report identified fish waste discharged directly into harbor waters or in nearby trashcans (CRWQCB, 2007). County's Harbor Department's Ordinance No. 6402(f) is in place to prohibit discharge of waste or dead fish at the marine or shore area. Fish waste that is dumped in the harbor waters or improperly disposed of in the harbor area could attract birds, therefore it is expected that eliminating fish waste reduces bacterial contributions from

bird waste. The Standard enforcement by the Harbor Patrol include 1) verbal warning, 2) written warning, and 3) written citation tickets. There were no reports of improper disposal of fish waste in the Harbor in 2017 and 2018.

5.1.1.7 Bathroom Maintenance – County and City

The QMRA study found evidence of diffuse human fecal pollution at both beaches. To discourage beach visitors from utilizing the beach waters as a bathroom, the nearby public bathroom facility is maintained daily by the City of Oxnard's Department of Parks. Maintenance of a clean and accessible bathroom facility reduces swimmer contributions as a source of fecal indicator bacteria at the beaches.

5.1.1.8 Beach Grooming – County

To improve the cleanliness of the beaches and reduce the amount of trash/debris possibly contaminating the harbor waters, a beach cleaner is used to dispose of debris present in the sand. In 2013, the County purchased new beach grooming equipment for $134,515 including the tractor ($81,141) and beach cleaner attachment ($53,374). Photographs of the new beach cleaner and tractor, and Kiddie Beach post grooming, are included in Appendix B. A tractor pulling a rake was used by the County Harbor Department for beach cleaning at Kiddie Beach[9] beginning October 2013. Kiddie Beach is groomed weekly, although the tide height, amount of visitors on the beach, and availability of an equipment operator determines if beach grooming is feasible on any given week.

5.1.1.9 Catch Basin Monitoring and Maintenance – City and County

Both City and County own and maintain catch basins within the TMDL drainage area. All City and County's catch basins are subject to NPDES Municipal Stormwater Permit's requirements for inspection and cleanouts on frequencies based on prioritization of high, medium, and low trash generating areas.

The City owns and maintains two catch basins located on the east and west sides of Victoria Avenue that discharge into the harbor at Hobie Beach. The drainage area for these two catch basins is comprised of four streets with residential housing on the east side of Victoria Ave and the U.S. Coast Guard Facility on the west side. The Channel Islands Beach Communities Service District (CIBCSD) allows residential landscape

[9] Hobie beach is mainly rocks and is therefore not suited for grooming.

irrigation on Mondays and Thursdays; however, most of the homes in this area do not have front lawns, resulting in very little irrigation runoff (if any) to these catch basins.

City catch basins were previously inspected annually by the Oxnard City Corps and were cleaned if more than 25 percent full of trash. The catch basins for the inlets to the storm drain that discharges at Hobie Beach are "Priority C" basins, meaning they are low priority and typically less than 20 percent full of trash. Cleaning has historically not been needed and commonly observed inundated with ocean water based on the tide.

In an effort to determine if dry weather flow is impacting the water quality at Hobie Beach, the City met with VCWPD, VCEHD, and Ocean Water Quality Monitoring Program (OWQMP) to coordinate a program to monitor dry weather flow at catch basins. The City program consists of weekly monitoring of catch basins and the area surrounding the Harbor Beaches, including Kiddie Beach, Hobie Beach and the promenade along Kiddie Beach and San Nicholas Avenue to Silver Strand Beach. Drive by monitoring is also conducted in the Channel Islands Beach Community District from Melrose Drive to Lakeshore Drive. This monitoring is conducted every Tuesday unless that day falls on a City holiday or staff is unavailable, in which case the monitoring is conducted the following Wednesday or soonest possible date.

During this monitoring, catch basins (Site id: H31-CB300 and H31-CB301) located along Victoria Avenue adjacent to Kiddie Beach are inspected. Water is consistently observed in these catch basins; however, there was evidence of tidal influence, including seaweed, kelp, and sediment. Additionally, VCWPD staff have measured the salinity of water in the catch basins and compared it to the salinity of the water in the harbor and found that they were similar. Currently, there is no infrastructure to keep ocean water from entering or exiting these catch basins from the outfall during tidal fluctuations. Inspection reports include observations for types of flow during wet weather events, floatables in the catch basins, weather information, evidence of runoff, water clarity and additional notes. At each monitoring event, photographs are taken upstream and downstream of each catch basin to provide evidence that no dry weather flow was present.

During inspections of the surrounding area, non-stormwater discharges, illicit discharges, illicit connections, pet waste, wildlife (including bird populations) and other items that have the potential to contribute to bacteria levels are noted. Incidents of illicit discharges and illicit connections are reported to the County when appropriate. Pet waste is consistently observed along the promenade, even though pet waste bag dispensers and signage asking pet owners to pick up after their pets are installed along this route. Pigeons and marine birds are consistently observed on or near the beaches. Fishermen and dog walkers are also consistently observed. Kayakers are observed on a less consistent basis

and beach goers are observed on a more seasonal basis, mainly during the summer season and warmer weather. Dredging of the harbor occurs every other year during the winter months. City staff provides outreach to patrons and works to correct actions and behavior that negatively impact bacteria levels when observed.

Since monitoring efforts began in June 2016, dry weather runoff has only been observed (and not due to tidal influence) on six days. No water quality objectives were exceeded at Hobie Beach on any of these days. On 2/14/17, runoff was observed from residential car washing (in the unincorporated area close to Kiddie Beach). On 12/19/17, runoff was observed in curb gutters in residential areas. The source was not identified but was likely over irrigation. On 2/12/18, an illicit discharge was observed from Toro Enterprises street patching activity, and it was estimated that 10 to 25 gallons entered the storm drain (an NOV was issued). On 5/22/18, runoff was observed due to residential car washing. However, it was not discharging to the catch basin (H31-CB301). An illicit discharge was also observed, from an outdoor shower in a residential backyard, that was discharging down the driveway into the storm drain in the street. On 6/19/18, runoff was observed in the residential area, likely from residential car washing. On 7/17/18, possible RV wash water or wastewater was observed. However, discharge did not reach the catch basin. Residential car washing was also observed. Runoff was observed on 12/5/17 and 1/3/18, but tidal influence was suspected. When dry weather runoff is observed, City staff provide outreach and information to the runoff generators about proper BMPs to reduce dry weather runoff.

In addition, OWQMP agreed to notify the City if any dry weather runoff was observed during weekly sampling activities at Hobie Beach. Additional details and an example field sheet are included in Appendix B.

5.1.1.10 Street Sweeping - City

Street sweeping conducted by the City occurs twice per month, or more frequently, as necessary. This removes possible sources of contamination from the streets, preventing these sources from being transported to the beaches and negatively affecting water quality.

5.1.1.11 Trash Management – City and County

The QMRA (SCCWRP, 2013) identified pelicans, gulls, and pigeons as possible sources of indicator bacteria and fecal wastes at the beaches. Trash containers were replaced with bird resistant receptacles that are emptied daily by the County (examples are shown in Appendix B). This measure both reduces the bird population, reducing fecal waste from

the birds, and decreases the amount of trash that is removed from trash cans and eventually transported into harbor waters.

The County also performs trash clean-up days at the beaches after the July 4th holiday. Two full-size, roll-off dumpsters were filled on July 4 and 5, 2018, in addition to nine standard dumpsters throughout the harbor. Photos from the trash clean-up day in 2018 are included in Appendix B.

5.2 Implementation of Wet Weather IP Recommended BMPs

5.2.1 Institutional BMPs

5.2.1.1 Pet Ownership Outreach and Enforcement Programs - County

Several actions have been taken by the County to reduce domesticated dogs as a potential source of contamination. 3,400 flyers educating on pet waste disposal were mailed to all beach residents and boat slip tenants in February 2011 and May 2014. These flyers are also available at public counters and retail areas throughout the Harbor area. A "Watershed Protection Tips for Pet Owners" brochure was developed by the Countywide Stormwater Program and 5,000 copies were made for distribution. In 2014, the County updated the brochure and redistributed it. A pet waste flyer was also developed for the County Harbor Department to educate the public on why it is important to properly dispose of pet waste. Another bacteria pollution prevention brochure in both English and Spanish, "4 Simple Habits to Reduce Watershed Pollution" or "4 Simples Consejos Para Reducir La Contaminacion de Cuenca Hidrograficas", has been recently completed, and 2,400 copies will be distributed with utility bills in December 2016. These materials are included in Appendix B.

5.2.1.2 Catch Basin Cleaning - County

A catch basin cleaning program is currently in place through the MS4 NPDES permit. Catch basins have been classified into three priority groups based on the volume of trash generated, and inspections are performed according to priority group. County catch basins are cleaned as needed based on inspection or whenever they are more than 25 percent full. The County's catch basins draining to the Harbor Beaches collect sand and very little trash. Continued inspections and clean outs of the catch basins contribute to water quality improvement in MS4 wet weather discharges to the Harbor.

5.2.2 Structural BMPs

The wet weather IP identified Harbor redevelopment projects that would result in new structural stormwater controls consistent with MS4 requirements for onsite retention and/or treatment of stormwater. Three redevelopment projects, 1) a boat launch ramp replacement, 2) Channel Island Boating Center, and 3) Channel Island Yacht Club Parking Lot have been completed with structural BMPs since the submission of the wet weather IP (Figure 5). Additionally, Figure 6 identifies all the stormwater structural BMPs that have been implemented with the City portions of the watershed.

A boat launch ramp replacement is a County's project and maintenance is provided by the Ventura County Department of Harbor. The project, completed in June 2014, is located on the east channel of the Channel Islands Harbor, west of Victoria Avenue and just north of Curlew Way. Two bioswales and two large Contech stormwater cartridge filtration vaults were constructed to treat runoff from approximately 3.5 acres of impervious area prior to discharge to the Harbor. The filtration vaults are designed to remove 80 percent of particulates that are 50 microns or larger at a water quality flow rate of 0.48 and 0.6 cubic feet per second.

The other two projects, Channel Island Boating Center and Channel Island Yacht Club Parking Lot, are private projects under the oversight of the City of Oxnard. Stormwater treatment systems include vegetated swale and three cartridge media filters. In addition, a new redevelopment project, Hyatt House at Channel Island Harbor, is in the process of design and subject to the stormwater retention and treatment requirements.

5.3 Implementation of Additional BMPs (Not Identified in IPs)

Additional BMPs were identified for implementation based on findings from the QMRA study.

5.3.1 Dry Weather Diversion – County and VCWPD

The San Nicholas Pump Station (Pump Station) was installed by VCWPD in 1986 and since then has been operated for flood control purposes. As a result of stakeholder efforts to improve water quality of the Harbor Beaches, VCWPD temporarily diverted dry weather flows from the Pump Station to the City's Wastewater Treatment Plant for treatment from October 1999 to October 2000, resulting in lower total and fecal coliform concentrations at Kiddie Beach. A permanent diversion structure was then installed in 2003. From 2003 to October 2014, the sewer diversion pump was active during the summer dry periods (April 15 through September 30) with periodic disturbances due to

operational issues or weather (i.e., the diversion pump was switched off before forecasted storms during the summer). In April 2015, the diversion pump was switched to operate year-round during dry weather, and was manually turned on/off by VCWPD personnel based on storm forecasts and recorded amounts of rain (TMDL defined wet weather as 0.1 inches of rain or more plus the three days following the rain event). This change to year-round operation was expected to result in further reduction of dry weather bacteria exceedances at Kiddie Beach.

Based on VCWPD's existing Supervisory Control and Data Acquisition (SCADA) system, between June 2015 (when the diversion pumping information was incorporated into the SCADA system) and October 2016, a total of 8,383,652 gallons were diverted to the sanitary sewer system from the Pump Station (details are included in Appendix B).

In April 2016, VCWPD staff updated the diversion pump system by installing a new stand pipe rain gage on the roof outfitted with a Hydrolynx 50386 ALERT2 Transmitter in order to automate the operations based on actual rainfall. The rain gage and transmitter were then programmed to turn the sewer diversion pump "off" and turn the sump pump that discharges to the harbor "on" when 0.1 inches of rainfall is received on the rooftop rain gage. After 72 consecutive hours of no additional rainfall, the sump pump will turn "off" and the sewer diversion pump will turn back "on" and resume regular operation of diverting all flows into the pump station to the sanitary sewer system.

On June 16, 2016, VCWPD staff performed a dye test within the two storm drains draining to the Pump Station. The purpose of this dye test was to confirm that both the Pump Station and sewer diversion pump were working correctly and that valve/infrastructure leaks or other issues were not causing dry weather runoff collected at the Pump Station to discharge to the CIH adjacent to Kiddie beach (instead of being diverted to the sanitary sewer system).

Two locations within the storm drain system were identified as being ideal for adding the dye upstream of the Pump Station (shown in Appendix B). Location #1 was the closest upstream manhole, where approximately 95 percent of the total 31 acres drains through this location via a 36-inch reinforced concrete pipe (RCP). Location #2 was within a catch basin that ties into an 18-inch RCP draining directly to the Pump Station, and this location represents the remaining five percent of the drainage area to the Pump Station.

Notification of the dye test was given one to two weeks prior to the study to all appropriate organizations, which included the Ventura County Harbor Department, CIBCSD, VCEHD, Ventura County Transportation Department, VCWPD Operations and Maintenance Division, and California State Lifeguards. Three dye test notification signs

were place along Kidde Beach prior to starting the procedure. The low tide period on June 16, 2016 (1.8 feet at 1:29 p.m.) was selected as the date for the dye test to increase the likelihood of observing dye flowing from the outfall. The dye test was executed using the following procedure (a schematic of the Pump Station is included in Appendix B):

- 12:50 p.m.: one gallon of the dye liquid (Cole Parmer Yellow/Green Tracing Dye) was poured into the Location #1 "Parking Lot" storm drain manhole. Simultaneously, O&M staff hosed approximately 150 gallons of water from the water truck into the manhole. Dye was observed in the containment vault at the Pump House at 12:54 p.m., transported by the 36-inch RCP.
- 1:00 p.m.: one gallon of the liquid dye was poured into the Location #2 west side catch basin on San Nicholas. Approximately 100 gallons of water from the water truck was flushed into the catch basin. The dye was immediately observed entering the containment vault through the 18-inch RCP outfall.
- 1:04 p.m.: the Pump Station storm drain to sewer automatic diversion pump was turned on. The water level within the vault at this time was approximately 64 inches. The storm drain diversion pump is programmed to turn on when the water level within the vault reaches 48 inches and remain on until the water is drawn down to approximately 18 inches. The pump functioned properly and immediately kicked on. The dye was observed being pumped into the sewer manhole adjacent to the pump house.
- 3:00 p.m.: CIBCSD staff remained on site until approximately 3:00 p.m. to visually monitor Kiddie Beach for the presence of dye. Dye was not observed within the waters at Kiddie Beach or exiting the Pump Station's main pump outfall locations throughout the test.

On June 17, 2016 at approximately 9:00 a.m., a follow-up dye monitoring inspection was conducted at Kiddie Beach by CIBCSD staff. Dye was not observed at the beach. Throughout the entire study, dye was not detected within the Kiddie Beach area or the Pump Station Main Pump outfalls while the sewer diversion pump was operating per normal operating conditions. Therefore, it was confirmed that all dry weather flows are being successfully diverted to the sanitary sewer system, with no discharge of dry weather flows to the Kiddie Beach/Channel Islands Harbor area. Photographs from the dye study are included in Appendix B.

County of Ventura and VCWPD continued operations of dry weather diversion year-round during dry season and dry days of the wet season as defined by the TMDL. Between November 2016 and October 2017, approximately 3.6 million gallons of low flows were

diverted, and between November 2017 and October 2018 approximately 1.9 million gallons were diverted.

5.3.2 Marina Facilities – County

The County Harbor Department prohibits septic and other illicit discharges from boats, and pump-out facilities are located in the harbor to encourage the public to pump their septic and holding tanks instead of discharging into harbor waters. Dye tablets are also distributed to boaters to reveal if boat holding tanks are being emptied into the harbor waters.

The County Harbor Marinas were certified as a Clean Marinas by the Clean Marina California Program on February 22, 2006 and recertified as Clean Marinas on June 8, 2016. Four sewage pump-out facilities and a bilge pump-out facility are maintained monthly to help prevent pollutant loading in the Harbor. Maintaining strict regulation at the marina limits the illegal discharges that could contribute bacteria directly to the harbor waters.

6. COMPLIANCE DISCUSSION

6.1 Dry Weather Compliance

Prior to the effective date of the final WLAs, dry weather monitoring results from 2009 to 2014 show no exceedances of the single sample interim WLAs required by the TMDL at either beach. Following this period, there were no dry weather geometric mean final WLA exceedances at Hobie Beach. Hobie Beach had one single sample exceedances in 2017 (on July 31, 2018, a date when swimmers and paddle boarders were observed during sample collection), however the follow-up sample was not an exceedance and no flow was observed discharging to Hobie Beach on the July 25, 2017 or August 1, 2017 inspection events. Although occasional/infrequent small discharges have occurred from the City's local MS4 outfall at Hobie Beach, steps are being taken to abate these sources and bacteria levels (see Section 5.1.1.9).

There were multiple dry weather single sample or geometric mean final WLA exceedances at Kiddie Beach, although the majority of these occurred during the winter dry weather season which is a lower recreational use period at Kiddie Beach. Dry weather sampling events that exceeded single sample or geometric mean water quality objectives at Kiddie Beach are summarized in Table 8, along with notable considerations.

Although final WLAs were exceeded at Kiddie Beach during dry weather, dry weather BMPs have been implemented to eliminate dry weather flows from the County's MS4

outfall. Additionally, a dye study was performed by the County to confirm that no bypass of the MS4 outfall diversion to sewer is occurring. Therefore, data continue to demonstrate that the County's local MS4 outfall is not contributing dry weather flows to Kiddie Beach and therefore is not causing or contributing to the exceedances measured at the Harbor Beaches during dry weather.

Since the sewer line replacement in October 2014, only one out of eight samples at Kiddie Beach that were analyzed in the dry weather MST study had a human marker detection. This shows significant improvement relative to the frequent rate of detection, as determined by SCCWRP in 2014/2015, prior to the sewer repair. It is also important to note that Heal the Bay's Beach Report Cards from 2014 to 2018 rated the Harbor Beaches favorably for summer and winter dry weather, awarding Hobie Beach and Kiddie Beach an "A" grade 16 times and a "B" grade once during this period. These grades are significant improvements from prior to the TMDL, when Hobie Beach received a grade of "F" for the years 2000 to 2003 and Kiddie Beach received a grade of "F" for the years 2000, 2001, 2002, and 2004.

Table 8. Dry Weather Exceedance Days at Kiddie Beach (after December 18, 2013)

Date	Season	Single Sample Exceedances			Geometric Mean Exceedances			Notable Considerations
		Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	
TMDL Threshold		400	104	10,000	200	35	1,000	
1/27/14	Winter Dry		364					Forcemain Undergoing Rehabilitation
2/18/14			344					Forcemain Undergoing Rehabilitation
2/24/14						41		Forcemain Undergoing Rehabilitation
3/17/14			831			89		Forcemain Undergoing Rehabilitation
3/24/14						36		Forcemain Undergoing Rehabilitation

Date	Season	Single Sample Exceedances			Geometric Mean Exceedances			Notable Considerations
		Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	
TMDL Threshold		400	104	10,000	200	35	1,000	
12/8/14			165	11,199		66		Dredging between 10/14/2014 and 1/24/2015
12/22/14			124			70	1,925	Dredging between 10/14/2014 and 1/24/2015
12/29/14						55	1,355	Dredging between 10/14/2014 and 1/24/2015
1/5/15						38	1,055	Dredging between 10/14/2014 and 1/24/2015
1/20/15			364			90		Dredging between 10/14/2014 and 1/24/2015
1/26/15						81		
2/2/15						71		
2/17/15						41		
11/17/15			531					All year dry weather Diversion Pump Operation started in April 2015
1/4/16			306					Diversion Pump Operating
3/28/16						44		Diversion Pump Operating
12/12/16		2,938	2,005	24,196		49		Diversion Pump Operating
1/3/17		8,164	111	12,997		38		Diversion Pump Operating
1/17/17						65		Diversion Pump Operating
1/30/17					207	192	2,581	Diversion Pump Operating
3/6/17						115	2,330	Diversion Pump Operating
3/13/17						43		Diversion Pump Operating

Date	Season	Single Sample Exceedances			Geometric Mean Exceedances			Notable Considerations
		Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	
TMDL Threshold		400	104	10,000	200	35	1,000	
3/20/17						37		Diversion Pump Operating
3/26/18			137					Diversion Pump Operating
4/1/14			344					Diversion Pump Operating; Forcemain Undergoing Rehabilitation; Follow-up sample did not exceed
4/15/14			750					Diversion Pump Operating; Forcemain Undergoing Rehabilitation; Follow-up sample did not exceed
10/21/14	Sum-mer Dry	703	659					Diversion Pump Operating; Forcemain Undergoing Rehabilitation; Dredging between 10/14/2014 and 1/24/2015
10/22/14[1]		624	738			42		Diversion Pump Operating; Dredging between 10/14/2014 and 1/24/2015
10/28/14						45		Diversion Pump Operating; Dredging between 10/14/2014 and 1/24/2015
5/30/17			1,652					Diversion Pump Operating
7/17/17			659					Diversion Pump Operating

Date	Season	Single Sample Exceedances			Geometric Mean Exceedances			Notable Considerations
		Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	
TMDL Threshold		400	104	10,000	200	35	1,000	
4/17/18			288					Diversion Pump Operating
8/21/18		1,553						Diversion Pump Operating
9/11/18			530					Diversion Pump Operating

1. This was a follow-up sample.

6.2 Wet Weather Compliance

While the wet weather single sample final WLAs are not effective until December 18, 2018, the wet weather monitoring results from 2009 to 2018 show that no exceedances of the interim WLAs occurred for both Hobie Beach and Kiddie Beach, except for interim WLAs at Kiddie Beach in TMDL year 2011. If the final WLAs were effective, 2011, 2015, and 2017[10] were the only TMDL years where exceedance days would have exceeded the wet weather single sample final WLAs at Kiddie Beach, and only 2011 at Hobie Beach. However, the recent drought has resulted in fewer wet days over the past several years, reducing the number of days with wet weather MS4 discharges.

The winter and summer geometric mean targets became effective on December 18, 2013 and there were no exceedances greater than the geometric mean targets at Hobie Beach on wet weather days. However, there were exceedances greater than the final geometric mean targets at Kiddie Beach during wet weather, and these exceedance days are summarized in Table 9.

With the ongoing implementation of the BMPs defined in the Wet Weather IP (discussed in Section 5.2), it is expected that water quality during wet weather will improve and the number of wet weather exceedance days will continue to decrease. This water quality improvement is supported by recent wet weather monitoring results that suggest a significant improvement in beach water quality since the TMDL became effective. Based

[10] With 78 days during 2017, this is one wettest years in the compliance monitoring record, just one day less than the 79 days during the 90th percentile year.

on the period of record used in the TMDL (April 1999 - March 2006), AB411 monitoring data indicated that Kiddie and Hobie Beaches exceeded single sample water quality objectives 51 percent and 43 percent of the time, respectively, during wet weather. However, since the TMDL effective date (February 2009 – October 2018), wet weather exceedance percentages were 28 percent and 21 percent at Kiddie and Hobie Beaches, respectively, indicating significant water quality improvement since the TMDL. By comparison, sampling results for the TMDL's reference beach (Leo Carillo Beach, which is an open beach as opposed to an enclosed beach like the Harbor Beaches[11]) indicate an average exceedance probability of 22% (SCCWRP 2006), which is reflected in the TMDL's allowed exceedance days. As another comparison, more recent Los Angeles region bacteria TMDLs for enclosed beaches like CIH use data from Southern California *enclosed* reference beaches, or an average exceedance probability of 30% for wet weather (SCCWRP, 2006). Therefore, Kiddie and Hobie Beaches' recent exceedance percentages are better than that of enclosed reference beaches used by the Los Angeles RWQCB. In spite of this, to further guide wet weather implementation planning, the City and County are considering additional MST sampling at the Harbor Beaches and the local MS4 outfalls during wet weather to identify and eliminate (if present) human fecal sources.

Heal the Bay also awarded high grades for the Harbor Beaches during wet weather. Hobie Beach and Kiddie Beach were given three "A" grades, one "B" grade, and two "C" grades for wet weather for 2014 to 2018. Again this is an improvement over the pre-TMDL condition, in which Hobie Beach received an "F" grade from 2000 to 2003 and Kiddie Beach received an "F" grade from 2000 to 2007 (excluding 2006).

[11] This is significant because studies show that stagnant water conditions, such as those found at enclosed beaches, facilitate indicator bacteria persistence perhaps more than any other factor.

Table 9. Wet Weather Exceedance Days at Kiddie Beach (after December 18, 2013)

Date	Season	Single Sample Exceedances			Geometric Mean Exceedances		
		Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)	Fecal Coliforms (MPN/ 100 mL)	Entero-coccus (MPN/ 100mL)	Total Coliform (MPN/ 100mL)
TMDL Threshold		400	104	10,000	200	35	1,000
12/1/14	Wet[1]					47	
12/15/14						53	1,454
1/12/15						44	1,231
2/9/15						82	
1/9/17					326	135	2,072
1/24/17						144	2,974
2/7/17						258	2,922
2/13/17						119	1,567
2/21/17						175	3,292
2/27/17						99	1,543

1. Exceedances during wet weather are only listed for exceedances of the geometric mean, since single sample final WLAs for wet weather are not yet effective.

7. CONCLUSION

The City, County, and VCWPD have implemented numerous dry and wet weather BMPs to comply with the TMDL requirements, including modification to the low flow diversion (to extend operation into winter dry weather) and repair of a nearby sewer line. As a result, dry weather indicator bacteria concentrations and human marker detections rates have fallen. In addition, a dye test of the low flow diversion and regular inspections have demonstrated that dry weather flows are occurring very infrequently from the MS4 outfall at Hobie Beach and not at all from the MS4 outfall at Kiddie Beach. Therefore, the local MS4 outfall is not causing or contributing to the few remaining dry weather WLA exceedances that are observed at Kiddie Beach, and Hobie Beach has been consistently clean in dry weather. To better verify whether non-stormwater discharges are not affecting beach water quality sampling results, future dry weather inspections of the Hobie Beach outfall will be adjusted to match the same day as AB411 sampling. And to confirm the absence (or near absence) of human waste at the beaches during dry weather, additional human marker sampling may be considered in the future if exceedances of

TMDL WLAs reoccur. Additionally, the City of Oxnard channels nutrient and circulation study results will be reviewed to determine whether they shed light on potential contributing factors to dry weather bacteria levels at the Harbor Beaches.

The wet weather final WLAs will become effective on December 18, 2018. The wet weather BMPs (see Section 5.2) implemented by the City, VCWPD, and County are intended to help reduce the frequency of wet weather exceedance days. Additionally, studies implemented by the City, VCWPD, and County have also made some progress towards identifying sources of elevated bacteria during wet weather. To further improve water quality and prioritize the elimination of human fecal bacteria, the City, VCWPD, and County met with LARWQCB TMDL staff in April 2017 to discuss transitioning the wet weather IP actions from structural stormwater BMPs to a human waste source control approach. This strategic shift is consistent with the latest direction being taken elsewhere in Southern California to meet wet weather bacteria TMDL requirements, and aims to achieve greater public health benefit for less cost. Based on input from LARWQCB staff received in April 2017, a study plan was presented to LARWQCB staff at a follow-up meeting in November 2017 and the first phase of a wet weather MST investigation was completed in winter of 2017-2018, with the results showing low levels of human markers being consistently detected both at the beaches' surfzones and offshore in the greater Harbor waters. Under an agreement with the City, VCWPD, and County, the SCCWRP has been preparing for a second phase of study to investigate and potentially identify and locate human waste sources within the MS4 networks that drain to Kiddie and Hobie beaches. This work will be performed during the 2018/2019 winter season.

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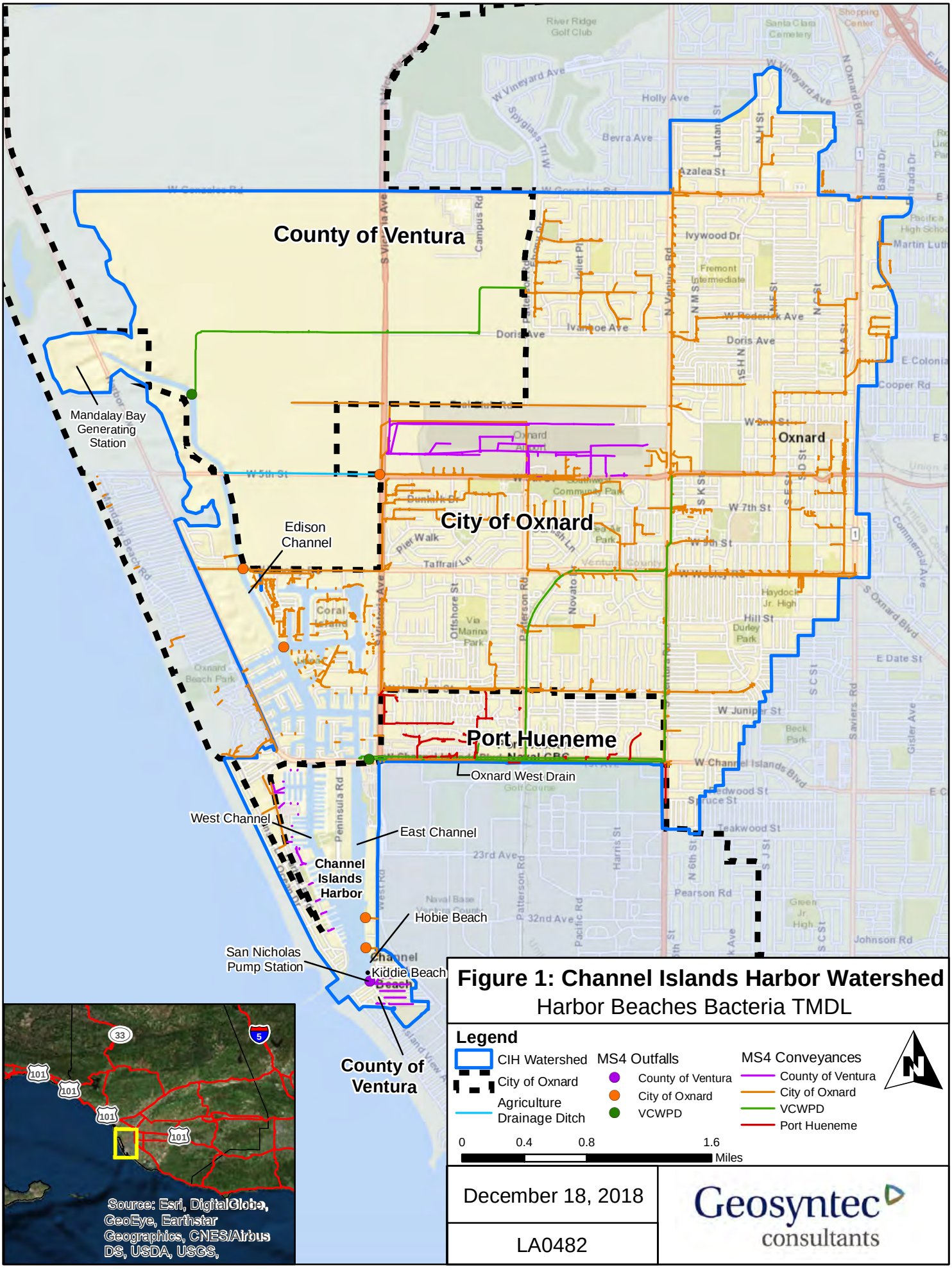


Figure 1: Channel Islands Harbor Watershed

Harbor Beaches Bacteria TMDL

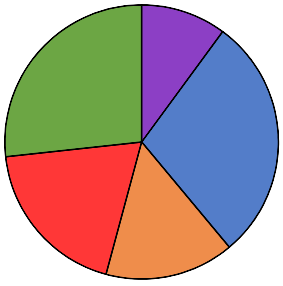
December 18, 2018

LA0482

Geosyntec consultants

Figure 2: County MS4 and Land Use
Harbor Beaches Bacteria TMDL

County Land Uses in CIH Watershed



Legend

- CIH Watershed
- City of Oxnard
- County of Ventura MS4 Outfall
- **MS4 Conveyances**
  - County of Ventura
  - VCWPD
- **Land Use**
  - Parks and Recreation
  - Marina Water Facilities
  - Commercial
  - Multi-family Residential
  - Single-family Residential

0 650 1,300 2,600 Feet

December 18, 2018

LA0482

Geosyntec consultants

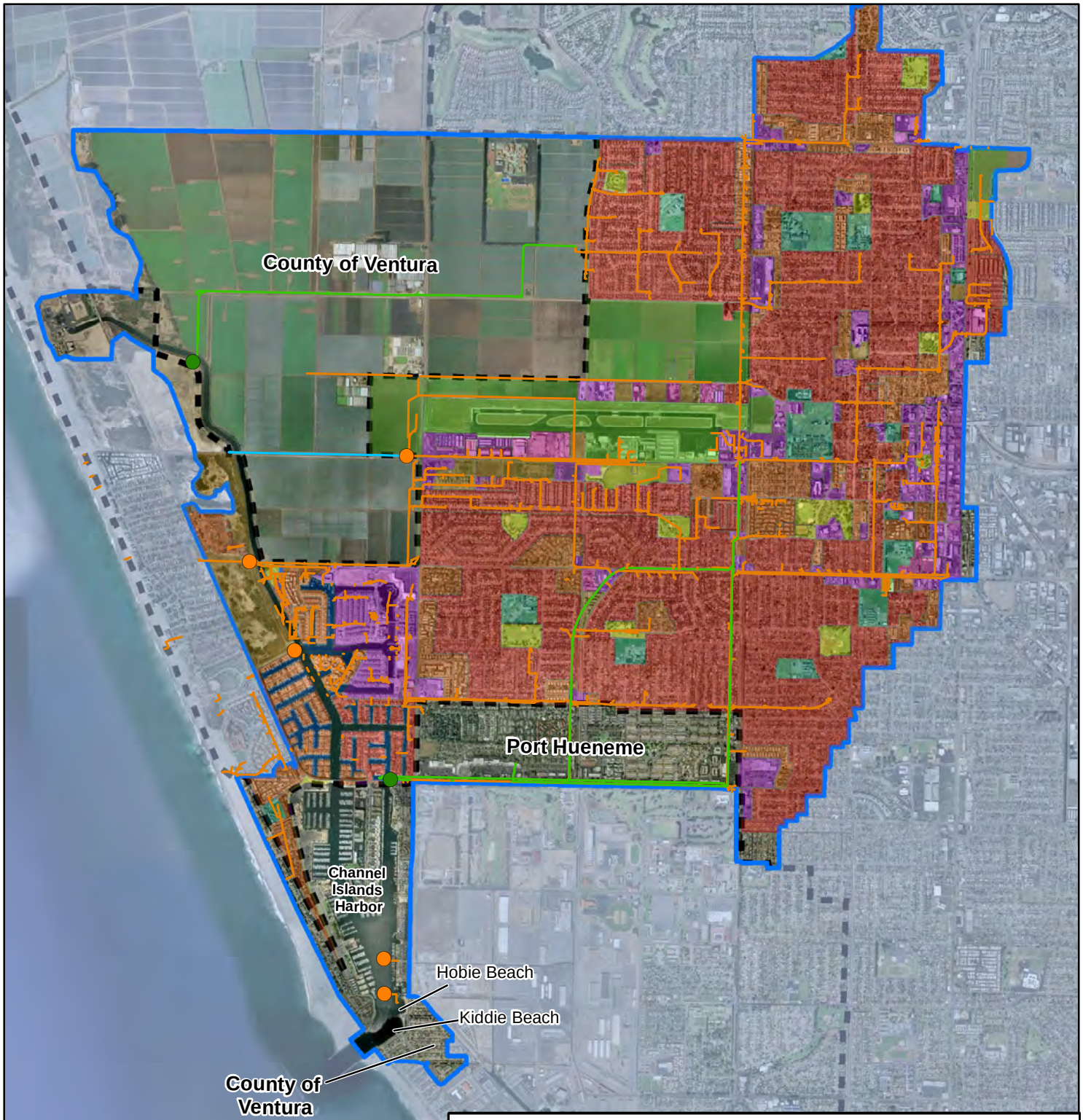
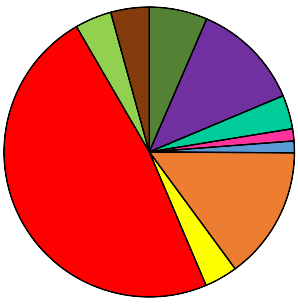


Figure 3: City MS4 and Land Use
Harbor Beaches Bacteria TMDL

City Land Uses in CIH Watershed



Legend

- CIH Watershed
- **MS4 Outfalls**
  - City of Oxnard
  - VCWPD
- Agriculture Drainage Ditch
- **MS4 Conveyances**
  - City of Oxnard
  - VCWPD
  - City of Oxnard

Land Use

- Agriculture
- Commercial
- Education
- Industrial
- Multi-family Residential
- Marina Water Facilities
- Parks and Recreation
- Single-family Residential
- Transportation
- Vacant

0 0.325 0.65 1.3 Miles

December 18, 2018

LA0482

Geosyntec consultants

Figure 4: QMRA Monitoring Locations
Harbor Beaches Bacteria TMDL

Legend

- CIH Watershed
- QMRA Monitoring Locations
- swGravityMain
- Wastewater Force Main

MS4 Outfalls
- County of Ventura
- City of Oxnard

MS4 Conveyances
- County of Ventura
- City of Oxnard

N

0 330 660 1,320 Feet

December 18, 2018

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Figure 5: Locations of Key BMP Implementation

Harbor Beaches Bacteria TMDL

Legend

- CIH Watershed
- Boat Launch Ramp Redevelopment Project
- Wastewater Gravity Sewer
- Wastewater Force Main

MS4 Outfalls

- County of Ventura
- City of Oxnard

MS4 Conveyances

- County of Ventura
- City of Oxnard

0 500 1,000 2,000 Feet

December 18, 2018

LA0482

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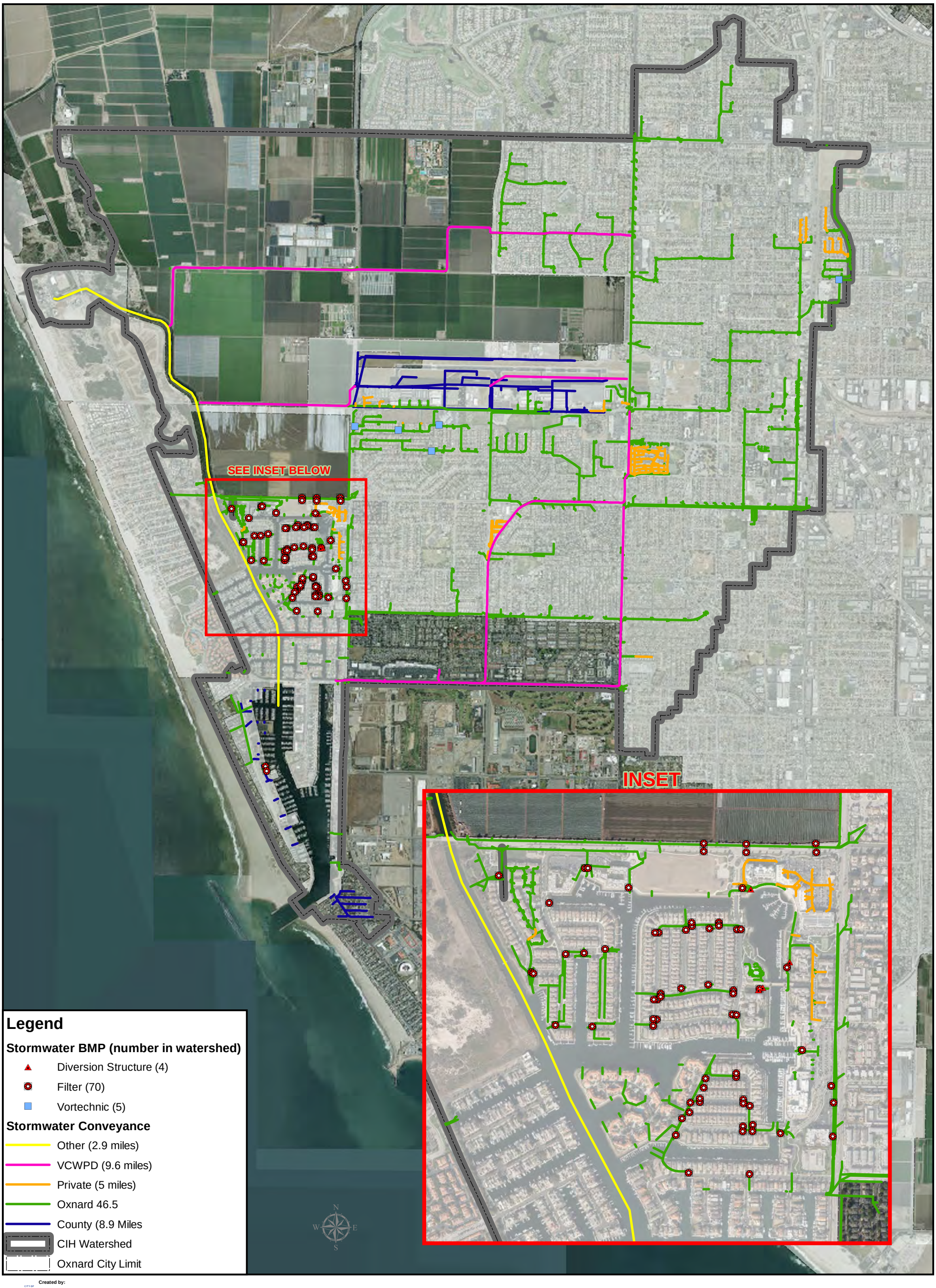
Figure 6

CITY OF OXNARD
CHANNEL ISLANDS HARBOR WATERSHED
STORMWATER CONVEYANCES & BMPS



Created by:
CITY OF OXNARD
Geographic Information Systems Division
December 2018

2,000 0 2,000 4,000 Feet


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Figure 7: Kiddie and Hobie Beach Sampling Locations
Legend
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County of Ventura MS4 Outfalls
City of Oxnard MS4 Outfalls
Sampling Sites
County of Ventura Storm Drain
City of Oxnard Storm Drain
Unincorporated Urban Infill Areas

Appendix A

CIH Bacteria TMDL Data Analysis Report

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1. INTRODUCTION

1.1 Background

The Harbor Beaches of Ventura County, or Kiddie Beach and Hobie Beach, located within the Channel Island Harbor (CIH), are included on the California 303(d) list for bacteria. To address this, a Total Maximum Daily Load (TMDL) was developed for the CIH beaches. The TMDL, an amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan), became effective on December 18, 2008 (Resolution R2007-017). The TMDL Basin Plan Amendment contains numeric limits based on REC-1[1] bacteriological water quality objectives for marine water. The allowable pollutant loadings under the TMDL, or waste load allocations (WLAs), are expressed as an allowable number of days per year that the water quality objectives can be exceeded. The TMDL single sample interim and final WLAs were included in the 2009 Ventura County MS4 Permit, for three seasons: (1) summer dry weather (April 1 to October 31), (2) winter dry weather (November 1 to March 31), and (3) wet weather days (defined as days of 0.1 inches of rain or more plus the three days following the rain event). The geometric mean WLAs listed in the TMDL Basin Plan Amendment are not incorporated into the Ventura County MS4 permit. The Amendment required submittal of Compliance Reports six and eight years after the effective date of the TMDL, that summarized monitoring results relative to TMDL WLAs and implemented activities to improve water quality at the beaches. Two reports were submitted on December 18, 2014 (six years after the TMDL effective date) to fulfill this requirement, one for the City of Oxnard (Geosyntec Consultants, 2014a) and one for the County of Ventura Public Works Agency and the Ventura County Watershed Protection District (Geosyntec Consultants 2014b), and a report was submitted on December 16, 2018 (eight years after the TMDL effective date) for both the City of Oxnard and the County of Ventura Public Works Agency/Ventura County Watershed Protection District (Geosyntec Consultants, 2016). The Amendment requires the Final Compliance Report to be submitted by December 18, 2018 (ten years after the effective date of the TMDL).

The TMDL was developed based on a reference system/antidegradation approach. Therefore, the allowable number of exceedance days for each monitoring site are based on the more stringent of two criteria: (1) exceedance days in the designated reference system (Leo Carrillo Beach), or (2) exceedance days based on historical bacteriological data at the monitoring site (1999-2006). This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing

[1] The REC-1 beneficial use category covers uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs. (LARWQCB 1994)

water quality. In the case of the CIH beaches the number of exceedance days at the reference beach was the more stringent criteria (LARWQCB 2007).

This report presents results from a data analysis performed on the weekly monitoring data for indicator bacteria at the CIH beaches for the TMDL WLAs for which compliance dates have passed; these include the interim and final summer and winter dry weather single sample WLAs, the interim wet weather single sample WLA, and the interim and final geometric mean WLAs. The weekly monitoring data for indicator bacteria at the CIH Beaches were compared with the REC-1 single sample and geometric mean objectives. An exceedance day was counted when any indicator bacteria density exceeded the single sample objective or the rolling 30-day geometric mean objective. Exceedance days were then compared to the interim and final allowable exceedance days for each season.

1.2 Data Analysis Objectives

The following single sample water quality objectives for waters designated REC-1 are referenced in the TMDL:

a. Total coliform density shall not exceed 10,000 MPN/100 mL.

b. Fecal coliform density shall not exceed 400 MPN/100 mL.

c. Enterococcus density shall not exceed 104 MPN/100 mL.

d. If the ratio of fecal-to-total coliform exceeds 0.1, total coliform density shall not exceed 1,000 MPN/100mL.

The single sample WLAs, based on a weekly sampling frequency, are expressed as annual allowable exceedance days and are shown in Table 1 (interim) and Table 2 (final).

Table 1. Interim Single Sample WLAs for Weekly Sampled Sites, Expressed as Annual Allowable Exceedance Days

Location	Summer Dry Weather	Winter Dry Weather	Wet Weather
Hobie Beach	6	4	6
Kiddie Beach	8	4	5

Table 2. Final Single Sample WLAs for Weekly Sampled Sites, Expressed as Annual Allowable Exceedance Days

Location	Summer Dry Weather	Winter Dry Weather	Wet Weather
Hobie Beach	0	1	3
Kiddie Beach	0	1	3

The following rolling 30-day geometric mean water quality objectives for waters designated REC-1 are referenced in the TMDL:

a. Total coliform density shall not exceed 1,000 MPN/100 mL.

b. Fecal coliform density shall not exceed 200 MPN /100 mL.

c. Enterococcus density shall not exceed 35 MPN/100 mL.

The interim 30-day rolling geometric mean WLAs, based on a weekly sampling frequency, are expressed as allowable exceedance days in the TMDL Basin Plan Amendment and are shown in Table 3. The final 30-day rolling geometric mean WLAs are zero allowable exceedance days during any season.

Table 3. Interim 30-day Rolling Geometric Mean WLAs for Weekly Sampled Sites, Expressed as Allowable Exceedance Days

Location	Summer Weather	Winter Weather
Hobie Beach	12	13
Kiddie Beach	8	14

The interim WLAs (listed in Table 1 and Table 3) became effective the date the TMDL went into effect (December 18, 2008) and are applicable until the final WLAs become effective as shown in Table 4.

Table 4. Effective Dates of Final WLAs

Calculation Type and Time Period	Effective Date of Final WLAs
Single Sample WLAs for Dry Weather	December 18, 2013
Single Sample WLAs for Wet Weather	December 18, 2018
Rolling 30-day Geometric Mean WLA	December 18, 2013

1.3 Monitoring Summary

Monitoring at the CIH Beaches is based on TMDL and State monitoring requirements. Monitoring occurs at the beach sampling locations (VCEHD 36000 and VCEHD 37000) on a weekly frequency, year-round. Samples are collected in ankle to knee deep water.

This analysis includes water quality monitoring data from February 4, 2009 through October 31, 2018. The majority of the monitoring data were collected by the Ventura County Environmental Health Department (VCEHD). Some dates with missing data from the VCEHD were filled in with monitoring data collected by the Ventura County Watershed Protection District (VCWPD), including 2/4/2009 to 6/24/2009 and a few other dates in 2009 and 2013.

Sampling has generally occurred on a weekly basis. Typically, if a dry weather sample exceeded a water quality objective a follow-up sample was collected on the following day. As a result, there are numerous weeks with back-to-back sample days. The monitoring periods with unfilled gaps, where samples were not collected by the VCEHD or VCWPD, include the following periods, with explanations for why each period was missed:

- 12/18/2008 – 1/28/2009 (Hobie and Kiddie Beach): State budget cut for ocean water testing, no funding available for this time period.
- 11/22/2010 – 1/17/2011 (Hobie Beach): No sampling due to beach maintenance (gate locked).
- 12/17/2012 – 2/18/2013 (Hobie Beach): Dredging equipment on beach, area fenced (no access).
- 9/9/2014 (Hobie and Kiddie Beach): Dredging equipment on beach, area fenced (no access).
- 9/30/2014 (Hobie Beach): Dredging equipment on beach, area fenced (no access).
- 10/21/2014 (Hobie Beach): Dredging equipment on beach, area fenced (no access).
- 12/29/2014 (Hobie Beach): No access (gate locked).
- 12/19/2016 (Hobie Beach): No access (gate locked).
- 1/24/2017 – 3/13/2017 (Hobie Beach): No access (gate locked).

Table 5 shows a summary of missed weekly sampling at both beaches for each season (as defined for the single sample WLA) and year. Table 6 shows a summary of missed weekly sampling at both beaches for each season (as defined for the Geometric Mean WLA) and year.

Table 5. Summary of Missing Data (Seasons Defined for Single Sample WLA)

TMDL Year (Nov 1 - Oct 31)	Missed Weekly Samples					
	Summer Dry		Winter Dry		Wet	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2008/2009[1,2]	0	0	9	9	4	4
2009/2010	0	0	0	0	0	0
2010/2011	0	0	4	0	5	0
2011/2012	0	0	0	0	0	0
2012/2013	0	0	7	0	3	0
2013/2014	3	1	0	0	0	0
2014/2015	0	0	1	0	0	0
2015/2016	0	0	0	0	0	0
2016/2017	0	0	4	0	6	0
2017/2018	0	0	0	0	0	0

1. Four of the nine weeks not sampled during the 2009 winter dry season were not sampled because the TMDL was not effective until December 18, 2008.

2. Three of the four weeks not sampled during the 2009 wet season were not sampled because the TMDL was not effective until December 18, 2008.

Table 6. Summary of Missing Data (Seasons Defined for Geometric Mean WLA)

TMDL Year (Nov 1 - Oct 31)	Missed Weekly Samples			
	Summer		Winter	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2008/2009[1]	0	0	13	13
2009/2010	0	0	0	0
2010/2011	0	0	9	0
2011/2012	0	0	0	0
2012/2013	0	0	10	0
2013/2014	3	1	0	0
2014/2015	0	0	1	0
2015/2016	0	0	0	0
2016/2017	0	0	10	0
2017/2018	0	0	0	0

1. Seven of the 13 weeks not sampled during the 2009 winter season were not sampled because the TMDL was not effective until December 18, 2008.

2. ANALYSIS METHODOLOGY

2.1 Single Sample

For each sample result, the measured indicator bacteria concentrations were compared to the single sample water quality objectives. If any one of the objectives were exceeded, one exceedance was counted, with exceedance counts summed by season to compare with weekly sampling allowed exceedance days. Occasional follow-up samples result in multiple samples in a week. If both samples exceed objectives, this is counted as one weekly exceedance. However, if the first day exceeds but the second day does not, this counts as $1/7^{th}$ (0.143) of a weekly exceedance to enable comparison with allowed exceedance days since these assume strict weekly sampling.

Single sample exceedance day totals were analyzed by season. For each TMDL year (November 1 – October 31), sampling days were classified as a winter dry, summer dry, or wet day. Wet days are classified as days with at least 0.1 inches of rain and the three days following, based on rainfall data from the Port Hueneme – Oxnard Sewer Plant station (VCWPD #017C)[2] and the CIH – Kiddie Beach station (VCWPD #215A)[3]. Winter dry weather is defined as days between November 1 and March 31 that are not classified as wet days. Summer dry weather includes days between April 1 and October 31 that are not wet weather days. The number of allowable exceedance days listed in the TMDL Basin Plan Amendment were calculated, by the Regional Board staff, based on the number of wet days during the 90^{th} percentile storm year[4] (LARWQCB 2007). There were 79 wet days during the 90^{th} percentile storm year at the CIH rain gage station (VCWPD #215) (based on 50 years of record, 1964-2013). None of the TMDL compliance years had more wet days than the 90^{th} percentile storm year; though 2010, 2011, and 2017 were close to the 90^{th} percentile year with 75, 72, and 78 wet days, respectively.

2.2 Geometric Mean

The 30-day rolling geometric mean calculations were performed based on approaches set forth by the TMDL Basin Plan Amendment, the TMDL staff report (LARWQCB, 2007), and conversation with LARWQCB staff (Man Voong, personal communication, October

[2] Note that the TMDL used historical rainfall data from the Los Angeles International Airport (LAX) meteorological station for calculating the WLAs, since this station has the longest historical rainfall record (54 years) in the Los Angeles region.

[3] Hourly rainfall data were downloaded from the VCWPD Hydrologic Data Server (http://www.vcwatershed.net/hydrodata/php/getstations.php?dataset=rain_hour) to determine daily rainfall totals. The Port Hueneme – Oxnard Sewer Plant station (VCWPD # 017C) was used for 2008 – 2015. The new CIH – Kiddie Beach station (VCWPD #215A) came online partway through 2015 and therefore was used for 2016 through 2018 and will be used for future analyses. Hourly data from 9/30/2018 – 10/9/2018 are preliminary data and subject to revision. Hourly data from 10/9/2018 – 10/31/2018 are unverified data.

[4] The "storm year" is defined as November 1 to October 31 to be consistent with the TMDL years.

16, 2014). These approaches maintain that geometric means are to be computed based on a minimum of five samples on a rolling 30-day basis during each TMDL season.

For weekly geometric mean calculations, the following procedure is used:

1. A rolling 30-day geometric mean is calculated every day that a sample is collected, as long as the following conditions are true:
    a. There are at least five samples collected in the rolling 30-day window.
    b. The 30-day window is contained within the same season (i.e. summer or winter).
2. If there are not at least five samples in the 30-day window or all samples were not collected during the same season, there are insufficient samples to perform the geometric mean calculation.

Recent Southern California MS4 permits and TMDL include slight variations on the calculation approach of geometric means, including the exclusion of wet weather results in the calculation (San Diego MS4 permit, 2013) and the calculation of a 6-week rolling geometric mean (LARWQCB, 2014).

For the total and fecal coliform geometric mean calculation, the non-detect results were replaced with the value of the lower detection limit of that sample. For the enterococcus geometric mean calculation, the non-detect results with a lower detection limit less than 3.7 organisms/100 mL were replaced with the value of the lower detection limit of that sample, while the non-detect results with lower detection limit greater than or equal to 3.7 organisms/100 mL were replaced with a value of 3.7 organisms/100 mL. This approach is consistent with the approach used by the Los Angeles Regional Water Quality Control Board in the Los Angeles region's 2012 bacteria TMDL reopeners, based on data analyses performed by the City of Los Angeles[5].

The number of geometric mean calculations performed on weekly samples and the total number of geometric mean objective exceedances, separated by summer and winter season, were used to determine an exceedance percentage for each TMDL year and season. Sampling days with insufficient data to calculate a geometric mean (as defined above) did not contribute to the exceedance percentage. Similar to the single sample calculations, a follow-up sample (collected after an exceedance day) that was above an objective was not

[5] This is based on the City of Los Angeles Environmental Monitoring Division finding that, "Assuming a normal distribution of the log results, 90% of results reported as less than 10, would be less than 3.7," as described in the June 2012 Los Angeles Bacteria TMDL Reconsideration Staff Report ("Reconsideration of Certain Technical Matters of the Santa Monica Bay Beaches Bacteria TMDLs; the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL; and the Los Angeles Harbor Inner Cabrillo Beach and Main Ship Channel Bacteria TMDL – Staff Report")

counted as a separate exceedance. A follow-up sample that was below an objective meant the first day was only counted as a fractional exceedance ($1/7^{th}$ or 0.143), to allow comparison with allowed exceedance days since these assume strict weekly sampling.

3. RESULTS

3.1 Single Sample Results

The 2009-2013 single sample exceedance days for dry weather (both summer and winter) are compared to interim allowable exceedance days. The 2014 TMDL year results are compared to interim allowable exceedance days for data collected before December 18, 2013, while data collected for the remainder of the 2014 TMDL year are compared to final allowable exceedance days. Results from the 2015-2018 TMDL years for dry weather single sample exceedance days (both summer and winter) are compared to final allowable exceedance days. All single sample exceedance days for wet weather are compared to the interim allowable exceedance days since the final wet weather WLAs are not effective until December 18, 2018. Table 7 through Table 9 summarize the seasonal monitoring results for each TMDL year including the total number of weekly samples collected at each location, the number of single sample exceedance days based on water quality objectives discussed in section 1.2, and the resulting exceedance percentage. The interim and final allowable exceedance days for each location are shown graphically in Figure 1 through Figure 3.

Table 7. Summer Dry Weather Single Sample Monitoring Results

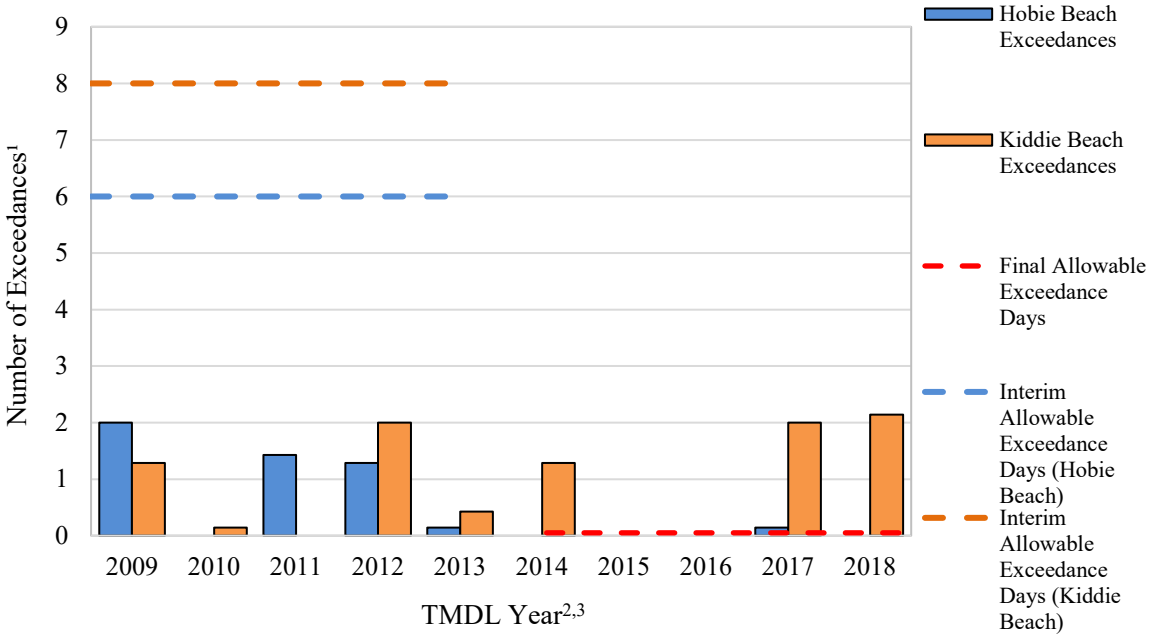
TMDL Year (Apr 1 - Oct 31)	Weeks Sampled		Exceedance Days[1,2]		Allowable Exceedance Days		Exceedance Percentage[3]	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2009	29	29	2.0	1.3	6	8	6.9%	10%
2010	24	24	0	0.14	6	8	0%	4.2%
2011	28	28	1.4	0	6	8	14%	0%
2012	30	30	1.3	2.0	6	8	13%	13%
2013	30	30	0.14	0.43	6	8	3.3%	10%
2014	28	30	0	**1.3**	0	0	0%	13%
2015	25	25	0	0	0	0	0%	0%
2016	29	29	0	0	0	0	0%	0%
2017	30	31	**0.14**	**2.0**	0	0	3.3%	6.5%
2018	31	31	0	**2.1**	0	0	0%	10%

1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.

2. Exceedance days in **bold** are above the applicable WLA

3. Exceedance percentage represents total number of sampled exceedance days divided by the total number of samples collected during the season.

Figure 1. Summer Dry Weather Single Sample Exceedances



1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
2. Zero exceedance days in 2010, 2014, 2015, 2016, and 2018 at Hobie Beach.
3. Zero exceedance days in 2011, 2015, and 2016 at Kiddie Beach

Table 8. Winter Dry Weather Single Sample Monitoring Results

TMDL Year (Nov 1 - Mar 31)	Weeks Sampled		Exceedance Days[1,2]		Allowable Exceedance Days		Exceedance Percentage[3]	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2009	6	6	2.0	0	4	4	33%	0%
2010	14	14	1.1	0.14	4	4	21%	7.1%
2011	8	12	0	1.0	4	4	0%	8.3%
2012	15	15	0	1.1	4	4	0%	13%
2013	8	14	0	0	4	4	0%	0%
2014 (Interim)[4]	5	5	1.0	2.0	4	4	20%	40%
2014 (Final)[5]	13	13	0	**3.0**	1	1	0%	23%
2015	14	15	1.0	**3.0**	1	1	7.1%	20%
2016	17	17	1.0	**2.0**	1	1	5.9%	12%
2017	7	12	0	**2.0**	1	1	0%	17%
2018	16	16	0	1.0	1	1	0%	6.3%

1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.

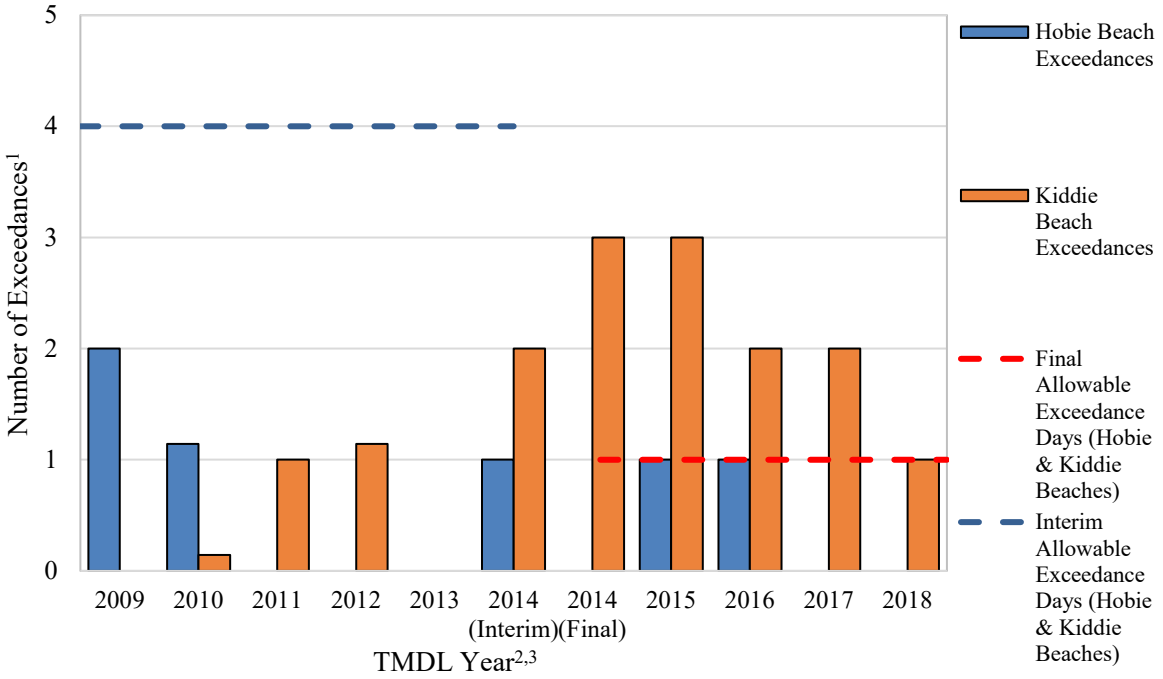
2. Exceedance days in **bold** are above the applicable WLA

3. Exceedance percentage represents total number of sampled exceedance days divided by the total number of samples collected during the season.

4. 2014 (Interim) include dates before December 18, 2013

5. 2014 (Final) includes December 18, 2013 and subsequent days.

Figure 2. Winter Dry Weather Single Sample Exceedances



1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
2. Zero exceedance days in 2009 and 2013 at Kiddie Beach
3. Zero exceedance days in 2011, 2012, 2013, 2017, and 2018 at Hobie Beach.
4. 2014 (Interim) include dates before December 18, 2013.
5. 2014 (Final) includes December 18, 2013 and subsequent days.

Table 9. Wet Weather Single Sample Monitoring Results

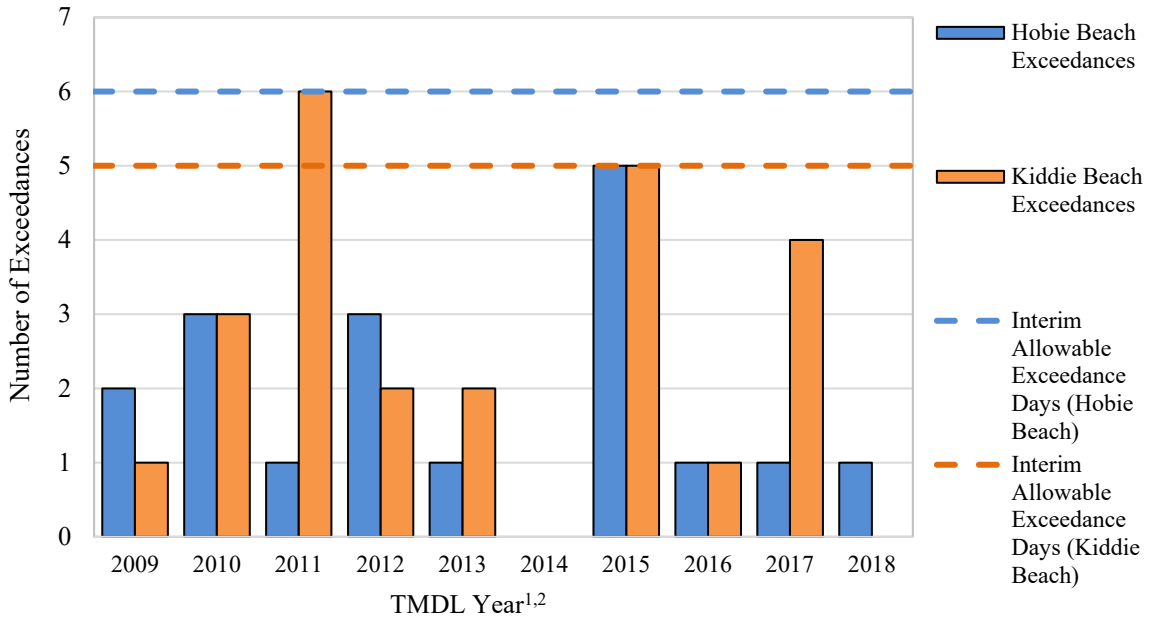
TMDL Year (Nov 1 - Oct 31)	Wet Weather Days	Samples Collected		Exceedance Days[1,2]		Allowable Exceedance Days		Exceedance Percentage[3]	
		Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2009	59	4	4	2	1	6	5	50%	25%
2010	75	14	14	3	3	6	5	21%	21%
2011	72	7	12	1	**6**	6	5	14%	50%
2012	36	8	8	3	2	6	5	38%	25%
2013	52	4	8	1	2	6	5	25%	25%
2014	25	3	3	0	0	6	5	0%	0%
2015	62	13	12	5	5	6	5	42%	45%
2016	41	7	7	1	1	6	5	14%	14%
2017	78	4	11	1	4	6	5	25%	36%
2018	28	4	4	1	0	6	5	25%	0%

1. Follow-up samples were not generally collected for wet weather days. Therefore, the exceedance day totals only include sampled days.

2. Exceedance days in **bold** are above the applicable WLA

3. Exceedance percentage represents total number of sampled exceedance days divided by the total number of samples collected by season.

Figure 3. Wet Weather Single Sample Exceedances



1. Zero exceedance days in 2014 at Hobie Beach.
2. Zero exceedance days in 2014 and 2018 at Kiddie Beach.

3.2 Geometric Mean Results

The 2009-2013 geometric mean exceedance days (i.e., exceedances of any of the rolling 30-day geometric mean objectives) are compared to interim allowable exceedance days. The 2014 TMDL year results for data collected before December 18, 2013 are compared to interim allowable exceedance days, while data collected on or after December 18, 2013 are compared to final allowable exceedance days. Summaries of geometric mean calculation results for the summer and winter weather monitoring data are shown in Table 10 and Table 11.

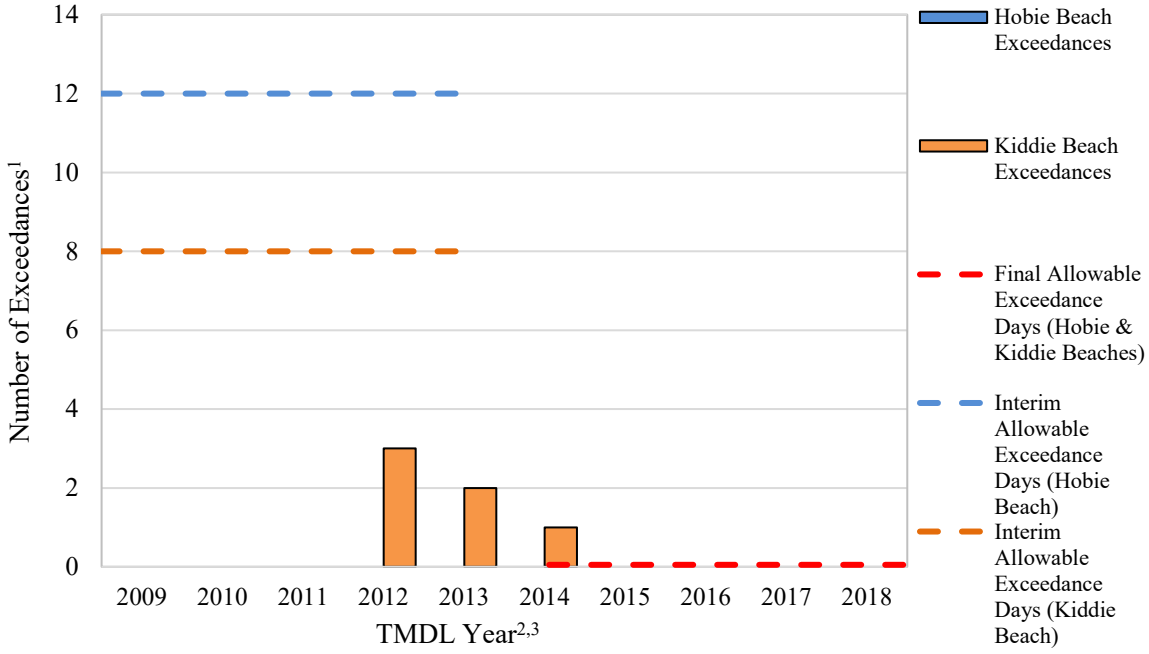
The number of weekly geometric means calculated for both locations are included along with the number of exceedance days based on geometric mean water quality objectives. Geometric mean exceedance days, including interim and final allowable exceedance days, are illustrated for summer in Figure 4 and winter in Figure 5.

Table 10. Summer Geometric Mean Exceedance Results

TMDL Year (Apr 1 - Oct 31)	Days with Geometric Mean Calculations		Exceedance Days[1,2]		Allowable Exceedance Days		Exceedance Percentage[3]	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2009	26	28	0	0	12	8	0%	0%
2010	28	27	0	0	12	8	0%	0%
2011	28	26	0	0	12	8	0%	0%
2012	30	29	0	3	12	8	0%	14%
2013	28	30	0	2	12	8	0%	10%
2014	18	22	0	**2**	0	0	0%	9.1%
2015	27	26	0	0	0	0	0%	0%
2016	27	27	0	0	0	0	0%	0%
2017	27	27	0	0	0	0	0%	0%
2018	27	27	0	0	0	0	0%	0%

1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
2. Exceedance days in **bold** are above the applicable WLA
3. Exceedance percentage represents total number of sampled exceedance days divided by the total number of sample days with geometric mean calculations during the season.

Figure 4. Summer Weekly Geometric Mean Exceedances



1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
2. Zero geometric mean exceedances in 2009, 2010, 2011, 2015, 2016, 2017, and 2018 at Kiddie Beach.
3. Zero geometric mean exceedances in all years at Hobie Beach.

Table 11. Winter Geometric Mean Exceedance Results

TMDL Year (Nov 1 - Mar 31)	Days with Geometric Mean Calculations		Exceedance Days[1,2]		Allowable Exceedance Days		Exceedance Percentage[3]	
	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach	Hobie Beach	Kiddie Beach
2009	5	5	5	0	13	14	100%	0%
2010	20	19	5	5.1	13	14	30%	32%
2011	6	17	0	9	13	14	0%	53%
2012	17	17	0	3	13	14	0%	18%
2013	3	15	0	0	13	14	0%	0%
2014 (Interim)[4]	3	3	0	3	13	14	0%	100%
2014 (Final)[5]	14	14	0	**3**	0	0	0%	21%
2015	13	18	0	**12**	0	0	0%	67%
2016	18	18	0	**1**	0	0	0%	5.6%
2017	0	17	0	**13**	0	0	0%	76%
2018	12	12	0	0	0	0	0%	0%

1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.

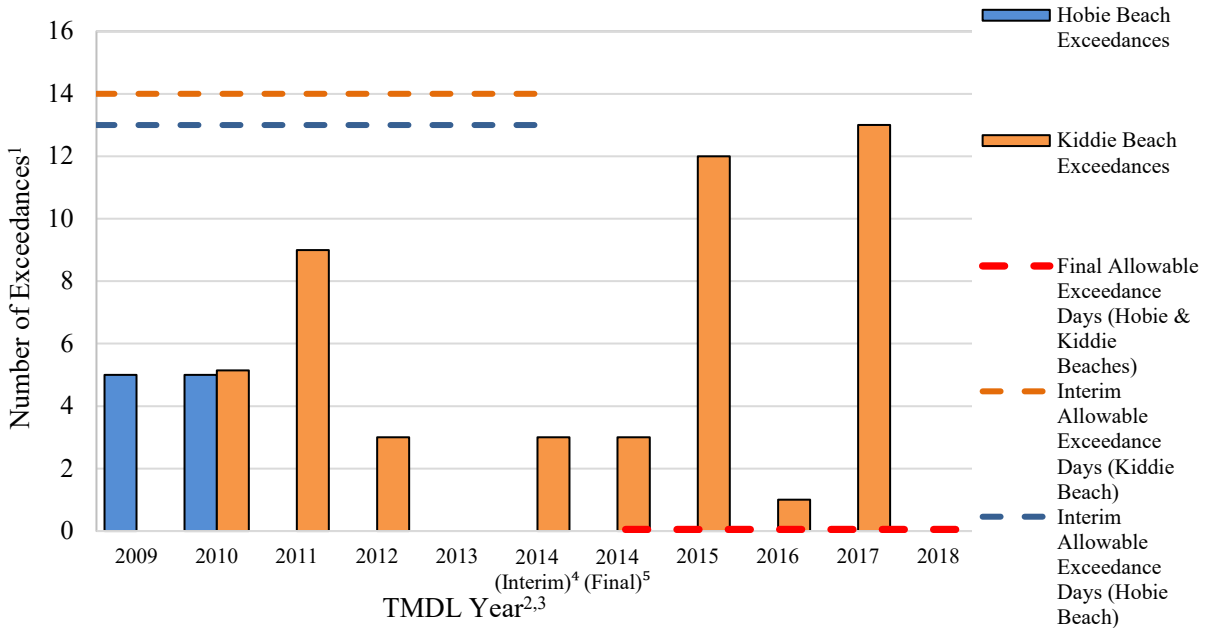
2. Exceedance days in **bold** are above the applicable WLA

3. Exceedance percentage represents total number of sampled exceedance days divided by the total number of sample days with geometric mean calculations during the season.

4. 2014 (Interim) include dates before December 18, 2013.

5. 2014 (Final) includes December 18, 2013 and subsequent days.

Figure 5. Winter Weekly Geometric Mean Exceedances



1. As discussed in section 2.1, if a follow-up sample did not exceed a water quality objective, then only a fractional exceedance was counted for that week.
2. Zero geometric mean exceedances in 2009, 2013, and 2018 at Kiddie Beach.
3. Zero geometric mean exceedances in 2011 through 2018 at Hobie Beach.
4. 2014 (Interim) include dates before December 18, 2013.
5. 2014 (Final) includes December 18, 2013 and subsequent days.

4. OBSERVATIONS

Interim summer and winter dry weather single sample WLAs were never exceeded. Final summer dry weather single sample WLAs were exceeded once at Hobie Beach in 2017 and three times at Kiddie Beach in 2014, 2017, and 2018. Final winter dry weather single sample WLAs were exceeded four times at Kiddie Beach in 2014, 2015, 2016, and 2017. It should be noted that samples were missed at Hobie and Kiddie Beaches in the summer and winter dry seasons during multiple years (see Table 5). Although final WLAs were exceeded at Kiddie Beach during dry weather, dry weather BMPs have been implemented to eliminate dry weather flows (see Compliance Report for additional details). Additionally, studies have been conducted to demonstrate that the County and City's local MS4 outfalls are not contributing dry weather flows to the Harbor Beaches and therefore are not causing or contributing to the exceedances measured at the Harbor Beaches during dry weather.

Although final WLAs for wet weather do not become effective until December 18, 2018, the majority of wet seasons between 2009 and 2018 met the final allowable exceedance days of three days for both beaches. Only the 2011 wet season surpassed the interim allowable exceedance days for wet weather sampling (at Kiddie Beach).

Similar to single sample dry weather monitoring results, there were no exceedances of interim geometric mean WLAs at Kiddie or Hobie beaches. Final geometric mean WLAs for the summer season were only exceeded at Kiddie Beach in 2014, while final geometric mean WLAs for the winter season were exceeded at Kiddie Beach in 2014, 2015, 2016, and 2017.

5. REFERENCES

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Appendix B

Additional Information for Implemented BMPs

CONTENTS

1 SCCWRP MONITORING ACTIVITIES

(Provided by the County)

Ventura County
Watershed Protection District
Water & Environmental Resources Division

MEMORANDUM

DATE: June 2, 2015

FROM: Bram Sercu, Water Resources Specialist

TO: Ewelina Mutkowska, Engineering Manager

SUBJECT: Summary of host-specific marker testing results at Kiddie Beach

Introduction

Kiddie Beach is located along the entrance channel to Channel Islands Harbor, and experiences occasional exceedances of numeric targets specified in the Harbor Beaches of Ventura County Bacteria TMDL. A recent source identification study suggested that most likely sources of fecal indicator bacteria include nearby sanitary sewer lines, birds and dogs.[1] However, dredging activities in the harbor entrance channel occurred in October of 2014, and appeared to coincide with elevated bacteria levels at the beach, based on weekly beach water quality monitoring. As weekly beach water quality monitoring at Kiddie Beach includes collection and pre-processing of samples for the Bight 2013 Microbiology study, there was an opportunity to analyze samples for host-specific genetic markers and assess whether dredging in the channel could be associated with elevated bacteria levels. The samples collected as part of this study were taken before, during and after construction work to rehabilitate the sanitary sewer force main adjacent to the beach, and were also evaluated for the presence of human waste markers, which were detected at relatively high frequency in 2012.[1]

Summary of Results

Ten samples were analyzed for bacteria indicators and human (HF183), dog (DogBact) and bird (BirdGFD) genetic markers. Genetic markers were analyzed by Weston Laboratories, Inc. One sample was collected during dredging of harbor entrance channel (10/21), other samples were analyzed for comparison, i.e. the week after dredging (10/28), just prior to dredging (9/30 – 10/7) and before the summer (5/6 – 6/3). The latter samples were taken before start of construction for sanitary sewer forced main rehabilitation by the Channel Islands Beach Community Services District, when low amounts of sewage may have been contaminating beach waters.[1] Sampling results, field notes regarding potential bacteria sources, and timing of dredging activities and sewer rehabilitation are summarized in Table 1.

[1]Modeling Fecal Indicator Bacteria in Ventura County: Quantitative Microbial Risk Assessment, Ventura County, California. Prepared by Southern California Coastal Water Research Project (SCCWRP), March 2013.

Enterococcus concentrations were highest when dredging activities in the harbor entrance channel were occurring (10/21 and 10/22). Human markers were not detected in any sample, either before, during or after construction work to replace sewer force main. Dog markers were detected (but not quantifiable) on only one occasion, and observation did not correspond to observed dog activity on beach. Dog fecal deposits were never observed. Bird markers were detected in 8 of the 10 samples. However, bird markers were not detected during dredging, even though birds and bird fecal deposit were observed.

Table 1. Summary of sampling results, field observation and dredging and sewer rehabilitation activities relevant to Kiddie Beach. Concentrations of Enterococcus and host-specific markers are shown as MPN/100 ml and copies/100 ml, respectively (ND = not detected; DNQ = detected but not quantifiable; n/a = not analyzed).

Date	ENT	Human	Dog	Bird	Activity	Deposit	Channel dredging[1]	New sewer[2]
5/6/14	31	ND	ND	10,551	Human/dog	Bird	No	No
5/13/14	<10	ND	ND	3,508	Human	ND	No	No
5/20/14	31	ND	ND	18,215	ND	ND	No	No
5/27/14	<10	ND	ND	10,413	Human/dog	ND	No	No
6/3/14	<10	ND	ND	3,575	ND	Bird	No	No
9/30/14	<10	ND	ND	ND	ND	ND	No	Constr.
10/7/14	42	ND	DNQ	8,678	ND	ND	No	Constr.
10/14/14	<10	ND	ND	2,220	ND	ND	No	Constr.
10/21/14	**659**	ND	ND	ND	Bird	Bird	Yes	Constr.
10/22/14	**738**	n/a	n/a	n/a	n/a	n/a	Yes	Yes
10/28/14	31	ND	ND	3,152	ND	ND	No	Yes

[1]Dredging activities at the entrance channel west of Kiddie Beach were conducted between 10/14 (approx. 11:30 AM) and 10/23.

[2]Rehabilitated force main was placed back in service on 10/22. Construction was likely ongoing between 9/30 and 10/22.

Discussion

Based on monitoring data presented here, there's no evidence that sanitary sewers or dogs are impacting Kiddie Beach. However, birds are likely contributors to *Enterococcus* concentrations at Kiddie beach throughout the year.

However, the cause of the *Enterococcus* exceedances on 10/21 and 10/22, when dredging occurred, could not be determined. Insufficient data is available to determine if birds were contributing to these *Enterococcus* exceedances (one sample on 10/21). Bird markers were absent in the 10/21 sample, but on the other hand bird activity and bird deposits were observed. Note that dredging activities often attract birds, as pontoon structures provide a place for roosting (Fig. 1). A County storm drain diversion outfall south of Kiddie Beach could have been contributing to elevated Enterococcus levels as well, as this outfall was identified as a potential source of similarly high *Enterococcus* concentrations earlier in 2014, before the start

of the dredging activities (results not shown here).[2] Available monitoring data is insufficient to determine whether dredging activities can directly impact *Enterococcus* concentrations, e.g. by stirring up sediment. Prior dredging activities also occurred between October 2012 and January 2013, but *Enterococcus* concentrations have not been evaluated to determine potential dredging impacts.

Overall, these results support plans laid out in the 2014 TMDL Compliance Report to update operation of the County storm drain diversion to a year-round schedule, and to determine if dry weather exceedances of numeric targets continue following this and other (i.e. sewer rehabilitation) recent improvements. If exceedances continue, birds should be a focus of future source identification investigations. It is also recommended to collect water quality samples when dredging occurs again in one or two years, in order to better determine potential impacts of dredging activities.

Recommendations for additional work

To determine the role of birds in *Enterococcus* exceedances, it is recommended to analyze archived samples with known high *Enterococcus* concentrations for bird markers. Five samples with high Enterococcus concentrations were identified in the Bacteria TMDL Compliance Report[2], and filtered water samples were archived for these samples as part of the Bight '13 Microbiology project. Analyzing these samples for human and dog markers will also strengthen the conclusions related to these sources.
Analyzing *Enterococcus* concentrations and dredging activities between October 2012 and January 2013 may help determine if dredging may cause elevated *Enterococcus* concentrations.

Fig. 1. Birds roosting on pontoon structure used for harbor dredging.

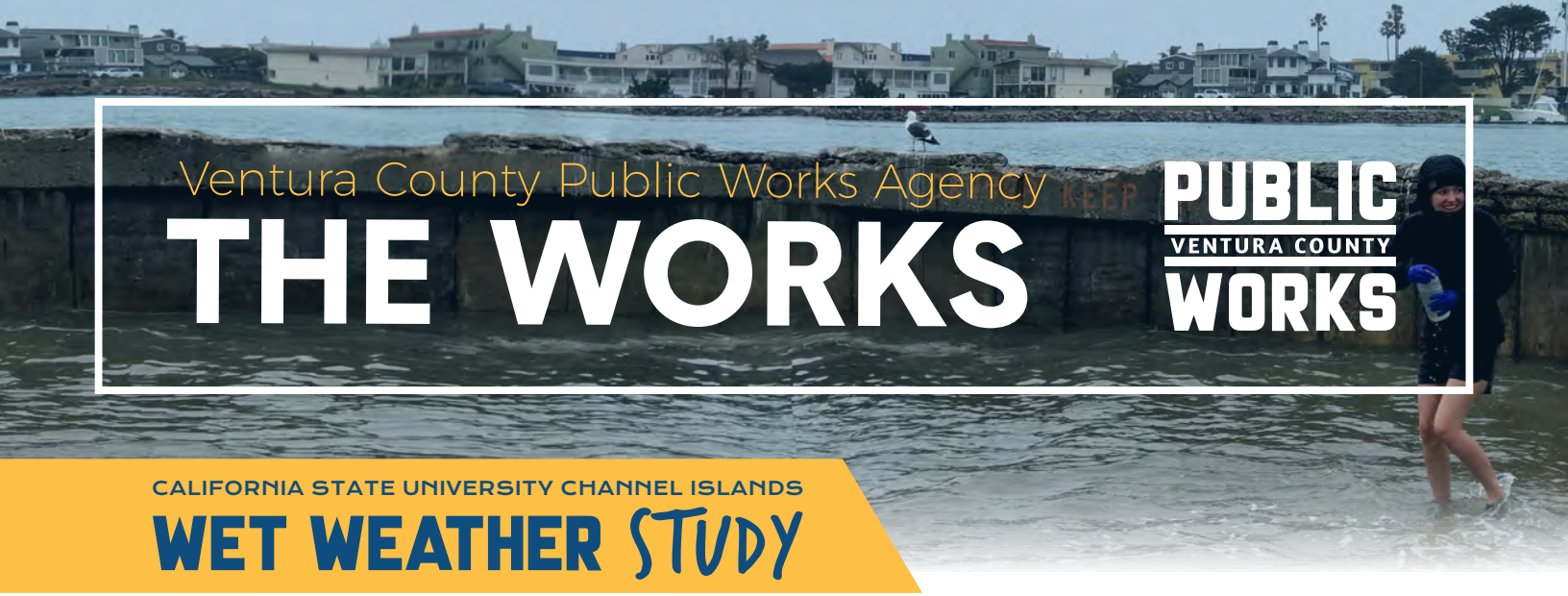
[2]Bacteria Total Maximum Daily Load Draft Compliance Report. Harbor Beaches of Ventura County (Kiddie and Hobie Beach). Prepared by GeoSyntec Consultants, December 18, 2014.

3 2017-2018 WET WEATHER MST SAMPLING SEASON – VCWPD, CITY, COUNTY


COBALT X


DANGER KEEP OFF


EXIT



Ventura County Public Works Agency

THE WORKS

PUBLIC VENTURA COUNTY WORKS

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS
WET WEATHER STUDY

This past winter season of 2017/2018, California State University Channel Islands (CSUCI) environmental studies students had the opportunity to experience firsthand how to properly collect water quality samples and evaluate bacteria pollution sources affecting our local beaches after a large storm and how to improve beach water quality. The partnership, started by Ventura County Public Works Agency (VCPWA), is in its first year.

The wet weather study took place at Kiddie and Hobie beaches in the Channel Islands Harbor. It was led by the scientists from the Southern California Coastal Water Research Project (SCCWRP), in a partnership with the Ventura County Public Health Laboratory (VCPHL) and CSUCI.

> **"It's cool to be involved in something so close to home and to understand how Public Works handle problems like this"**

said Nick Cooper, a junior at CSUCI who is studying Environmental Science and Resource Management.

The students collected water samples for bacteria testing at the VCPHL facility in Oxnard, CA. A portion of each sample was transported to Costa Mesa, CA for human marker analysis at the SCCWRP laboratory. The data will be evaluated to learn where the bacteria pollution is coming from during storm events.

"The next step will be tracking bacteria pollution sources within the areas draining to the beaches during storm events." Ewelina Mutkowska, VCPWA's Stormwater Program Manager, who also added, "once pollution sources are identified, VCPWA in collaboration with City of Oxnard and other Agencies will develop a cost effective strategy to reduce bacteria pollution and improve the water quality to comply with the Clean Water Act."

Mutkowska was excited about the opportunity to educate students about the importance of caring for our local beaches.

In the end, the study is not only a great opportunity to address bacteria in our local beaches, but to help educate the next generation of students who will be the ones caring for our local beaches in the years to come.

4 PUBLIC INFORMATION AND PARTICIPATION PROGRAM (COUNTY) AND EDUCATIONAL SIGNAGE (CITY)

5 PUBLIC OUTREACH - CITY

Stormwater

What we can do...and why we should

Remember, the storm drain system was constructed to protect public health and safety by preventing flooding of homes, businesses, and streets. The strom drain system is typically built with the street system, so that the new streets will drain during storm events. The storm drain system consists of gutters, catch basins, manholes, underground pipes, roadside ditches, and channels. When it rains, or if the yards are over watered, untreated pollutant sources are flushed to the strom drain system and into the ocean.

All of us are responsible for ensuring that our ocean and the contributing waterways remain free of pollution. Make the right choice, be part of the solution and not the problem.

Remember - you are the solution to stormwater pollution.

(Provided by the City - http://publicworks.cityofoxnard.org/)

Landscaping & Gardening

Fertilizers and Pesticides - Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Adjust the timing of your sprinklers to avoid overwatering. Consider using drip or bubbler irrigation instead of sprinklers.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts.
- Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains.
- Cover piles of dirt or mulch being used in landscaping projects.

Permeable Pavement - Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on strom drains to divert unwanted water. Permeable pavement systems allow rain to soak through, decreasing stormwater runoff.

Rain Barrels - You can collect rainwater from rooftops in rain barrels. The water can be used later to water lawn, garden areas, or houseplants.

Grassy Swales - Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

To learn more about water wise landscaping design and plants, visit the City of Oxnard's South Oxnard Branch Library California Friendly Demostration Garden and the Water Section's Landcaping website.

(Provided by the City - http://publicworks.cityofoxnard.org/)

Household Hazardous Waste

Some common sources of contaminants in storm runoff include materials such as used motor oil, antifreeze, and paint products that people pour or spill into a street or storm drain.

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

- Never use the gutter or storm drain system for disposal of household waste.
- Properly use and store all toxic products including cleaners, solvents and paints.
- Select water based or latex paints whenever possible.
- Use kitty litter or other absorbent material to clean up spills from paved surfaces.

The City of Oxnard Environmental Resources offers Household Hazardous Waste Collection events. For more information, or to make an appointment call (805) 987-0717.

(Provided by the City - http://publicworks.cityofoxnard.org/)

Auto Care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into the storm drains has the same result as dumping the materials directly into our water system.

- Use a commercial car wash that treats or recycles its wastewater.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Did you know that Oil Recycling Centers are a free service to all City of Oxnard residents? To learn more visit the Environmental Resources Division website for locations of Certified Used Oil Collection Centers.

(Provided by the City - http://publicworks.cityofoxnard.org/)

6 PROPER PET WASTE DISPOSAL – COUNTY AND CITY

(Provided by the County)

Here is how you can help!

Pet Care

Why should I pick up after my pet?

- When walking your pet, remember to pick up the waste and dispose of it properly. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain.
- Pet waste is more than smelly and unsightly, it can be a major source of bacteria and excess nutrients in local waters.

What should I do with my pet's waste?

- Toss it: place the waste in a plastic grocery bag, tie the end securely and place in trash.

(Provided by the City - http://publicworks.cityofoxnard.org/)

The Watershed Should Only Shed Water

The storm drain system is a vast network of gutters, pipes and open channels designed for flood control, which directs runoff – untreated – from the watershed straight into the waterways.

Polluted stormwater contaminates streams, rivers and lakes. It can kill or damage plants, fish and wildlife, and can degrade the quality of our water.

The Community for a Clean Watershed program was established to protect Ventura County's watershed by preventing stormwater pollution.

For more information on how to keep our watersheds clean, go to ***cleanwatershed.org***.

COMMUNITY FOR A CLEAN WATERSHED
cleanwatershed.org

Printed on recycled paper

Watershed Protection Tips for Pet Owners

What Is Our Watershed?

Our watershed is the total land area, including your yard, from which stormwater drains into streams, rivers or other bodies of water. In Ventura County our primary watersheds drain into the Ventura and Santa Clara Rivers, Malibu and Calleguas Creeks and the marinas and estuaries that flow into the Pacific Ocean.

COMMUNITY FOR A CLEAN WATERSHED
cleanwatershed.org

(Provided by the City and County)

Facts About Pet Waste

Every time it rains, thousands of pounds of accumulated and untreated pet waste in Ventura County can potentially wash into storm drains and flow directly into our streams, lakes and the ocean.

Pet waste runoff includes bacteria and parasites that threaten the health of both people and wildlife, as well as create an overly rich nutrient environment, causing excess weed and algae growth.

A clean and healthy watershed is invaluable to the well-being and beauty of our community. Simple precautions can protect and preserve our watersheds.

What Can You Do?

There are safe methods for handling and disposing of pet waste. By following these easy practices you can protect both the environment and your health.

- Pick up pet waste daily from your yard. While "organic," pet waste is not a safe fertilizer in your yard or in the watershed.

- When you walk your pet, always carry disposable bags to pick up and dispose of waste properly.

Dispose of Dog Waste Properly

- **Put dog waste in the trash.** Wrap it carefully in a sealed bag to prevent spillage during collection.
- **Dog waste can be flushed down the toilet,** so it can be properly treated at a sewage treatment plant. Be sure not to flush the pet waste bag.

Dispose of Cat Waste Properly

- **Put cat waste, including cat litter, in the trash.** Wrap it carefully in a sealed bag to prevent spillage during collection. Cat waste and litter should only be disposed of in the trash.
- **Do not flush cat waste** or used litter down the toilet.
- **Do not mix cat waste** or used litter into your garden soil.

Cat waste has been associated with various diseases found in marine mammals as a result of pathogens that end up in the storm drain system or are not eliminated during sewage treatment.

(Provided by the City and County)

The EcoHero Show

Ventura
Thank You + Recap

Dear Ventura County,

Thanks to you, we were able to perform at 250 schools this school year reaching 137,000 students resulting in 500,000 views on our YouTube.

This spring, we started collecting teachers emails and sending them a survey which allowed them to remain anonymous. Here were our results!

Who: The assembly coordinator at the school, this person could be the principal to a teacher or anyone in between.
Question: Would you ever have The EcoHero Show at your school again?
☐79 Yes ☐1 No

Who: Teachers who watched the show
Question: Would you ever have The EcoHero Show at your school again?
☐82 Yes ☐2 No

Who: Teachers who watched the show
Question: Did you Find Show Educational:
☐83 ☐1

Who: Teachers who watched the show
Question: Were students engaged?
☐81 ☐3

We would love to come back next school year and build on the success of empowering EcoHero leaders for life in your community!

Love,

The EcoHero Show:

Brett "Mr. Eco" Edwards

Yagmur "Ms. Eco" Yalcin

EcoHero Gabe | Pia Piscitelli | Rayand Villainueva

Schools Recap

1. School: Hollywood Beach Elementary
Date: Wed, March 21, 2018
No. of Show: 2
Enrollees: 360

2. School: Sunset Elementary
Date: Thu, April 12, 2018
No. of Show: 1
Enrollees: 366

3. School: Brookside Elementary
Date: Thursday, April 12, 2018
No. of Show: 2
Enrollees: 570

4. School: Oak Hills Elementary
Date: Friday, April 13, 2018 **No. of Show:** 2
Enrollees: 530

5. School: Red Oak Elementary
Date: Friday, April 13, 2018 **No. of Show:** 2
Enrollees: 575

6. School: Rio Plaza Elementary
Date: Friday, March 23, 2018 **No. of Show**: 1
Enrollees: 366

7. **School:** Camarillo Heights Elementary
Date: Tuesday, March 20, 2018
No. of Shows: 2
Enrollees: 570

 # Of Students Reached: 3,337

Feedback from Ventura County:

"Students enjoyed the interactive nature of the presentation. They liked the competitive teacher dance. Fun way to communicate important messages. Mr. Eco introduced important topics in a fun and entertaining way; students were enthusiastic to learn more about the issues he presented and find ways to take action, to be an Eco-hero in our community."

- 3/23/2018: Lynz Mullaney, Hollywood Beach School, Grade 4

"Students loved it! Echo Hero was so informative and fun! Our students are fired up about helping the environment!"

- 3/26/2018: Tracy Lipsett, Principal, Hollywood Beach School

"The students and teachers loved the performance. Thank you so much for sending this program to our school. Our students and teachers really enjoyed the show."

- 4/16/2018: Maureen Frey, Office Manager, Oak Hills Elementary School

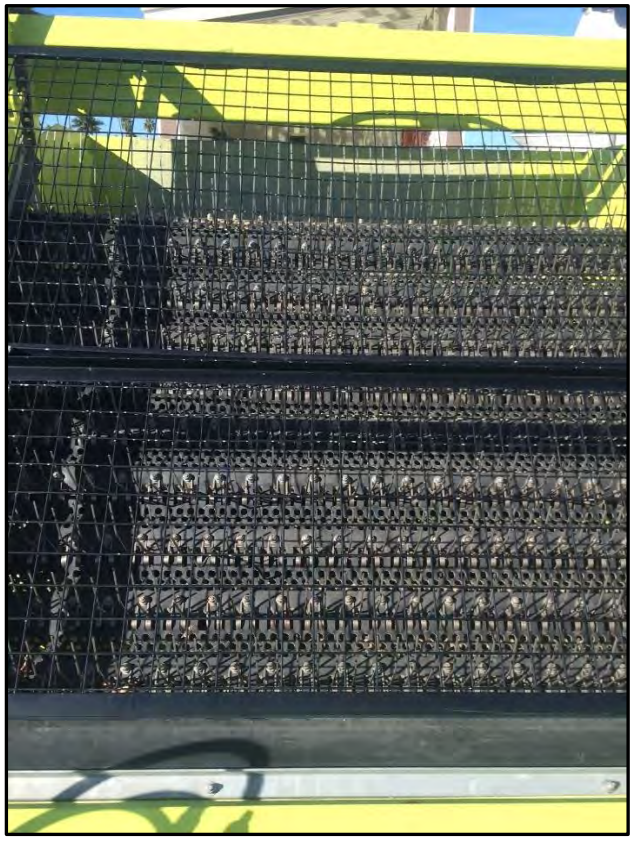
Contact Information: The EcoHero Show
Phone: 888-482-3885
Email: ecoheroshow@gmail.com
Website: http://www.ecoheroshow.com/


M
Movement
P
Participation
S
Success


RECYCLE


LITTERBUG
CHAMPS

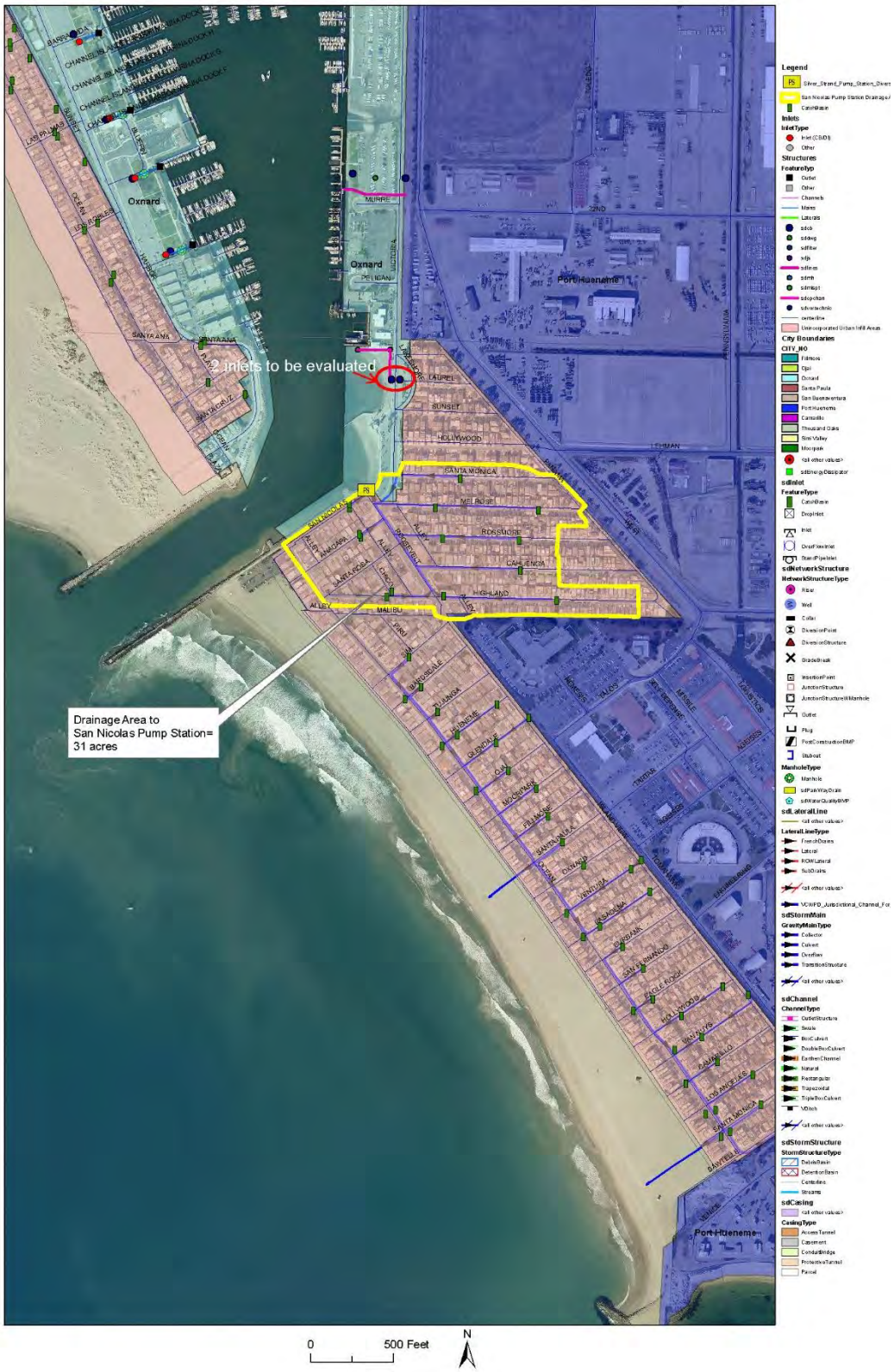
8 BEACH GROOMING – COUNTY



(Provided by the County)

(Provided by the County)

9 CATCH BASIN MONITORING/MAINTENANCE - CITY



(Provided by the City)

West Inlet (Provided by the City)

West Inlet during a King Tide (Provided by the VCWPD)

East Inlet (Provided by the City)

H31-CB300 (July 24, 2018)

H31-CB301 (May 22, 2018)

Kiddie Beach-Hobie Beach Bactria TMDL

Catch Basin Inspection Worksheet

Site ID: H31-CB300	Event Date: 9-20-16
Specific Location: Victoria Ave @ Laurel Ct.	Event Start Time: 11:33 AM
Field Technician Names: Jeremy Grant	Event End Time: 11:35 AM
Current Weather Conditions: Sunny 79°F	# of Pictures Taken: 4
Current Tidal Conditions: High 5.66 ft	
High Tide at 12:20 PM 5.91 Ft Low Tide at	7:18 PM 0.39 ft

Types of flow observed (check all that apply)

- [x] None
- [ ] Trickle
- [ ] Steady
- [ ] Heavy
- [ ] flooding

Water Clarity

- [x] Clear
- [ ] Cloudy
- [ ] Milky
- [ ] Other: _____

Floatables observed (check all that apply)

- [ ] None
- [x] Garbage Ribbon
- [ ] Sheen
- [ ] Sewage
- [ ] Oily Sheen
- [ ] Other_____

Was there evidence of any runoff in the curb or gutters? If yes, please describe:
No runoff was observed

Was any water present in the catch basin? If yes, possible sources? Yes, High tide. Water level is almost at top of catch basin.

Actions for Follow-up:

Additional Notes: Very high tide today, water level at Hobie Beach is near top of the Jetty. No residential run off observed in drainage area.

Lead Field Technician Certification (sign/print): _____

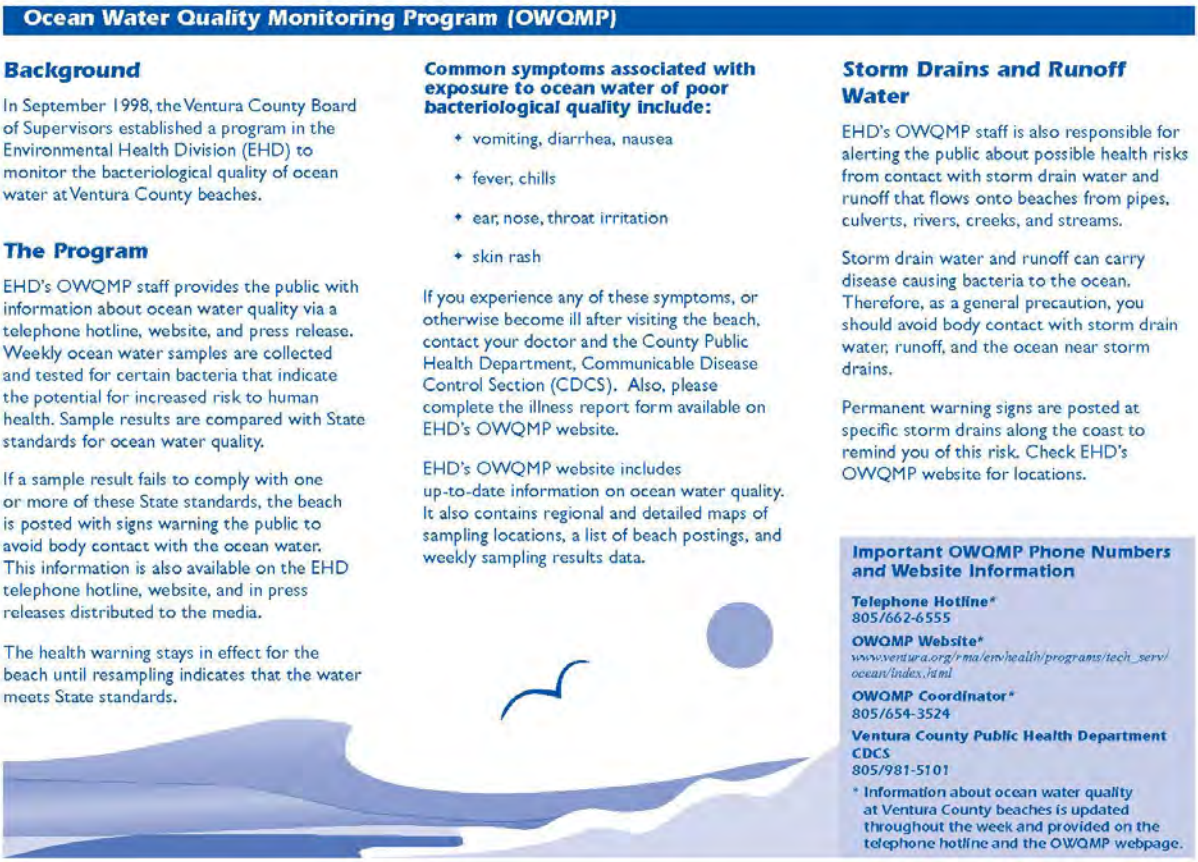
Revised June 2015

Example catch basin inspection worksheet (Provided by the City)

Ocean Water Quality Monitoring Program

County of Ventura
Environmental Health Division
800 South Victoria Avenue
Ventura, California 93009-1730

OWQMP Pamphlet (Provided by the City)



Ocean Water Quality Monitoring Program (OWQMP)

Background

In September 1998, the Ventura County Board of Supervisors established a program in the Environmental Health Division (EHD) to monitor the bacteriological quality of ocean water at Ventura County beaches.

The Program

EHD's OWQMP staff provides the public with information about ocean water quality via a telephone hotline, website, and press release. Weekly ocean water samples are collected and tested for certain bacteria that indicate the potential for increased risk to human health. Sample results are compared with State standards for ocean water quality.

If a sample result fails to comply with one or more of these State standards, the beach is posted with signs warning the public to avoid body contact with the ocean water. This information is also available on the EHD telephone hotline, website, and in press releases distributed to the media.

The health warning stays in effect for the beach until resampling indicates that the water meets State standards.

Common symptoms associated with exposure to ocean water of poor bacteriological quality include:

- vomiting, diarrhea, nausea
- fever, chills
- ear, nose, throat irritation
- skin rash

If you experience any of these symptoms, or otherwise become ill after visiting the beach, contact your doctor and the County Public Health Department, Communicable Disease Control Section (CDCS). Also, please complete the illness report form available on EHD's OWQMP website.

EHD's OWQMP website includes up-to-date information on ocean water quality. It also contains regional and detailed maps of sampling locations, a list of beach postings, and weekly sampling results data.

Storm Drains and Runoff Water

EHD's OWQMP staff is also responsible for alerting the public about possible health risks from contact with storm drain water and runoff that flows onto beaches from pipes, culverts, rivers, creeks, and streams.

Storm drain water and runoff can carry disease causing bacteria to the ocean. Therefore, as a general precaution, you should avoid body contact with storm drain water, runoff, and the ocean near storm drains.

Permanent warning signs are posted at specific storm drains along the coast to remind you of this risk. Check EHD's OWQMP website for locations.

Important OWQMP Phone Numbers and Website Information

Telephone Hotline*
805/662-6555

OWQMP Website*
www.ventura.org/rma/env/health/programs/tech_serv/ocean/index.html

OWQMP Coordinator*
805/654-3524

Ventura County Public Health Department CDCS
805/981-5101

* Information about ocean water quality at Ventura County beaches is updated throughout the week and provided on the telephone hotline and the OWQMP webpage.

OWQMP Pamphlet (Provided by the City)

If you see this sign posted at any Ventura County beach:

- *Stay out of the ocean for at least 50 yards on either side of the sign.*
- *There are levels of bacteria in the ocean water that may make you sick!*

CP Feb. 2011

OWQMP Pamphlet (Provided by the City)

10 TRASH MANAGEMENT (CITY AND COUNTY) AND BIRD CONTROL MEASURES (COUNTY)

(Provided by the County)

(Provided by the County)

(Provided by the County)

(Provided by the County)

11 DOWNSPOUT DISCONNECT PROGRAM – COUNTY

The City of Portland has been implementing an effective downspout retrofit program since 1996. They report that over 56,000 property owners have disconnected their downspouts, resulting in a significant reduction in potential pollutant loading to storm drains. This program requires that overflows from rain barrels be directed onto a yard or landscape area and must meet certain safety requirements. Roof runoff must also be discharged at least five feet away from any property lines and the discharge pipe should not flow towards the building or neighboring property. Soakage trenches should be at least ten feet away from buildings and five feet away from property and utility lines.

In development of the downspout disconnect program, the County of Ventura reports that the majority of homes in the tier 1 area, Silver Strand and Hollywood Beach, do not have gutters or downspouts. The following pictures include examples of homes in the area, showing that many have no gutters or downspouts. It was reported that approximately ten percent of homes on Rossmore Drive have downspouts or gutters, and a maximum of 40 percent of homes on Ocean Drive have gutters or downspouts.

These homes also have small setbacks and minimal or no landscape areas to discharge rainbarrel or rain water flows. The following pictures show the three foot side yard setback, five foot rear setback, and 20 foot paved front yard at a home in Silver Strand, CA. They also illustrate the density of homes in Silver Strand and the lack of green landscaping areas, and contrast the setbacks and landscaping of typical homes in Portland, OR. The home has five to ten foot side yard setbacks, 20 to 40 foot rear yard setbacks, and 20 feet of a landscaped front yard. The lower home density and increase in green landscaping area is illustrated. All photographs were provided by the County.

Rossmore Drive 272-256 (About 10% of homes in this area have gutters or downspouts)

Rossmore Drive 284-272

Rossmore Dr. 285-295

Rossmore Dr 324-318

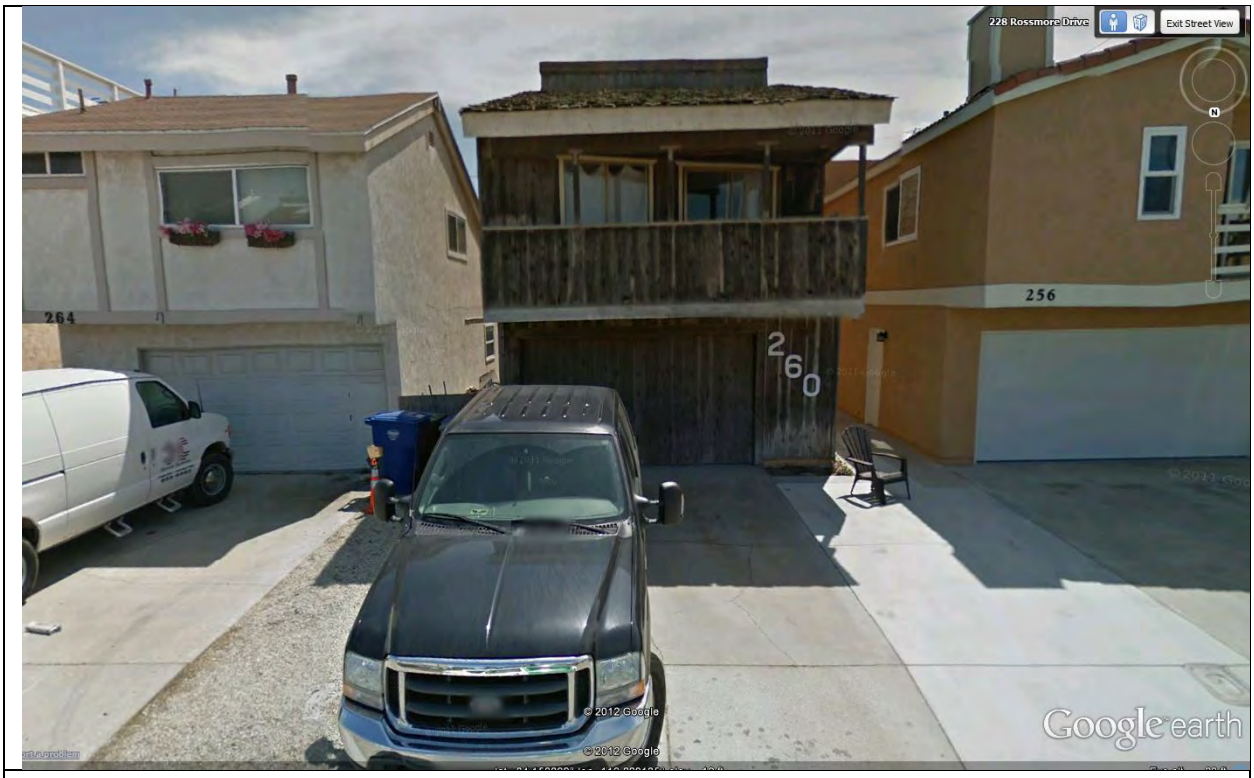
Rossmore Dr. 341-361

Rossmore Dr. 368-374

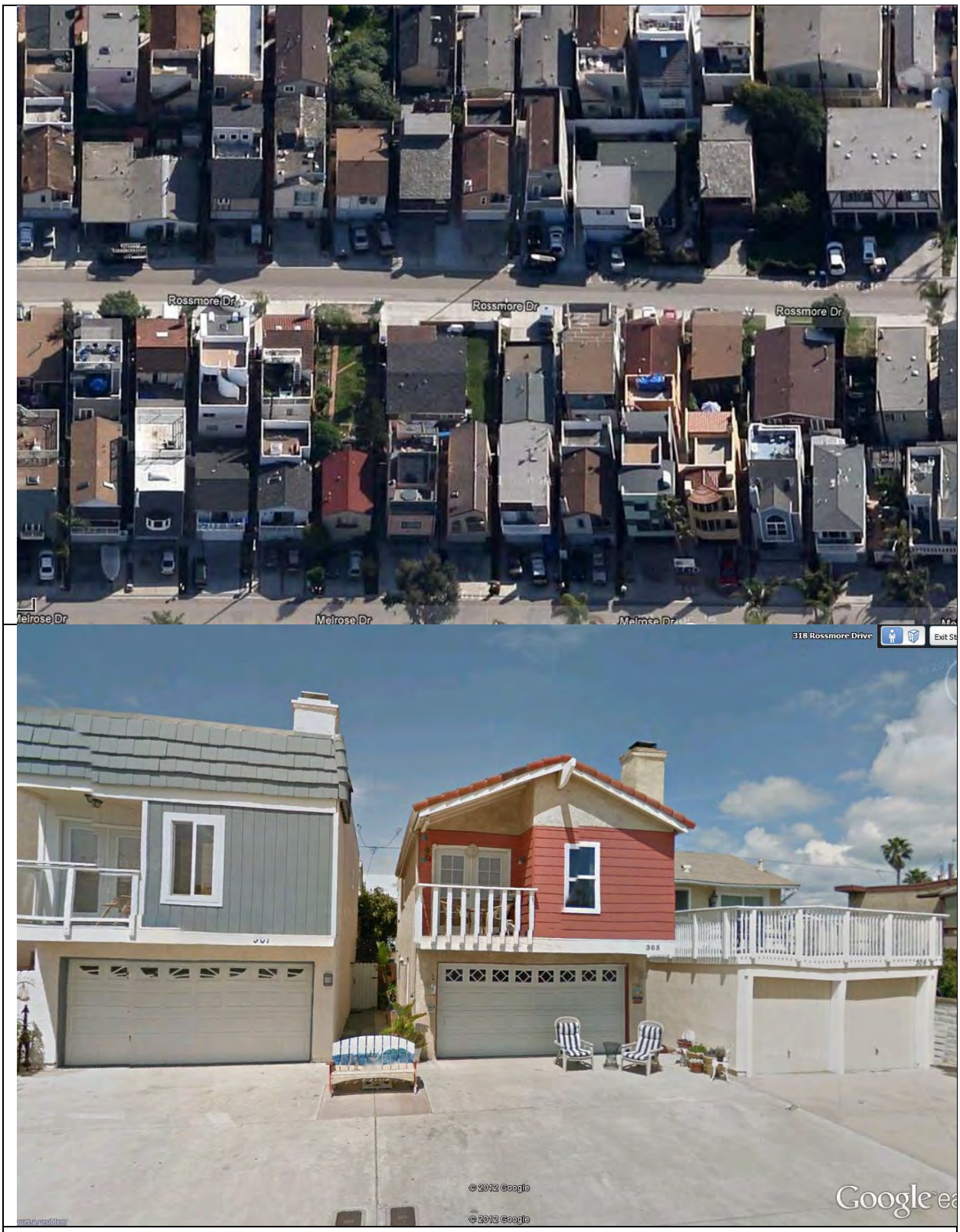
Ocean Drive 3430-3424 (Maximum of 40% with gutters or downspouts on Ocean Drive)

Ocean Drive 3424 – Internal routing of gutters

Portland, OR vs. Silver Strand, CA



SILVER STRAND, CA - Rossmore Drive, 264-256: 3 ft side yard setbacks, 5 ft rear setbacks, 20 ft paved front yard setbacks. Few or no gutters/ downspouts, little or no landscaping to direct water to.



SILVER STRAND, CA - Rossmore Drive, 301-309: 3 ft side yard setbacks, 5 ft rear setbacks, 20 ft paved front yard setbacks. Few or no gutters or downspouts, little or no landscaping to direct water to.

Portland, OR

Typical Residential Development

PORTLAND OR - 2704, SE Kelly: 5-10 side yards, 20-40 rear yard setbacks, 20 ft landscaped front yards

(Provided by the County)

(Provided by the County)

Let's Break It Down

Every time it rains, pollutants you can see (tons of plastic bags, soda cups with straws, and cigarette butts) are mixed with those you can't see (pesticides, fertilizers, dog waste) and sent to the nearest waterway.

Even on dry days, millions of gallons of drinking water are flushed into the waterways after they have run through the dirty streets and storm drains.

End of pipe solutions are not enough. What you do on your property can solve the problem. Be a part of the solution, not the pollution.

Breaking Up Is Easy To Do

Permeable Paving

Replace concrete and asphalt with paving materials that have gaps between them allowing water to flow through rather than run off. These pavers are beautiful too.

Beachin' Driveway

Remove a strip down the middle of the driveway and fill with gravel or add a rainwater storage cell (See Insert). Water has a place to get sponged up and your vehicle hangs ten on the remaining concrete.

Carve A Path

Break up a continuous concrete pathway or driveway and reset the stones (called Urbanite) on a sand or gravel bed. These urbanite paths can be beautiful and artistic while simultaneously increasing permeability.

Roll Out A Barrel

Replace your downspout with a rainchain to slow and direct roof water into a 50-gallon rainbarrel. Got more space? Add another barrel. Then use the water for veggies, pets, or fill a birdbath.

Liberate A Curb

Cutting your curb and allowing water to enter a parkway, median or other landscape area adjacent to the street, uses soil to filter and absorb runoff before entering the ocean. Check with your County Transportation Department for restrictions and guidelines.

Break Old Habits

Pick Up After Pup

Thousands of pounds of pet waste, including bacteria and parasites that threaten the health of people and wildlife, wash into storm drains and flow directly into our waterways every time it rains. When you walk your pet, carry disposable bags to pick up and deposit waste in a trashcan.

Broom To Groom

Driveways don't grow when you water them, and you just waste drinking water. Use a broom to clear hard outdoor surfaces. Sweep up any debris blown into the street and place in the appropriate trash bin.

Cars To A Car Wash

Take your car to a certified car wash, where you know they are capturing all the used water for proper treatment. Car washing in your driveway, puts dirt and soap into the storm drain, contributing to ocean pollution.

Hold On To Your Butt

Cigarette butts take decades to break down, all the while polluting our soils and degrading our beaches and water quality. Hold on to your butt, and dispose of it properly!

Redirect A Downspout

Got downspouts? Redirect them into landscape areas or planter boxes. Keep water from going to the street via your driveway by adding gutters and a downspout directed to landscape. Add a rain chain that slows water down into a barrel or planter area.

Ocean Friendly Gardens™ Class

Reduce Urban Runoff Pollution + Conserve Water

When: **Saturday, June 15, 2013 • 10:00 a.m. to 1:00 p.m.**

Where: **School Cafeteria**
Hollywood Beach Elementary
4000 Sunset Lane, Oxnard CA 93035

Sign Up Today! It's

FREE

Space is Limited!

Call Now!
805.477.7139
Registration Deadline
June 12, 2013

Attend this interactive, action packed class taught by a Green Gardens Group landscape designer and learn to:

Develop an Ocean Friendly Garden™

- Install permeable surfaces and on-site water retaining systems
- Use native plants
- Understand water efficient irrigation devices

Use Surfrider Foundation's Principles of CPR© (Conservation • Permeability • Retention) to transform your thirsty landscape into an ocean friendly asset that prevents beach and ocean pollution, saves time and money, and creates wildlife habitat.

- A light snack and drinks will be provided -

For more information, please contact Jason Burke at the County of Ventura Public Works Agency: (805) 477-7139 or by email at jason.burke@ventura.org

SURFRIDER FOUNDATION VENTURA COUNTY CHAPTER

G3 green gardens group www.greengardensgroup.com

(Provided by the County)

(Provided by the County)

(Provided by the County)

12 PET OWNERSHIP OUTREACH AND ENFORCEMENT – COUNTY

(Provided by the County)

Facts About Pet Waste

Every time it rains, thousands of pounds of accumulated and untreated pet waste in Ventura County can potentially wash into storm drains and flow directly into our streams,lakes and the ocean.

Pet waste runoff includes bacteria and parasites that threaten the health of both people and wildlife, as well as create an overly rich nutrient environment, causing excess weed and algae growth.

A clean and healthy watershed is invaluable to the well-being and beauty of our community. Simple precautions can protect and preserve our watersheds.

What Can You Do?

There are safe methods for handling and disposing of pet waste. By following these easy practices you can protect both the environment and your health.

- Pick up pet waste daily from your yard. While "organic," pet waste is not a safe fertilizer in your yard or in the watershed.
- When you walk your pet, always carry disposable bags to pick up and dispose of waste properly.

Dispose of Dog Waste Properly

- Put dog waste in the trash. Wrap it carefully in a sealed bag to prevent spillage during collection.
- Dog waste can be flushed down the toilet, so it can be properly treated at a sewage treatment plant. Be sure not to flush the pet waste bag.

Dispose of Cat Waste Properly

- Put cat waste, including cat litter, in the trash. Wrap it carefully in a sealed bag to prevent spillage during collection. Cat waste and litter should only be disposed of in the trash.
- Do not flush cat waste or used litter down the toilet.
- Do not mix cat waste or used litter into your garden soil.

Cat waste has been associated with various diseases found in marine mammals as a result of pathogens that end up in the storm drain system or are not eliminated during sewage treatment.

cleanwatershed.org

(Provided by the County)

Pet Waste Is Pollution

Bag it

Pet waste stations are located around the Harbor, but just in case, bring plastic bags with you when you walk your dog. Use a bag to pick up the dog waste. Tie the bag closed and throw it in the trash.

Options at Home

Flush dog and cat waste down the toilet. Kitty litter should not be flushed because it can clog your toilet. Double bag kitty litter, tie the bag shut and throw it in the trash.

Thanks for Keeping Our Harbor and Beaches Clean!

County of Ventura Harbor Department
3900 Pelican Way
Oxnard CA 93035
805 382 3001
www.channelislandsharbor.org

Please! Pick Up After Your Pet!

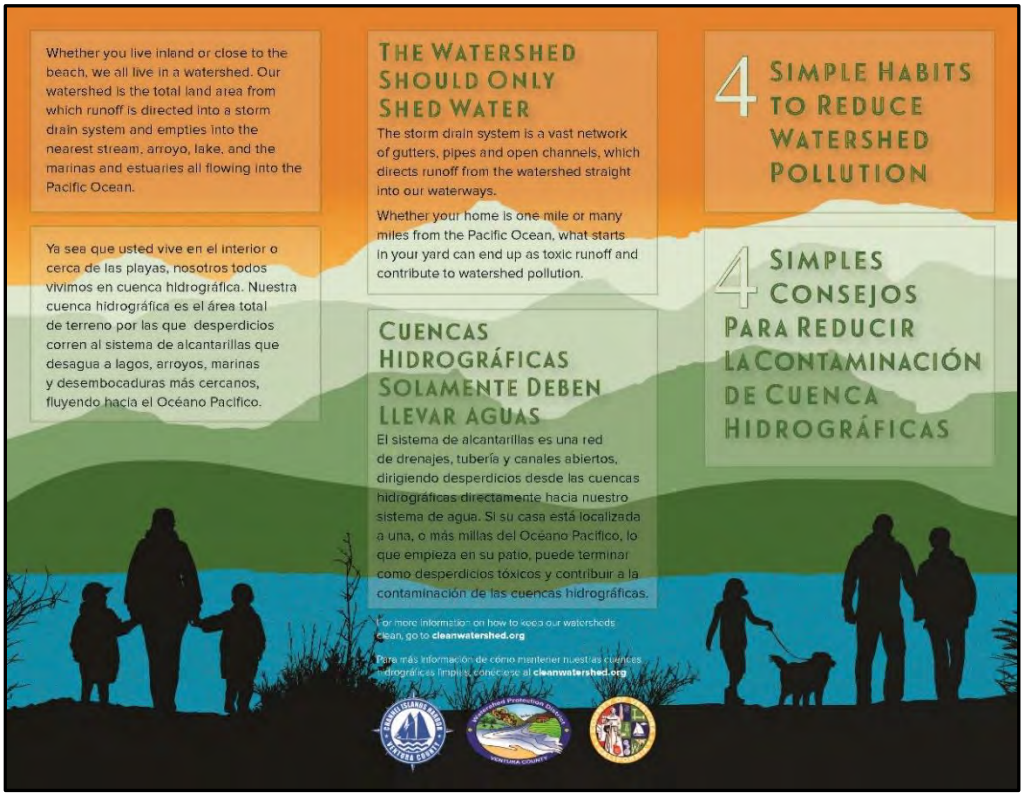
Dog waste left on the street or lawns is not fertilizer. The bacteria in dog waste is often washed down storm drains and ends up directly in the Harbor where it can contaminate large areas of beaches and waterways.

Kitty litter dumped outside can be washed into the Harbor. The bacteria in pet waste can make it unsafe to swim on the beaches or fish in the nearby waters.

Did you know?

One day's waste from one large dog can contain 7.8 billion fecal coliform bacteria, enough to contaminate up to 15 acres of water area. Fecal coliform can make humans sick. Small children are even more likely to become ill from fecal bacteria!

(Provided by the County)



(Provided by the County)

(Provided by the County)

13 STORM DRAIN OUTFALL (TIDEFLEX VALVE) - COUNTY AND CITY

SDFA 29 - Kiddie Beach

Outfall MH-H31-100_MIS-H31-800

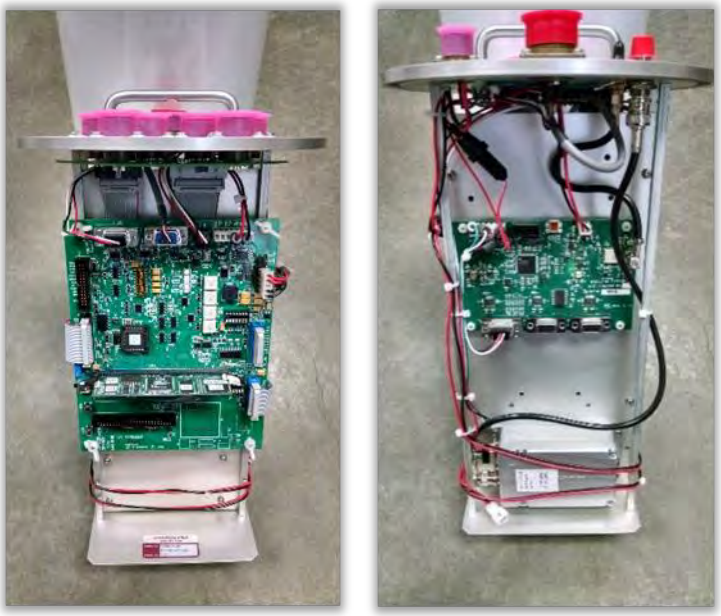
Location view

Location view

(Provided by the City)

14 DRY WEATHER DIVERSION (SAN NICHOLAS PUMP STATION) – VCWPD

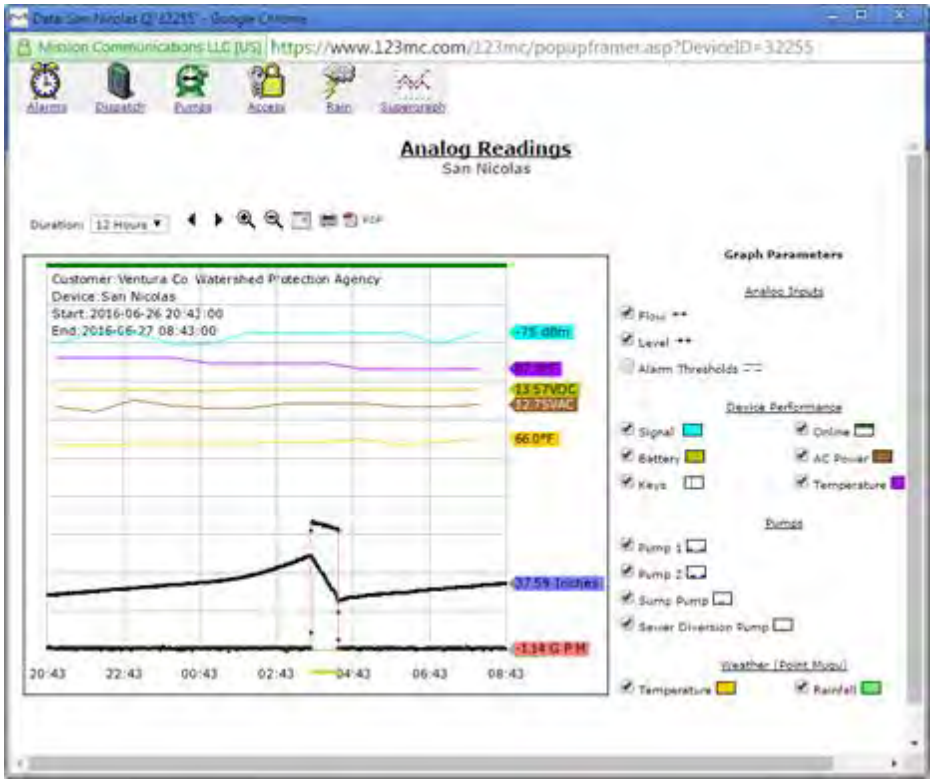
Month/Year	Gallons Diverted
June 2015	312,582
July 2015	403,052
August 2015	652,414
September 2015	962,778
October 2015	717,237
November 2015	417,165
December 2015	422,456
January 2016	735,602
February 2016	641,254
March 2016	780,597
April 2016	433,128
May 2016	332,596
June 2016	287,577
July 2016	323,352
August 2016	283,962
September 2016	289,669
October 2016	388,231
Total:	8,383,652



HydroLynx 50386 ALERT2 Transmitter (Provided by the County)

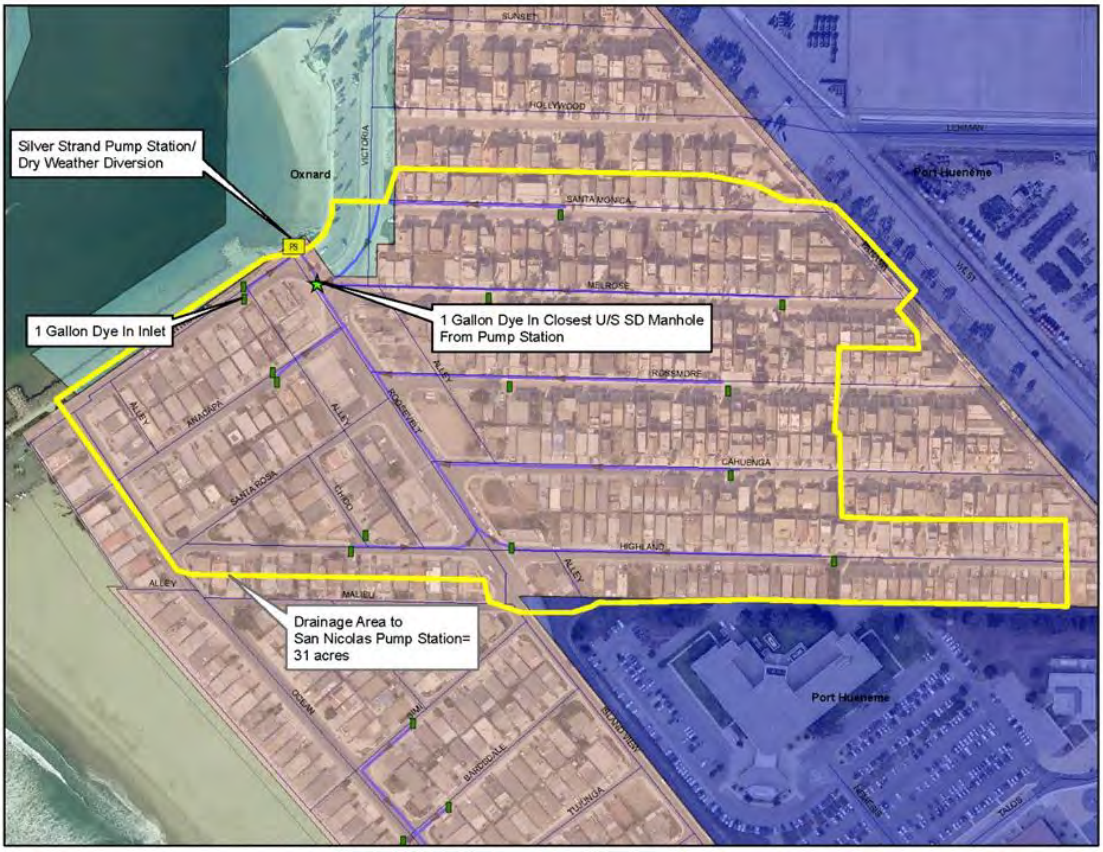
Stand pipe rain gage on roof of pump house (Provided by the County)

Pump Controls
(Provided by the County)



(Provided by the County)

15 SAN NICHOLAS PUMP STATION DYE TEST - VCWPD



(Provided by the County)

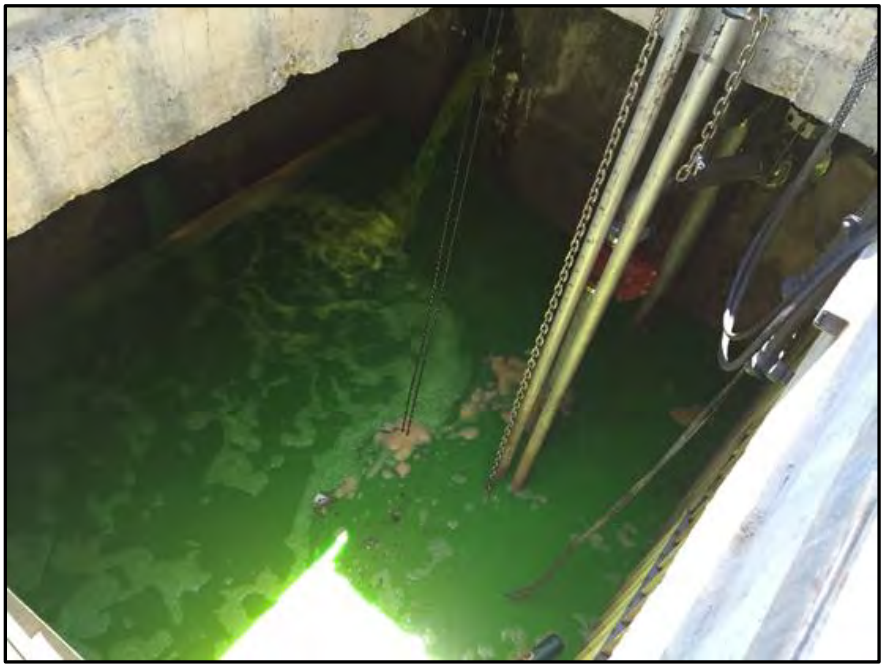
(Provided by the County)

Notification Signs (Provided by the County)

Cole Parmer Yellow/Green Dye (Provided by the County)

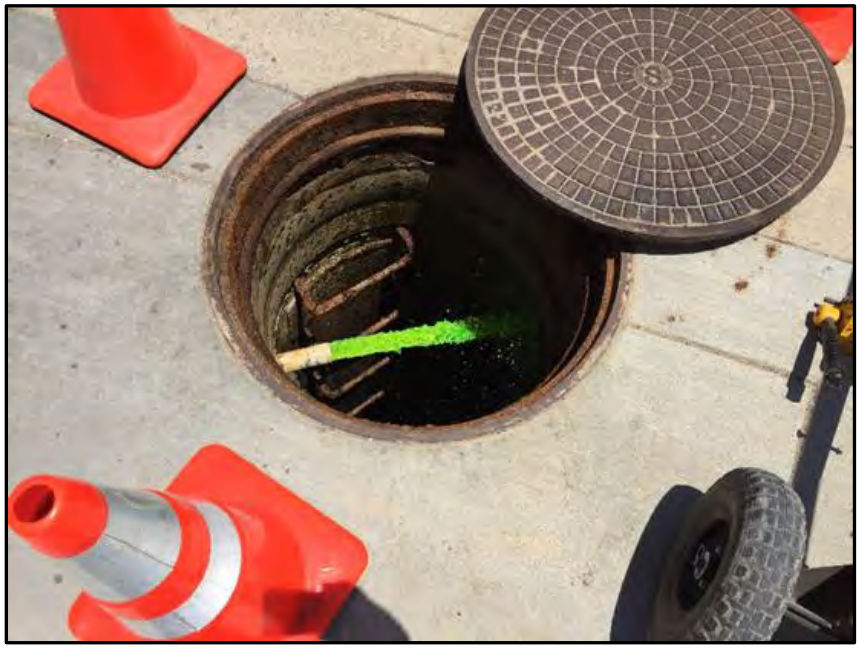
Location #1 Manhole (Provided by the County)

Location #2 catch basin (Provided by the County)



Dye Entering Pump Station Containment Vault (Provided by the County)

36’’ and 18’’ RCPs discharging to Pump Station Containment Vault (Provided by the County)



Sewer diversion pump discharging to sanitary sewer system (Provided by the County)

Kiddie Beach Area at 2:10 p.m. on 6/16/16 (Provided by the County)

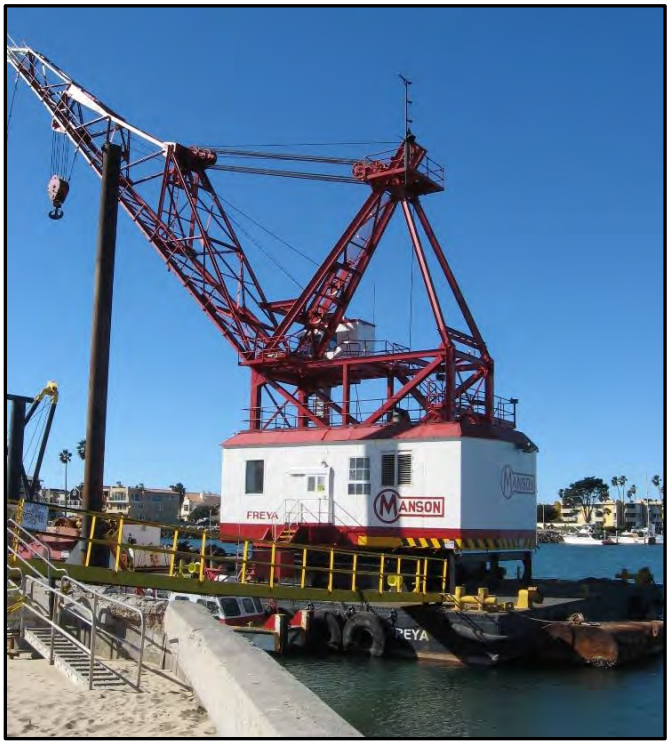
Kiddie Beach Area at 2:45 p.m. on 6/16/16 (Provided by the County)

Follow-up inspection at 9:00 a.m. on 6/17/16 (Provided by the County)

Follow-up inspection at 9:00 a.m. on 6/17/16 (Provided by the County)

16 DREDGING ACTIVITIES

(Provided by the County)



(Provided by the County)


(Provided by the County)

Appendix C

Interim Report: Ventura County Harbor Beaches 2017-2018 Wet Weather Bacteria Study

Interim Report: Ventura County Harbor Beaches 2017-2018 Wet Weather Bacteria Study

Fecal Indicator Bacteria Source Tracking and Identification at Kiddie and Hobie Beaches in Channel Islands Harbor

Prepared by
Southern California Coastal Water Research Project

Prepared for
County of Ventura, Ventura County Watershed Protection District, and
City of Oxnard

December 14, 2018

Abstract

Background

The Harbor Beaches of Ventura County, Kiddie Beach and Hobie Beach, are currently meeting their TMDL requirements under dry weather and during some drier wet weather periods following repair of sewer infrastructure and dry weather diversion of storm drains. However, wet weather periods with greater rainfall can still produce fecal indicator bacteria (FIB) concentrations exceeding waste load allocations (WLAs). As some major sources of human contamination have been mitigated, a microbial source tracking study is a logical next step to determine whether human sources continue to affect these beaches during wet weather. The goals of the study are to measure the concentration and spatial distribution of FIB at sites onshore and just offshore from Kiddie and Hobie Beach during wet weather, to calculate the percent of samples which exceed TMDL numeric targets for FIB, and to measure the concentration of human-associated genetic marker at sites onshore and offshore.

Approach

Water samples were taken during wet weather (>0.1 inches of rain in 24 hours) from 8 sites onshore and 8 sites offshore Hobie and Kiddie Beaches, including from historical compliance monitoring stations, to characterize the microbial water quality and look for spatial patterns in concentration across the beaches. To account for major storm drain inputs at the beach, a site near the discharge point of an MS4 near the Coast Guard station at Hobie Beach and the pump station located at the South end of Kiddie Beach were included in sampling. This allowed for a geographical distinction between a single source at one end of the beach, along the beaches, or of multiple sources along the beaches or from other areas of the harbor. Water samples were collected the morning following the onset of rain daily for 72 hours. Water samples were subsequently analyzed for FIB and human-associated genetic marker concentration.

Findings

At Kiddie and Hobie Beach immediately following rainstorms, we found moderate to high levels of FIB, with exceedences ranging from 10-64% of the samples taken at the beach and offshore sites. We also measured moderate to high human-associated genetic marker concentrations across storms (log_{10} 1.5-2.7 gene copies per 100ml) with similar concentrations at beach sites and offshore sites at both beaches. We saw no gradient of bacteria between the shoreline and directly offshore of the beach, nor did we see a gradient across the beach. The high and consistent levels of FIB and human fecal marker concentrations in the water suggest contributions from both local and remote sources. High levels of FIB (73-100% exceedence) and a wide range of human-associated genetic marker concentrations (BD- log_{10} 2.5 copies per 100ml) to in the pump station sump at Kiddie Beach suggest the storm drain outfall is likely a point source for FIB and human marker, but is unlikely to be the primary source of human marker seen across and offshore of the beaches.

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Background

The Harbor Beaches of Ventura County (Kiddie and Hobie Beaches in Channel Islands Harbor) have been placed under a Bacteria Total Maximum Daily Load (Bacteria TMDL; California Regional Water Quality Control Board, Los Angeles Region, Resolution R2007-017) for both dry and wet weather. The Bacteria TMDL was incorporated into the Ventura County Municipal Separate Storm Sewer System (MS4) Permit (Order R4-2009-0057) on August 5, 2009 and specifies concentration and exceedance day-based Waste Load Allocations (WLAs) for dry and wet weather.

Since 2003, dry weather MS4 flow has was diverted to the sanitary sewer via the San Nicholas pump station and eliminated from discharge into Kiddie Beach. On-going weekly observations indicate no dry weather discharge from MS4s into Hobie Beach. In addition, a nearby forced sewer line which could have been contributing human fecal contamination was replaced. Human marker analysis conducted by the County and the Ventura County Watershed Protection District in 2014 and 2015 suggested that human fecal contamination at these beaches from infrastructure may be controlled during dry weather (one HF183 detection out of 16 total samples). However, the diversion does not operate during wet weather, allowing storm runoff to flow through an outfall located just offshore at the south end of Kiddie Beach and an additional small MS4 discharging into Hobie Beach. In wet weather, interim WLAs for single samples were not exceeded from Winter 2012-13 to Winter 2015-2016, potentially due to a lack of rainfall. Yet in winter 2016-2017, when there was substantially more rainfall, the wet weather WLAs for single samples were exceeded. It is unknown whether MS4 outfalls to the harbor discharge human fecal contamination during wet weather events or how storm flow may impact FIB levels at Kiddie and Hobie Beaches.

Recent single sample exceedance days during wet weather (5 days in 2015-2016 and 1 day in 2016-2017) suggest that it may be challenging to meet final wet weather WLA compliance requirements during non-drought years. Furthermore, at Kiddie Beach there were geometric mean exceedance days, in both winter dry and wet weather (8 days in Winter 2015-2016 and 15 days in Winter 2016-2017), which violated the zero allowable exceedance days at Kiddie Beach specified in the TMDL, and suggest dry weather sources other than MS4 may be contributing and additional action may be required to address wet weather beach water quality at this location. However, if the source of the FIB is not human fecal contamination, there may be opportunity to adopt a site-specific water quality objective at these beaches. A microbial source identification study is the next step in determining the extent, and identifying the origin(s), of human and non-human sources of FIB at Kiddie and Hobie Beaches during wet weather.

There are three main goals of this study:

(1) Determine whether bacterial indicators measured at the Kiddie and Hobie Beaches during wet weather exceed TMDL numeric targets for FIB.

(2) Determine the spatial distribution of FIB to identify alongshore and offshore gradients across Kiddie and Hobie beaches during wet weather.

(3) Determine the presence and spatial distribution of human markers at Kiddie and Hobie Beaches and identify alongshore and offshore gradients across Kiddie and Hobie beaches during wet weather.

If a gradient is present and bacterial levels are high at the beach and decrease going away from shore, this would suggest the origin of contamination is likely confined to the beach, and potential sources such as the storm drain outfall or contaminated groundwater should be investigated. However, If the gradient of bacteria is higher at offshore sites, this would indicate that the majority of contamination is coming from the harbor onto the beach and an extensive source investigation study of the harbor should be undertaken.

Approach and Methods

General Approach

To characterize the water quality and look for spatial patterns across the beach during wet weather, samples were taken to determine microbial water quality from sites onshore and offshore from Hobie and Kiddie Beaches, including from historical compliance monitoring stations (Figure 1). In order to determine if there was a North-South gradient of contamination or an onshore-offshore gradient of contamination, 8 sites across Kiddie and Hobie Beaches (sites 1-8) and 8 sites located just offshore from the beaches (sites 9-16) were targeted. One of the offshore sites was at the discharge point of an MS4 near the Coast Guard station and one site (Site 17) was taken from the pump station located at the South end of Kiddie Beach.

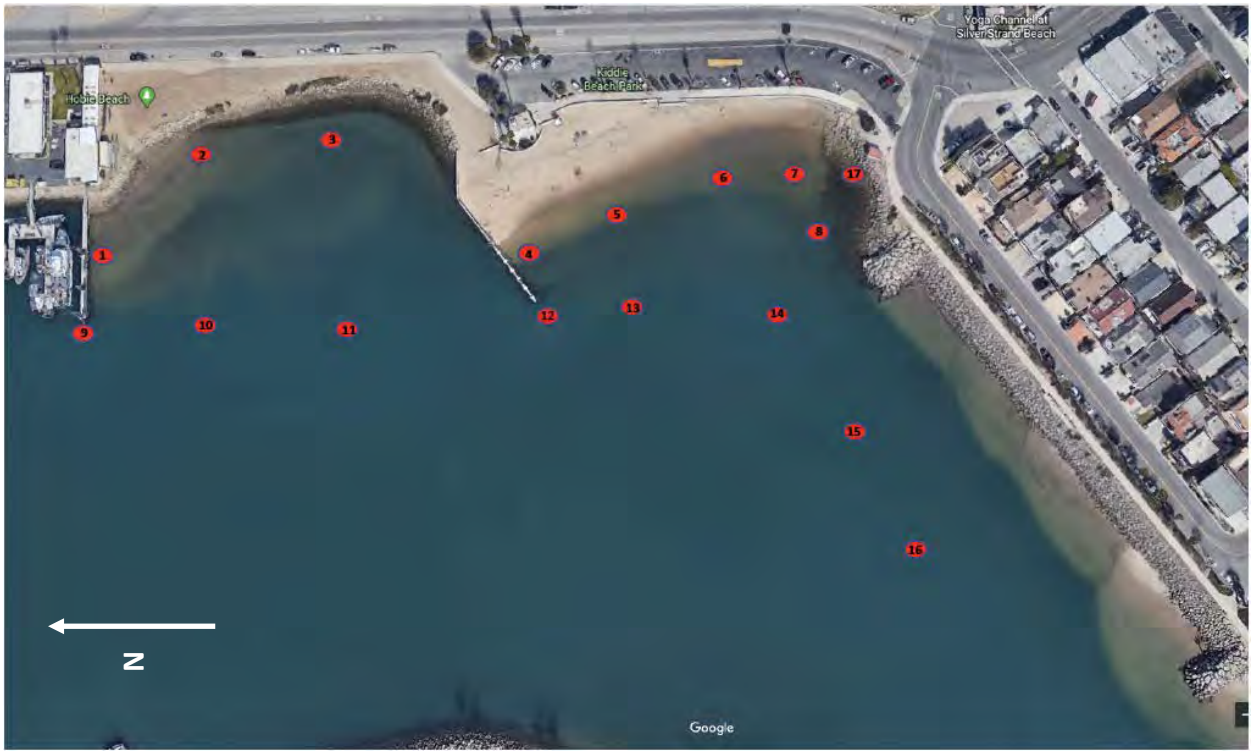

Figure 1. Map of sampling site locations at Kiddie and Hobie Beach in Channel Islands Harbor. Note that Site 17 was sampled at the pump house.

Beyond the initial determination of the FIB concentrations and human marker concentrations in wet weather, this approach allowed for a geographical distinction between a single source at one end of the beach, along the beaches, or of multiple sources along the beaches or in the harbor itself. We would expect samples nearer a point source or sources to be higher and concentrations to decrease with distance from the source or sources. Comparing onshore sites to offshore sites allows for a distinction between contamination primarily coming from the beach to the harbor, where we would expect a decrease in concentration of FIB or human marker as we moved offshore, or contamination coming from the harbor to the beach, where we would expect no change between offshore and onshore samples.

Sampling Methods

We targeted rain events forecast to generate >0.1 inches of rain in 24 hours. Daily samples were collected the morning during storms and continued daily for 72 hours following storms. If the storm continued more than 24 hours, the 72 hour window was extended starting after the end of the rain. Rainfall data were collected from the weather station at Oxnard Airport, CA (KOXR). Samples were taken in a sterilized bottle at 0.25m depth at the beach locations and by a kayak at offshore locations. Water samples were kept on ice and transported to the laboratory within 6 hours for further processing. Water was filtered on 0.4 µm polycarbonate filters and flash-frozen in liquid nitrogen. Filters were then stored at -80°C until extraction for nucleic acids. Blanks were generated each day for both FIB and human marker measurements.

Laboratory Methods

Fecal Indicator Bacteria

Samples were analyzed for FIB and filtered for bacterial DNA. Total coliform and E. coli were measured using the IDEXX Quantitray 2000™ system IDEXX Colilert-18 and Enterococcus concentrations were measured using IDEXX Enterolert kits (IDEXX, Westbrook, ME), as per the manufacturer's instructions, at two dilutions in duplicate for each sample. Laboratory blanks were performed using sterile phosphate buffered saline solution.

Molecular Source Tracking Markers

Briefly, 100 ml of stormwater was filtered in triplicate on a vacuum manifold through 47 mm diameter, 0.4 µm polycarbonate filters (Millipore Type HTTP, Millipore, Bedford, MA) to capture bacterial DNA. DNA was extracted using GeneRite the Gene Rite DNA-EZ ST1 kit according the protocol outlined in the State Source Tracking Manual (Griffith et al. 2013) with the addition of halophilic archaeal DNA as a sample processing control. Genetic markers for human-associated *Bacteroidetes* (HF183) were quantified using digital PCR (Cao et al. 2015, Steele et al. 2018). Any samples that did not pass QA/QC for cultivation- or molecular-based analyses were excluded from the dataset. Extraction blanks and no-template controls were processed with each batch of filters processed.

Data Analysis

A data inventory was compiled documenting sampling success. Spatial differences across the beach and offshore sites were estimated by examining frequency of single sample water quality objectives. These objectives are defined by the SWRCB (2015): *Enterococcus* > 104 MPN/100ml, fecal coliform > 400 MPN/100ml, total coliform > 10,000 MPN/100ml. In this case, we used *E. coli* instead of fecal coliform because *E. coli* are the major component of fecal coliforms in fresh human fecal sources. Human-associated molecular source tracking marker concentrations were transformed by base 10 logarithm and averaged across all onshore beach sites and all offshore sites as well as the pump station. The mean of the log-transformed concentration was calculated at each site across all storms. The standard error of the mean was calculated on the log-transformed concentrations.

Results and Discussion

Sampling Success and Quality Control

We successfully sampled 5 storms which met the >0.1 inch in 24 hours criteria during January-April 2018. One hundred percent of attempted water samples were successfully collected, generating data for a total of 20 wet weather days (Table 1). Although the initial goal was to collect wet weather samples across six storms, only 5 storms occurred which met our criteria. There was also one false start, where crews were mobilized based on forecasted precipitation, but the storm did not sufficiently materialize to meet sampling criteria and little to no flow was generated.

In total 340 water samples collected; of these 95% were successfully analyzed for FIB and 100% of samples were successfully analyzed for human marker (HF183). FIB blanks and filter blanks showed no contamination, but 5% of FIB data was censored due to concerns over improper incubator temperature.

Table 1 Storms sampled during Winter 2018.

Storm	Dates	Sampling Days	Rainfall (in)
1	1/9-1/12	4	2.53
2	3/2-3/5	4	0.49
3	3/11-3/12	2	0.76
4	3/15-3/19	5	1.00
5	3/21-3/25	5	1.41

Exceedances of Wet Weather TMDL Targets for FIB

FIB concentrations measured at sites across Hobie and Kiddie Beaches routinely exceeded single sample standards. *Enterococcus* exceeded the single sample standard in 33-64% of samples from each of the onshore and offshore beach sites and in 100% of the pumphouse (Site 17) samples (Fig. 2). *E. coli* exceeded the single sample standard in 10-21% of the samples from each of the onshore and offshore beach sites and in 73% of pumphouse samples (Fig 3). Total Coliform concentrations exceeded the single sample standard in 23-43% of samples from each of the onshore and offshore beach sites and in 100% of the pump house samples (Fig 4).

There was no apparent spatial pattern in single sample exceedances across Hobie and Kiddie Beaches. This suggests that there is a diffuse point source along the beach causing exceedances. Also, there was no apparent spatial pattern when comparing onshore samples (sites 1-8) with offshore samples (sites 9-16). This implies that the FIB contamination is likely harbor-wide, rather than diffusing out from Kiddie and Hobie Beach.

The pump house (Site 17) exceeded single sample standards in 100% of *Enterococcus* and Total Coliform samples and 73% of the samples for *E. coli*. This suggests that the pumphouse is a source of FIB to the harbor, but the lack of a spatial gradient leading away from the pumphouse outfall to more distant sites along the beaches and offshore, regardless of storm size, suggests that the pumphouse discharge is not a large enough source to be solely responsible for elevated concentrations of FIB at all of these sites. While *Enterococcus* concentrations exceeded single sample standards with higher frequency than did other FIB, this may simply reflect the ability of *Enterococcus* to tolerate the salinity and temperature of seawater longer than *E.coli* or Total Coliforms. This provides a partial answer to the study's second question: FIB were distributed across the sites and there was no apparent spatial pattern to FIB concentrations.

Presence, Spatial Distribution, and Gradients of Human Marker

Human marker (HF183) was consistently detected in both beach and harbor samples during wet weather. However, no spatial gradient was observed in concentrations either across the beaches or from onshore to offshore. Human marker concentrations varied slightly from storm to storm, but were consistent within each storm, with similar concentrations ($\log_{10}$ 1.5-2.7 copies per 100ml) for samples taken at the beaches and samples taken at sites offshore (Fig 5). Human marker concentrations across the sites ranged from $\log_{10}$ 2.0-2.5 copies per 100ml at the beach sites and $\log_{10}$ 2.1-2.7 copies per 100ml at the offshore sites. However, human marker concentrations in the pumphouse were highly variable, ranging from below detection in most larger storms to an average of $\log_{10}$ 2.5 copies per 100ml in the smallest storm (0.49 inch storm). Despite high variability, average concentrations of human marker in the pumphouse were low ($\log_{10}$ 1.2 copies per 100ml), which suggests that the pump-house is a point source, but not the primary source for the HF183 measured in the harbor beach samples.

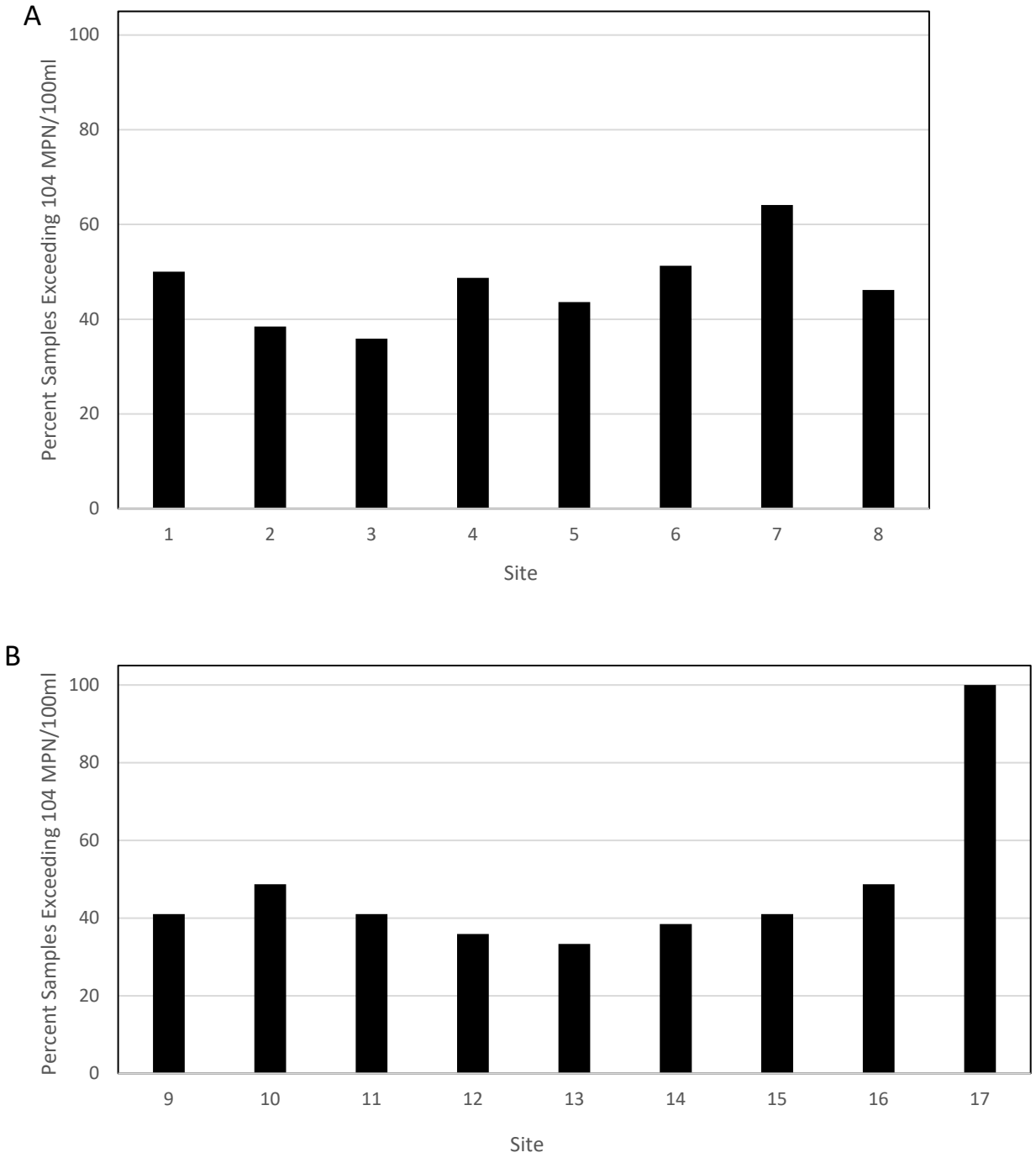

Figure 2. Percent exceedance of the *Enterococcus* single sample standard (104 MPN per 100ml for onshore (A) and offshore (B) sites at Hobie and Kiddie Beaches. Site 17 was the pump house.

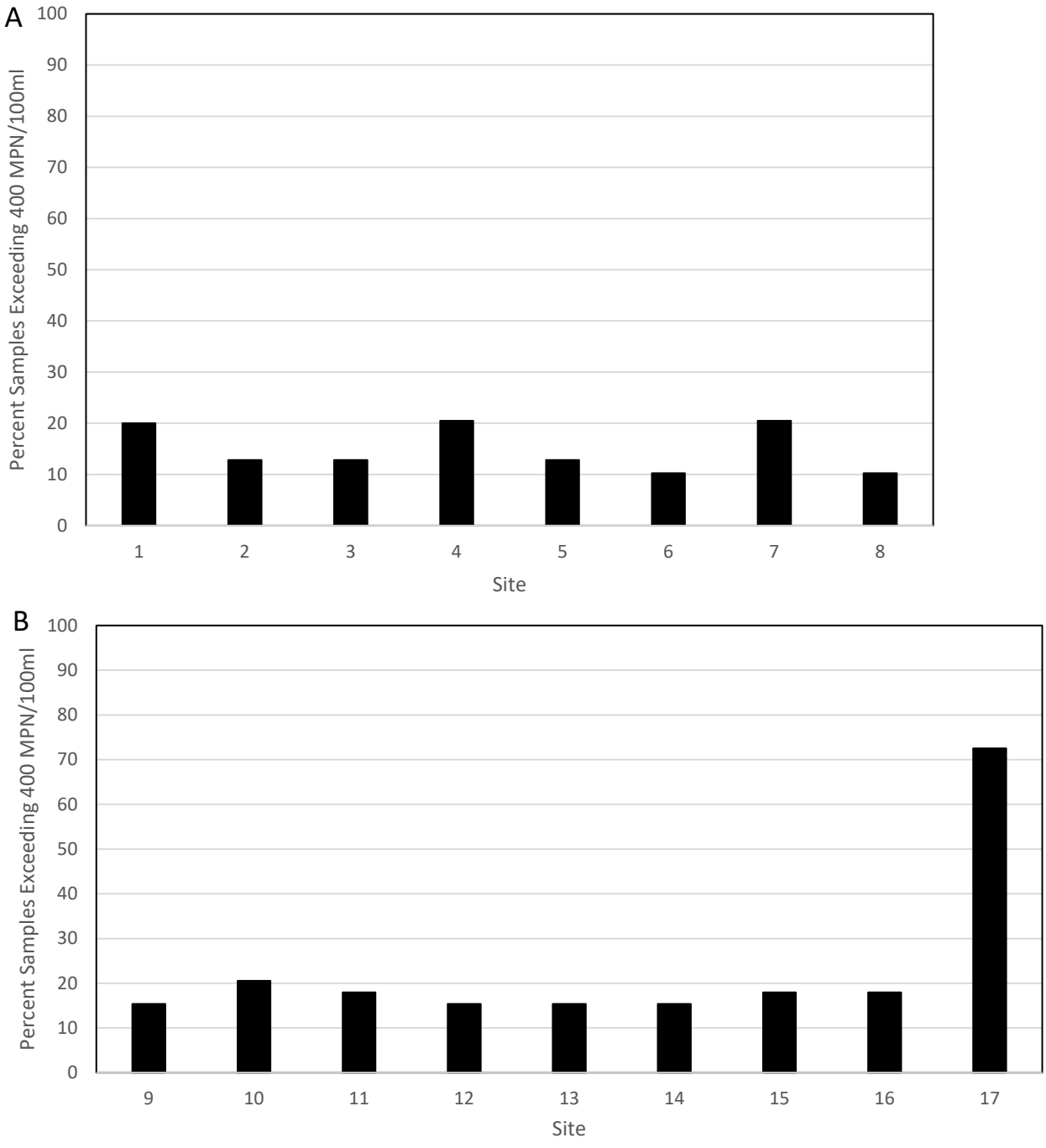

Figure 3. Percent exceedance of *E. coli* single sample standard (400 MPN per 100ml) for onshore (A) and offshore (B) sites at Hobie and Kiddie Beaches. Site 17 was the pump house.

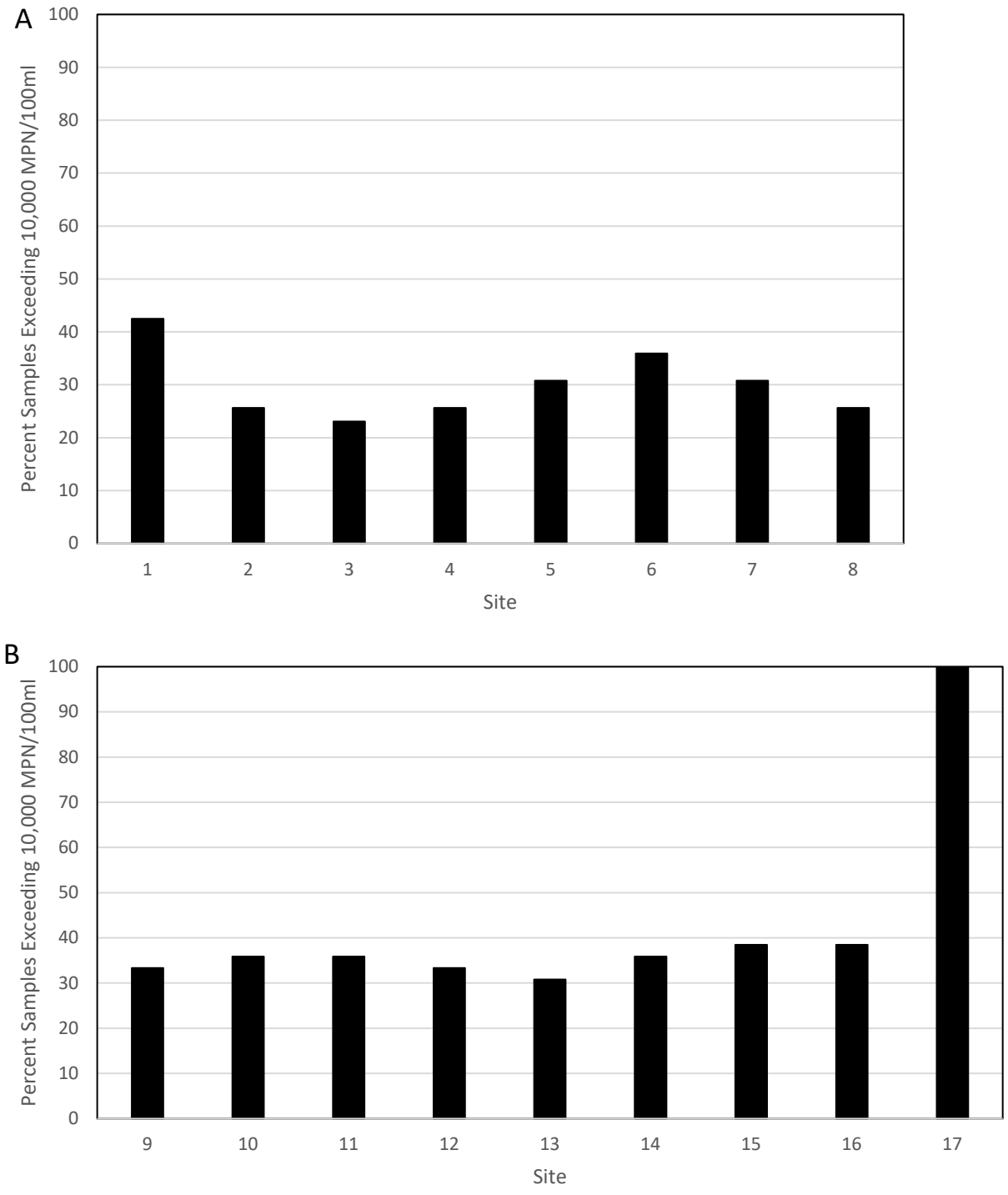

Figure 4. Percent exceedance of Total Coliform single sample standard (10,000 MPN per 100ml) for onshore (A) and offshore (B) sites at Hobie and Kiddie Beaches. Site 17 was the pump house.

A

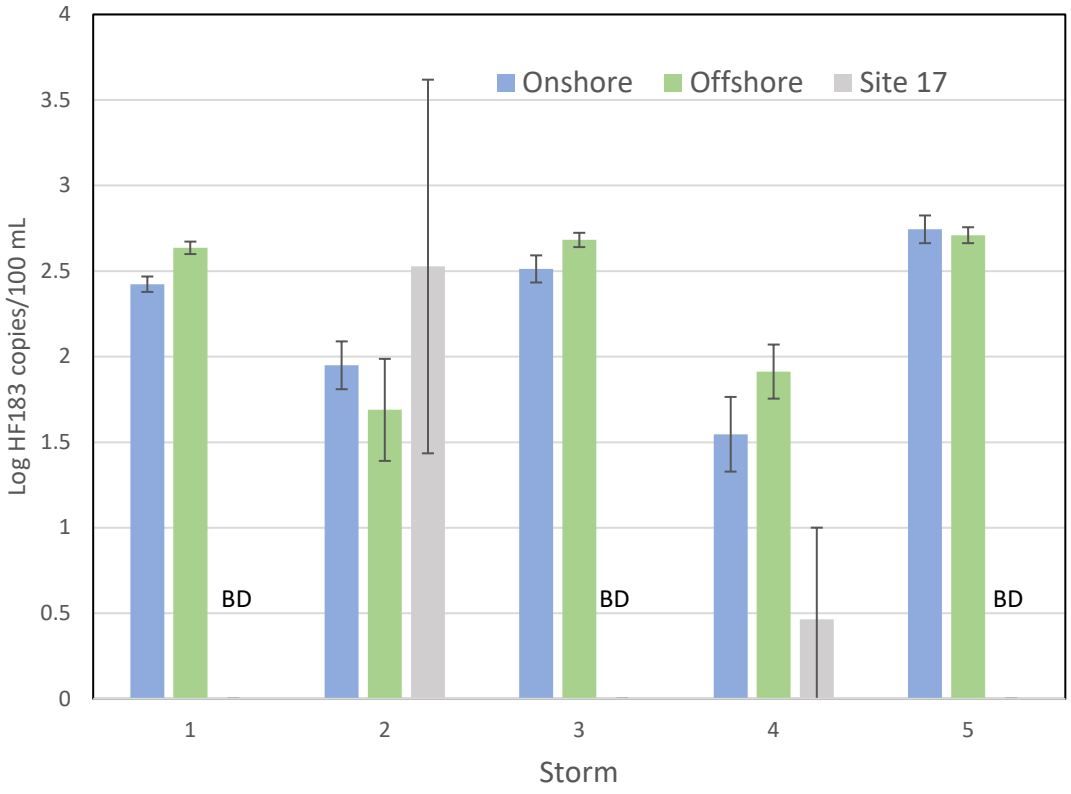

Figure 5. Human marker (HF183) concentrations averaged across sites onshore and offshore and at Site 17 for each storm sampled. BD indicates concentrations that were below detection at Site 17. Error bars show standard error.

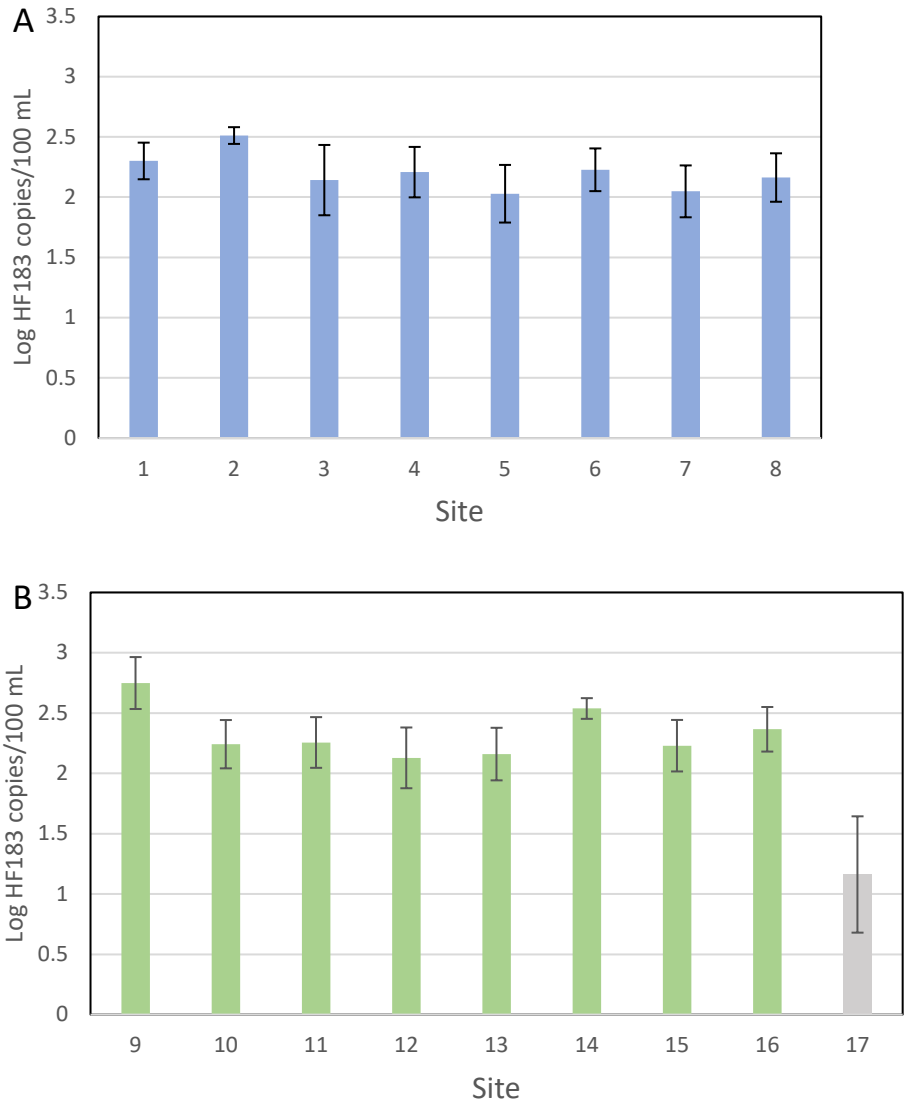

Figure 6. Average log_{10} human marker (HF183) concentrations at each onshore (A) and offshore (B) site for all storms at Hobie and Kiddie Beaches. Error bars show standard error.

Conclusions and Next Steps

Moderate to high levels of FIB and human fecal marker were ubiquitous and persistent both on and offshore following storm events at Kiddie and Hobie Beaches. We did not find a discernable gradient of bacteria between the shoreline and directly offshore of the beach, nor did we find a gradient across the beach. The persistence of FIB and human fecal marker concentrations in the water suggests both local and remote sources might be at play. High levels of human marker in the pump station sump at Kiddie Beach suggest the storm drain outfall is a likely point source of contamination, but concentrations in the sump were not high enough to explain the levels of human marker seen across and offshore of the beaches . Consistent human marker levels in the first samples following rain across the beach may also suggest a common source at these sites, possibly exfiltration of contaminated groundwater.

The data from this study support two options for next steps. The first option is to investigate sources which discharge to Kiddie and Hobie Beaches. The second option is to conduct a harbor-wide wet weather source investigation study to identify both sources and relative contributions of bacterial contamination entering the harbor

Investigating sources which discharge directly to Kiddie and Hobie Beach would involve investigating the storm drains which drain to the beach and the pump station, investigating groundwater seeping through the beach face, or both. Either of these are potential sources of FIB and human fecal contamination to the beach. Focusing on one or both of these sources would directly address the TMDL at the beaches and is a relatively simple design. However, while focusing remediation efforts on Kiddie and Hobie beaches may reduce the impact from the local sources and somewhat improve wet weather water quality in the immediate vicinity, it will only partially address the larger issue of contamination coming to the beach from the harbor. In the end, this may not be adequate to meet TMDL goals for these beaches.

The consistency of FIB and human concentrations in offshore samples in the days following rain events may indicate a harbor-wide microbial water quality problem, which would support undertaking a wet weather source investigation of the broader harbor. This more comprehensive study would account for and prioritize among the sources of contamination using a mass loading approach. This approach requires the identification of all potential inputs of storm water, including the sources directly discharging to Hobie and Kiddie Beaches. Once identified, storm water flow and human fecal marker concentrations at major discharges should be measured simultaneously to determine relative loading form each discharge. Multiple storm events would be required to capture the variability in loading from the drains during storms of different sizes. The mass loading approach will not only identify sources, but also quantify the relative amount of contamination entering the harbor from each source. While this option will provide the comprehensive information for managers to prioritize and carry out remediation efforts, it will require greater effort.

References

Cao, Y., M.R. Raith, J.F. Griffith. 2015. Droplet digital PCR for simultaneous quantification of general and human-associated fecal indicators for water quality assessment. *Water Research* 70:337–349

Griffith, J.F., B.A. Layton, A.B. Boehm, P.A. Holden, J.A. Jay, C. Hagedorn, C.D. McGee, S.B. Weisberg. 2013. The California Microbial Source Identification Manual: A Tiered Approach to Identifying Fecal Pollution Sources to Beaches. Technical Report 804. Southern California Coastal Water Research Project. Costa Mesa, CA.

Steele, J.A., A.D. Blackwood, J.F. Griffith, R.T. Noble, K.C. Schiff. 2018. Quantification of pathogens and markers of fecal contamination during storm events along popular surfing beaches in San Diego, California. *Water Research* 136:137-149.

SWRCB. 2015. California Ocean Plan. State Water Resources Control Board. Sacramento, CA http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf

Appendix D

Environmental Health Department – Water Quality Testing Raw Data (Since November 2016)

RUN ON: 11/01/16

**** RESAMPLE ****

WATER QUALITY RESULTS
FROM COLL DATE: 11/01/16
THRU COLL DATE: 11/01/16
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
		OCEAN	**EN,VH 29,000**			
		OCEAN	**EN,VH 30,000**			
		OCEAN	**EN,VH 32,000**			
		OCEAN	**EN,VH 33,000**			
		OCEAN	**EN,VH 34,000**			
		OCEAN	**EN,VH 35,000**			
		OCEAN	**EN,VH 36,000**			
11/01/16	1350	OCEAN	**EN,VH 37,000**	121	63	64
		OCEAN	**EN,VH 38,000**			
		OCEAN	**EN,VH 39,000**			
		OCEAN	**EN,VH 40,000**			
		OCEAN	**EN,VH 41,000**			
		OCEAN	**EN,VH 42,000**			
		OCEAN	**EN,VH 43,000**			
		OCEAN	**EN,VH 44,000**			
		OCEAN	**EN,VH 45,000**			
		OCEAN	**EN,VH 46,000**			
		OCEAN	**EN,VH 47,000**			
		OCEAN	**EN,VH 49,500**			
		OCEAN	**EN,VH 50,000**			
		OCEAN	**LAB BLANK**			
	Sampled by Wchl					
	pulled postings: 11/2/16					
	Website (data + advisory): 11/2/16					
	email HD + PWA: 11/3/16					

Beachwatch (data): 11/3/16

hotline: 11/2/16

RUN ON: 11/07/16

WATER QUALITY RESULTS
FROM COLL DATE: 11/07/16
THRU COLL DATE: 11/07/16
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/07/16	0903	OCEAN	**ENVH 1000**	10	<10	20
11/07/16	0936	OCEAN	**ENVH 4000**	<10	<10	<10
11/07/16	0945	OCEAN	**ENVH 7000**	<10	<10	<10
11/07/16	1000	OCEAN	**ENVH 10000**	20	<10	<10
11/07/16	1008	OCEAN	**ENVH 11000**	30	<10	<10
11/07/16	1023	OCEAN	**ENVH 13000**	20	<10	<10
11/07/16	1030	OCEAN	**ENVH 14000**	10	<10	20
11/07/16	1046	OCEAN	**ENVH 19000**	41	<10	<10
11/07/16	1109	OCEAN	**ENVH 25000**	10	<10	<10
11/07/16	1133	OCEAN	**ENVH 35000**	<10	<10	<10
11/07/16	1140	OCEAN	**ENVH 36000**	<10	<10	<10
11/07/16	1144	OCEAN	**ENVH 37000**	41	<10	10
11/07/16	1150	OCEAN	**ENVH 38000**	<10	<10	<10
11/07/16	1154	OCEAN	**ENVH 39000**	<10	<10	<10
11/07/16	1200	OCEAN	**ENVH 40000**	<10	<10	<10
11/07/16	1228	OCEAN	**ENVH 41000**	<10	<10	<10
11/07/16	1234	OCEAN	**ENVH 42000**	<10	<10	<10
11/07/16	1239	OCEAN	**ENVH 43000**	<10	<10	<10
11/07/16	1300	OCEAN	**ENVH 44000**	<10	<10	<10
11/07/16	1340	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by		Wshd/Isturiz				

website (advisory & data): 11/8/16
hotline: 11/8/16
email HD + PWA: 11/10/16
Beachwatch: 11/10/16

RUN ON: 11/14/16

WATER QUALITY RESULTS
FROM COLL DATE: 11/14/16
THRU COLL DATE: 11/14/16
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/14/16	0910	OCEAN	**ENVH 1000**	504	63	31
11/14/16	0947	OCEAN	**ENVH 4000**	86	20	<10
11/14/16	0956	OCEAN	**ENVH 7000**	857	565	192
11/14/16	1004	OCEAN	**ENVH 10000**	221	20	87
11/14/16	1013	OCEAN	**ENVH 11000**	158	41	150
11/14/16	1028	OCEAN	**ENVH 13000**	63	10	<10
11/14/16	1043	OCEAN	**ENVH 14000**	31	20	10
11/14/16	1053	OCEAN	**ENVH 19000**	10	<10	<10
11/14/16	1107	OCEAN	**ENVH 25000**	31	31	<10
11/14/16	1128	OCEAN	**ENVH 35000**	<10	<10	<10
11/14/16	1142	OCEAN	**ENVH 36000**	<10	<10	10
11/14/16	1146	OCEAN	**ENVH 37000**	450	75	64
11/14/16	1151	OCEAN	**ENVH 38000**	41	<10	<10
11/14/16	1157	OCEAN	**ENVH 39000**	<10	<10	10
11/14/16	1203	OCEAN	**ENVH 40000**	<10	<10	<10
11/14/16	1230	OCEAN	**ENVH 41000**	74	31	10
11/14/16	1235	OCEAN	**ENVH 42000**	10	<10	<10
11/14/16	1241	OCEAN	**ENVH 43000**	10	<10	<10
11/14/16	1300	OCEAN	**ENVH 44000**	41	20	<10
11/14/16	1320	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by LKH						

website (advisory, data, log): 11/15/16
hotline: 11/15/16
press release: 11/15/16
Beachwatch (advisory + data): 11/17/16
close out website log: 11/22/16
email HD + PWA: 11/22/16
Beachwatch (close data advisory): 11/22/16
Remove rain press release (rain): 11/23/16

7000 posted: 11/15/16
2 signs @ stairs

11000 posted: 11/15/16
1 sign @ Kiosk (entrance) and
1 sign @ site 7/8 (above high tide)

remove signs: 11/22/16

RUN ON: 11/21/16

WATER QUALITY RESULTS
FROM COLL DATE: 11/21/16
THRU COLL DATE: 11/21/16
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/21/16	0910	OCEAN	**ENVH 1000**	41	20	20
11/21/16	0950	OCEAN	**ENVH 4000**	10	10	<10
11/21/16	1000	OCEAN	**ENVH 7000**	<10	<10	<10
11/21/16	1020	OCEAN	**ENVH 10000**	146	63	42
11/21/16	1028	OCEAN	**ENVH 11000**	10	<10	<10
11/21/16	1043	OCEAN	**ENVH 13000**	169	52	64
11/21/16	1102	OCEAN	**ENVH 14000**	414	74	99
11/21/16	1100	OCEAN	**ENVH 19000**	20	20	20
11/21/16	1128	OCEAN	**ENVH 25000**	536	158	87
11/21/16	1145	OCEAN	**ENVH 35000**	20	<10	<10
11/21/16	1155	OCEAN	**ENVH 36000**	51	10	42
11/21/16	1200	OCEAN	**ENVH 37000**	72	30	31
11/21/16	1202	OCEAN	**ENVH 38000**	73	31	20
11/21/16	1208	OCEAN	**ENVH 39000**	20	<10	<10
11/21/16	1214	OCEAN	**ENVH 40000**	40	10	<10
11/21/16	1240	OCEAN	**ENVH 41000**	81	41	31
11/21/16	1245	OCEAN	**ENVH 42000**	128	62	53
11/21/16	1251	OCEAN	**ENVH 43000**	84	20	20
11/21/16	1307	OCEAN	**ENVH 44000**	84	20	31
11/21/16	1330	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 11/28/16

WATER QUALITY RESULTS
FROM COLL DATE: 11/28/16
THRU COLL DATE: 11/28/16
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/28/16	0855	OCEAN	**ENVH 1000**	121	31	<10
11/28/16	0932	OCEAN	**ENVH 4000**	63	20	<10
11/28/16	0943	OCEAN	**ENVH 7000**	318	<10	<10
11/28/16	0950	OCEAN	**ENVH 10000**	404	<10	20
11/28/16	1000	OCEAN	**ENVH 11000**	63	20	10
11/28/16	1014	OCEAN	**ENVH 13000**	52	<10	10
11/28/16	1026	OCEAN	**ENVH 14000**	20	<10	<10
11/28/16	1035	OCEAN	**ENVH 19000**	1,421	52	42
11/28/16	1055	OCEAN	**ENVH 25000**	313	<10	<10
11/28/16	1113	OCEAN	**ENVH 35000**	216	<10	<10
11/28/16	1123	OCEAN	**ENVH 36000**	2,187	<10	<10
11/28/16	1127	OCEAN	**ENVH 37000**	1,789	10	20
11/28/16	1150	OCEAN	**ENVH 38000**	155	<10	<10
11/28/16	1145	OCEAN	**ENVH 39000**	195	<10	<10
11/28/16	1135	OCEAN	**ENVH 40000**	132	<10	<10
11/28/16	1210	OCEAN	**ENVH 41000**	110	63	<10
11/28/16	1216	OCEAN	**ENVH 42000**	63	10	<10
11/28/16	1221	OCEAN	**ENVH 43000**	86	<10	<10
11/28/16	1240	OCEAN	**ENVH 44000**	74	<10	10
11/28/16	1330	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wchl 11/28/16						
rain press release: 11/28/16						
rain (advisory + hotline + log): 11/28/16						

website (data) 11/29/16

pull rain advisory + update website advisory: 11/30/16

close out rain (log): 11/30/16

hotline (no posting): 11/30/16

Beach watch (data ✓ and rain advisory ✓): 11/30/16

email HD + PWA: 11/30/16

RUN ON: 12/05/16

WATER QUALITY RESULTS
FROM COLL DATE: 12/05/16
THRU COLL DATE: 12/05/16
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
12/05/16	0855	OCEAN	**ENVH 1000**	<10	<10	<10
12/05/16	0828	OCEAN	**ENVH 4000**	10	<10	<10
12/05/16	0937	OCEAN	**ENVH 7000**	<10	<10	<10
12/05/16	0948	OCEAN	**ENVH 10000**	10	<10	<10
12/05/16	0957	OCEAN	**ENVH 11000**	<10	<10	<10
12/05/16	1040	OCEAN	**ENVH 13000**	10	<10	<10
12/05/16	1025	OCEAN	**ENVH 14000**	41	10	10
12/05/16	1033	OCEAN	**ENVH 19000**	31	<10	<10
12/05/16	1048	OCEAN	**ENVH 25000**	10	<10	<10
12/05/16	1112	OCEAN	**ENVH 35000**	20	<10	<10
12/05/16	****	OCEAN	**ENVH 36000**	NO	SAMPLE	COLLECTED
12/05/16	1125	OCEAN	**ENVH 37000**	135	10	<10
12/05/16	1152	OCEAN	**ENVH 38000**	581	231	124
12/05/16	1142	OCEAN	**ENVH 39000**	20	<10	<10
12/05/16	1134	OCEAN	**ENVH 40000**	<10	<10	10
12/05/16	1223	OCEAN	**ENVH 41000**	262	75	<10
12/05/16	1230	OCEAN	**ENVH 42000**	10	10	<10
12/05/16	1235	OCEAN	**ENVH 43000**	20	20	<10
12/05/16	1254	OCEAN	**ENVH 44000**	<10	<10	<10
12/05/16	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by WKHL						

press release : 12/6/16
hotline : 12/6/16
website (advisory, data, log): 12/6/16
email HD + PWA:
beachwatch (data + opened advisory) : 12/7/16
beachwatch
Close advisory :

RUN ON: 12/12/16

WATER QUALITY RESULTS
FROM COLL DATE: 12/12/16
THRU COLL DATE: 12/12/16
LOCATION: ENVH, ENVH

** HOLIDAY/WINTER COLLECTION **

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
12/12/16	0903	OCEAN	ENVH 1000	309	20	20
12/12/16	0932	OCEAN	ENVH 4000	<10	<10	<10
12/12/16	0945	OCEAN	ENVH 7000	520	31	<10
12/12/16	0957	OCEAN	ENVH 10000	10	<10	<10
12/12/16	1010	OCEAN	ENVH 11000	813	41	10
12/12/16	1025	OCEAN	ENVH 13000	41	<10	<10
12/12/16	1034	OCEAN	ENVH 14000	30	<10	<10
12/12/16	1050	OCEAN	ENVH 19000	95	20	<10
12/12/16	1105	OCEAN	ENVH 25000	51	<10	<10
12/12/16	1130	OCEAN	ENVH 35000	<10	<10	10
12/12/16	1140	OCEAN	ENVH 36000	20	+ Ratio <10	<10
12/12/16	1146	OCEAN	ENVH 37000	>24,196	2,938	2,005
12/12/16	1215	OCEAN	ENVH 38000	<10	<10	10
12/12/16	1210	OCEAN	ENVH 39000	20	<10	<10
12/12/16	1202	OCEAN	ENVH 40000	31	<10	<10
12/12/16	1232	OCEAN	ENVH 41000	31	10	<10
12/12/16	1245	OCEAN	ENVH 42000	20	10	10
12/12/16	1251	OCEAN	ENVH 43000	52	31	20
12/12/16	1305	OCEAN	ENVH 44000	10	<10	<10
12/12/16	1320	OCEAN	LAB BLANK	<10	<10	<10
Sampled by Berchtold/Wahl						

press release (37000): 12/13/16
hotline: 12/13/16
website (advisory, data): 12/13/16
website (log - start date): 12/13/16
beachwatch (advisory - start date): 12/13/16
remove press release + end website log (37000):
beachwatch (advisory - end date):
beachwatch: (data): 12/14/16
email HD + PWA: 12/14/16

posted (37000): 12/13/16
remove post (38000): 12/13/16
remove posts (37000):

RUN ON: 12/19/16

WATER QUALITY RESULTS
FROM COLL DATE: 12/19/16
THRU COLL DATE: 12/19/16
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
12/19/16	0854	OCEAN	**ENVH 1000**	187	<10	<10
12/19/16	0936	OCEAN	**ENVH 4000**	218	<10	<10
12/19/16	0944	OCEAN	**ENVH 7000**	31	10	<10
12/19/16	0955	OCEAN	**ENVH 10000**	160	<10	<10
12/19/16	1004	OCEAN	**ENVH 11000**	20	<10	<10
12/19/16	1018	OCEAN	**ENVH 13000**	383	135	<10
12/19/16	1025	OCEAN	**ENVH 14000**	30	<10	<10
12/19/16	1036	OCEAN	**ENVH 19000**	488	84	10
12/19/16	1054	OCEAN	**ENVH 25000**	41	<10	<10
12/19/16	1114	OCEAN	**ENVH 35000**	74	<10	<10
12/19/16	****	OCEAN	**ENVH 36000**	NO	SAMPLE	COLLECTED
12/19/16	1130	OCEAN	**ENVH 37000**	97	<10	10
12/19/16	1135	OCEAN	**ENVH 38000**	20	<10	<10
12/19/16	1143	OCEAN	**ENVH 39000**	52	<10	<10
12/19/16	1148	OCEAN	**ENVH 40000**	63	10	20
12/19/16	1220	OCEAN	**ENVH 41000**	393	<10	10
12/19/16	1225	OCEAN	**ENVH 42000**	341	51	<10
12/19/16	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
12/19/16	1240	OCEAN	**ENVH 44000**	404	<10	<10
12/19/16	1300	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Wichl					

Website (data): 12/20/16

Website (advisory): done 12/19 (end of rainfall advisory)

hotline: " " "

beachwatch:

email HD + PWA: 12/19/16

Here are the results from yesterday's sampling. I sampled sites 36000 (Hobie) and 42000 (J Street) today; results are pending. Site 43000 (Industrial drain) was inaccessible.

Sample site 7000 (Faria) was posted today at 3pm.

WATER QUALITY RESULTS
RUN ON 12/28/16 **FROM COLL DATE 12/27/16**
THRU COLL DATE 12/28/16
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. coli MPN/100 ml	ENTERO MPN/100 ml
12/27/16	0835	OCEAN	ENV,H 1000	30	20	<10
12/27/16	0850	OCEAN	ENV,H 4,000	<10	<10	20
12/27/16	0904	OCEAN	ENV,H 7,000	101	110	137
12/27/16	0913	OCEAN	ENV,H 10,000	<10	<10	<10
12/27/16	0921	OCEAN	ENV,H 11,000	10	10	10
12/27/16	0936	OCEAN	ENV,H 13,000	10	<10	<10
12/27/16	0942	OCEAN	ENV,H 14,000	20	10	<10
12/27/16	0951	OCEAN	ENV,H 19,000	41	31	10
12/27/16	1010	OCEAN	ENV,H 25,000	31	<10	31
12/27/16	1035	OCEAN	ENV,H 35,000	31	20	<10
12/27/16	1056	OCEAN	ENV,H 37,000	63	20	10
12/27/16	1105	OCEAN	ENV,H 38,000	10	10	<10
12/27/16	1115	OCEAN	ENV,H 39,000	20	20	<10
12/27/16	1121	OCEAN	ENV,H 40,000	<10	<10	<10
12/27/16	1145	OCEAN	ENV,H 41,000	10	<10	<10
12/27/16	1221	OCEAN	ENV,H 44,000	20	<10	<10
12/28/16	1055	OCEAN	ENV,H 36,000	pending	pending	pending
12/28/16	1115	OCEAN	ENV,H 42,000	Pending	pending	pending
12/28/16	NA	OCEAN	ENV,H 43,000	NA	NA	NA
12/27/16	1300	OCEAN	ENV,H BLANK	<10	<10	<10

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(805) 654-2830 Office
(805) 654-2480 Fax
EHD Website: www.ventura.org/rma/envhealth

RUN ON: 01/03/2017

WATER QUALITY RESULTS
FROM COLL DATE: 01/03/17
THRU COLL DATE: 01/03/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/03/17	0912	OCEAN	**ENVH 1000**	20	10	<10
01/03/17	0941	OCEAN	**ENVH 4000**	<10	<10	<10
01/03/17	0949	OCEAN	**ENVH 7000**	10	<10	<10
01/03/17	1000	OCEAN	**ENVH 10000**	<10	<10	<10
01/03/17	1010	OCEAN	**ENVH 11000**	10	<10	<10
01/03/17	1021	OCEAN	**ENVH 13000**	41	<10	<10
01/03/17	1028	OCEAN	**ENVH 14000**	20	<10	<10
01/03/17	1043	OCEAN	**ENVH 19000**	20	<10	<10
01/03/17	1056	OCEAN	**ENVH 25000**	<10	<10	<10
01/03/17	1112	OCEAN	**ENVH 35000**	10	<10	<10
01/03/17	1121	OCEAN	**ENVH 36000**	74	<10	<10
01/03/17	1124	OCEAN	**ENVH 37000**	12,997	8,164	111
01/03/17	1128	OCEAN	**ENVH 38000**	10	10	<10
01/03/17	1136	OCEAN	**ENVH 39000**	<10	<10	<10
01/03/17	1142	OCEAN	**ENVH 40000**	<10	<10	<10
01/03/17	1215	OCEAN	**ENVH 41000**	41	20	10
01/03/17	1222	OCEAN	**ENVH 42000**	<10	<10	<10
01/03/17	N/A	OCEAN	**ENVH 43000**	NO ACCESS	NO ACCESS	NO ACCESS
01/03/17	1245	OCEAN	**ENVH 44000**	10	<10	<10
01/03/17	1300	OCEAN	**ENVH BLANK**	<10	<10	<10

Sampled by Mabel

Pull posts @ 7000 + 42000 : 1/4/17
issue rainfall advisory : 1/4/17
update website (advisory, data, log) : 1/4/17
Beachwatch (data + rain advisories) : 1/5/17
email HD + PWA :
Hotline : 1/4/17

create 2017 log in website :
remove rain PR + advisory :
remove 37000 advisory :

RUN ON: 01/09/17

WATER QUALITY RESULTS
FROM COLL DATE: 01/09/17
THRU COLL DATE: 01/09/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/09/17	0902	OCEAN	**ENVH 1000**	728	197	254
01/09/17	0932	OCEAN	**ENVH 4000**	121	<10	20
01/09/17	0942	OCEAN	**ENVH 7000**	12,033	1,076	2,005
01/09/17	0950	OCEAN	**ENVH 10000**	1,374	10	99
01/09/17	1000	OCEAN	**ENVH 11000**	2,046	41	124
01/09/17	1015	OCEAN	**ENVH 13000**	>24,196	75	478
01/09/17	1025	OCEAN	**ENVH 14000**	11,199	121	478
01/09/17	1039	OCEAN	**ENVH 19000**	>24,196	2,247	>2,005
01/09/17	1058	OCEAN	**ENVH 25000**	794	20	20
01/09/17	1115	OCEAN	**ENVH 35000**	132	<10	10
01/09/17	1125	OCEAN	**ENVH 36000**	24,196	886	>2,005
01/09/17	1129	OCEAN	**ENVH 37000**	19,863	771	>2,005
01/09/17	1152	OCEAN	**ENVH 38000**	317	31	31
01/09/17	1145	OCEAN	**ENVH 39000**	393	10	20
01/09/17	1135	OCEAN	**ENVH 40000**	384	63	10
01/09/17	1221	OCEAN	**ENVH 41000**	4,352	52	150
01/09/17	1227	OCEAN	**ENVH 42000**	>24,196	5,475	>2,005
01/09/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
01/09/17	1245	OCEAN	**ENVH 44000**	6,488	471	<10
01/09/17	1320	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl						

existing - extended from 1/4

Beaches posted: 1/10/17 (except Rincon - out of time)
press release: no new issue for beaches, (rain press release still in effect).
website (data + log): 1/10/17
website (advisory): - no change - Leave as rain advisory
Beachwatch (data): 1/12/17
Beachwatch (beach advisories): 1/12/17
hotline: no change - rain advisory still in effect

end rain advisory:
end beach advisory:

email PWA + HD:

RUN ON: 01/17/17

WATER QUALITY RESULTS
FROM COLL DATE: 01/17/17
THRU COLL DATE: 01/17/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/17/17	0900	OCEAN	**ENVH 1000**	73	<10	20
01/17/17	0930	OCEAN	**ENVH 4000**	<10	<10	<10
01/17/17	0938	OCEAN	**ENVH 7000**	10	10	<10
01/17/17	0954	OCEAN	**ENVH 10000**	63	<10	<10
01/17/17	1003	OCEAN	**ENVH 11000**	10	<10	<10
01/17/17	1015	OCEAN	**ENVH 13000**	155	<10	<10
01/17/17	1024	OCEAN	**ENVH 14000**	52	<10	<10
01/17/17	1035	OCEAN	**ENVH 19000**	52	10	<10
01/17/17	1058	OCEAN	**ENVH 25000**	41	10	10
01/17/17	1120	OCEAN	**ENVH 35000**	52	<10	<10
01/17/17	1131	OCEAN	**ENVH 36000**	20	<10	<10
01/17/17	1136	OCEAN	**ENVH 37000**	591	20	53
01/17/17	1140	OCEAN	**ENVH 38000**	94	20	<10
01/17/17	1150	OCEAN	**ENVH 39000**	265	<10	<10
01/17/17	1154	OCEAN	**ENVH 40000**	121	<10	<10
01/17/17	1225	OCEAN	**ENVH 41000**	161	10	10
01/17/17	1236	OCEAN	**ENVH 42000**	74	20	20
*******	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
01/17/17	1250	OCEAN	**ENVH 44000**	253	<10	<10
01/17/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by [illegible]						

1/17/17 remove 1/4 rain press release

1/18/17 update hotline w/ 1/9/17 beach failures (am)

1/18/17 remove 1/10/17 beach postings

1/18/17 update website + log

1/19/17 issue rain advisory/press release + update website w/ rain

1/18/17 update hotline w/ no beaches posted (pm)

1/19/17 update hotline w/ new rain advisory.

RUN ON: 01/24/17

WATER QUALITY RESULTS
FROM COLL DATE: 01/24/17
THRU COLL DATE: 01/24/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/24/17	0833	OCEAN	**ENVH 1000**	1,178	97	75
01/24/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
01/24/17	0920	OCEAN	**ENVH 7000**	857	30	137
01/24/17	0928	OCEAN	**ENVH 10000**	563	10	10
01/24/17	0938	OCEAN	**ENVH 11000**	3,654	52	137
01/24/17	0950	OCEAN	**ENVH 13000**	3,448	146	99
01/24/17	0954	OCEAN	**ENVH 14000**	2,035	20	10
01/24/17	1005	OCEAN	**ENVH 19000**	1,376	20	53
01/24/17	1026	OCEAN	**ENVH 25000**	1,187	31	53
01/24/17	1044	OCEAN	**ENVH 35000**	3,255	63	150
01/24/17	1054	OCEAN	**ENVH 37000**	>24,196	98	531
01/24/17	1111	OCEAN	**ENVH 38000**	3,873	31	124
01/24/17	1122	OCEAN	**ENVH 39000**	4,884	85	137
01/24/17	1103	OCEAN	**ENVH 40000**	2,481	41	42
01/24/17	1148	OCEAN	**ENVH 41000**	1,187	<10	<10
01/24/17	1155	OCEAN	**ENVH 42000**	>24,196	703	1,298
01/24/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
01/24/17	1233	OCEAN	**ENVH 44000**	9,208	31	64
01/24/17	1253	OCEAN	**ENVH 49500**	2,481	10	31
01/24/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Wahl					

* Rain advisory (as of 1/19/17) in effect – per CG.
we will not post beaches this week, nor count the advisories on our log (website), nor for Beachwatch, + hotline.

Website data: 1/25/17
website log: 1/26/17
Beach Watch: (data + ~~advisories~~): 1/26
remove rain press release: 1/26/17
Beachwatch (close rain advisory): 1/26/17
email HD + DWA: 1/30/17
Hotline (leave rain. mssg ~~beach advisories~~):

~~Website + Beachwatch (close beach advisories)~~

* Due to dredging – temporary cease sampling at 36000 + add 49500.

RUN ON: 01/30/17

WATER QUALITY RESULTS
FROM COLL DATE: 01/30/17
THRU COLL DATE: 01/30/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/30/17	0937	OCEAN	**ENVH 1000**	228	<10	<10
01/30/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
01/30/17	0910	OCEAN	**ENVH 7000**	97	10	<10
01/30/17	0900	OCEAN	**ENVH 10000**	74	10	10
01/30/17	0853	OCEAN	**ENVH 11000**	31	<10	10
01/30/17	0840	OCEAN	**ENVH 13000**	97	20	<10
01/30/17	0833	OCEAN	**ENVH 14000**	295	10	10
01/30/17	0825	OCEAN	**ENVH 19000**	85	<10	<10
01/30/17	1020	OCEAN	**ENVH 25000**	98	<10	<10
01/30/17	1043	OCEAN	**ENVH 35000**	63	<10	<10
01/30/17	1058	OCEAN	**ENVH 37000**	31	31	42
01/30/17	1103	OCEAN	**ENVH 38000**	10	<10	<10
01/30/17	1115	OCEAN	**ENVH 39000**	30	<10	<10
01/30/17	1110	OCEAN	**ENVH 40000**	10	<10	<10
01/30/17	1142	OCEAN	**ENVH 41000**	20	<10	<10
01/30/17	1148	OCEAN	**ENVH 42000**	74	<10	<10
01/30/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
01/30/17	1215	OCEAN	**ENVH 44000**	31	<10	<10
01/30/17	1240	OCEAN	**ENVH 49500**	1,935	10	<10
01/30/17	1320	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by	Wahl					

hotline:

website (data + advisory): 1/31/17

email HD + PWA:

Benchwatch (data):

36,000 temp. cease in sampling continues, add 49500.

No access to 4000 + 42000

RUN ON: 02/07/17

WATER QUALITY RESULTS
FROM COLL DATE: 02/07/17
THRU COLL DATE: 02/07/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/07/17	0950	OCEAN	**ENVH 1000**	3,784	74	207
02/07/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
02/07/17	0918	OCEAN	**ENVH 7000**	6,867	121	504
02/07/17	0910	OCEAN	**ENVH 10000**	4,352	20	150
02/07/17	0900	OCEAN	**ENVH 11000**	1,872	52	124
02/07/17	0840	OCEAN	**ENVH 13000**	6,867	249	624
02/07/17	0850	OCEAN	**ENVH 14000**	>24,196	3,255	>2,005
02/07/17	0830	OCEAN	**ENVH 19000**	15,531	432	531
02/07/17	1032	OCEAN	**ENVH 25000**	11,199	299	429
02/07/17	1054	OCEAN	**ENVH 35000**	4,106	20	10
02/07/17	1107	OCEAN	**ENVH 37000**	>24,196	450	478
02/07/17	1111	OCEAN	**ENVH 38000**	6,488	10	20
02/07/17	1128	OCEAN	**ENVH 39000**	3,448	10	42
02/07/17	1133	OCEAN	**ENVH 40000**	3,654	<10	31
02/07/17	1202	OCEAN	**ENVH 41000**	5,794	41	111
02/07/17	1208	OCEAN	**ENVH 42000**	>24,196	1,483	>2,005
02/07/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
02/07/17	1235	OCEAN	**ENVH 44000**	>24,196	109	111
02/07/17	1303	OCEAN	**ENVH 49500**	388	<10	10
02/07/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Wahl					

Rainfall advisory remains in effect — no beach posting + no advisories

No sample from 36000, 4000, 42000

Add 49500

Website (data): 2/8/17

rain advisory (web — update date): 2/8/17

hotline: 2/8/17

email HD + PWA: 2/8/17

Beachwatch (data only — no advisories):

RUN ON: 02/13/17

WATER QUALITY RESULTS
FROM COLL DATE: 02/13/17
THRU COLL DATE: 02/13/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/13/17	0852	OCEAN	**ENVH 1000**	393	10	<10
02/13/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
02/13/17	0924	OCEAN	**ENVH 7000**	41	<10	<10
02/13/17	0911	OCEAN	**ENVH 10000**	31	<10	<10
02/13/17	0902	OCEAN	**ENVH 11000**	31	<10	<10
02/13/17	0851	OCEAN	**ENVH 13000**	243	31	<10
02/13/17	0843	OCEAN	**ENVH 14000**	110	41	<10
02/13/17	0835	OCEAN	**ENVH 19000**	213	<10	<10
02/13/17	1028	OCEAN	**ENVH 25000**	345	110	53
02/13/17	1050	OCEAN	**ENVH 35000**	2,481	63	124
02/13/17	1105	OCEAN	**ENVH 37000**	880	63	42
02/13/17	1130	OCEAN	**ENVH 38000**	1,145	20	31
02/13/17	1123	OCEAN	**ENVH 39000**	785	<10	64
02/13/17	1114	OCEAN	**ENVH 40000**	1,274	20	42
02/13/17	1158	OCEAN	**ENVH 41000**	288	98	31
02/13/17	1203	OCEAN	**ENVH 42000**	253	52	20
02/13/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
02/13/17	1225	OCEAN	**ENVH 44000**	63	<10	<10
02/13/17	1251	OCEAN	**ENVH 49500**	74	<10	<10
02/13/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Wild					

2/14/17 remove rain press release

2/14/17 Posted 35000, 1 sign at street entrance & one @ sample location.

hotline: 2/14/17

website (advisory + data): 2/14/17

email HD + PWA:

Beachwatch (data + advisories): 2/15/17

Beachwatch (close out rain advisory): 2/15/17 (ended 2/14/17)

website (log of postings): 2/14/17

press release for 35000! 2/15/17

RUN ON: 02/21/17

WATER QUALITY RESULTS
FROM COLL DATE: 02/21/17
THRU COLL DATE: 02/21/17
LOCATION: ENVH, ENVH

** **HOLIDAY/WINTER COLLECTION** **

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/21/17	1008	OCEAN	**ENVH 1000**	>24,196	97	324
02/21/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
02/21/17	0940	OCEAN	**ENVH 7000**	14,136	63	111
02/21/17	0921	OCEAN	**ENVH 10000**	>24,196	30	111
02/21/17	0912	OCEAN	**ENVH 11000**	2,613	<10	87
02/21/17	0856	OCEAN	**ENVH 13000**	>24,196	75	207
02/21/17	0848	OCEAN	**ENVH 14000**	12,997	63	164
02/21/17	0835	OCEAN	**ENVH 19000**	24,196	20	150
02/21/17	1054	OCEAN	**ENVH 25000**	1,565	20	53
02/21/17	1114	OCEAN	**ENVH 35000**	3,873	<10	31
02/21/17	1128	OCEAN	**ENVH 37000**	>24,196	175	364
02/21/17	1150	OCEAN	**ENVH 38000**	6,131	10	10
02/21/17	1145	OCEAN	**ENVH 39000**	3,255	20	20
02/21/17	1135	OCEAN	**ENVH 40000**	4,352	41	31
02/21/17	1224	OCEAN	**ENVH 41000**	ratio 2,247	495	324
02/21/17	1230	OCEAN	**ENVH 42000**	>24,196	122	42
02/21/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
02/21/17	1258	OCEAN	**ENVH 44000**	1,198	<10	<10
02/21/17	1333	OCEAN	**ENVH 49500**	75	10	<10
02/21/17	1430	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahe –						

rain press release: 2/16/17
rain web advisory: 2/16/17
rain web log: 2/16/17
hotline: rain 2/16/17
email HD + PWA:

* Rainfall Advisory still in effect, therefore no beach post + no beach press release, no hotline; no beach advisories in beach watch

pull posts from 35000; 2/22/17

Beachwatch (data): 12/23/17
Beachwatch (close out advisory for 35000):
pull rain P.R./close out rain advisory for beachwatch: 2/23/17
update hotline (no beaches posted):

RUN ON: 02/27/17

WATER QUALITY RESULTS
FROM COLL DATE: 02/27/17
THRU COLL DATE: 02/27/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/27/17	0900	OCEAN	**ENVH 1000**	2,613	<10	31
02/27/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
02/27/17	0935	OCEAN	**ENVH 7000**	959	<10	10
02/27/17	0955	OCEAN	**ENVH 10000**	10,462	<10	178
02/27/17	1005	OCEAN	**ENVH 11000**	1,169	<10	<10
02/27/17	1018	OCEAN	**ENVH 13000**	4,884	10	364
02/27/17	1026	OCEAN	**ENVH 14000**	4,611	<10	64
02/27/17	1035	OCEAN	**ENVH 19000**	3,255	74	64
02/27/17	1048	OCEAN	**ENVH 25000**	2,143	<10	20
02/27/17	1110	OCEAN	**ENVH 35000**	134	<10	<10
02/27/17	1130	OCEAN	**ENVH 37000**	548	171	31
02/27/17	1137	OCEAN	**ENVH 38000**	292	<10	<10
02/27/17	1143	OCEAN	**ENVH 39000**	121	10	<10
02/27/17	1150	OCEAN	**ENVH 40000**	275	10	<10
02/27/17	1212	OCEAN	**ENVH 41000**	384	75	31
02/27/17	1218	OCEAN	**ENVH 42000**	393	<10	<10
02/27/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
02/27/17	1245	OCEAN	**ENVH 44000**	51	<10	<10
02/27/17	1313	OCEAN	**ENVH 49500**	259	<10	<10
02/27/17	1345	OCEAN	**LAB BLANK**	<10	<10	<10

Sampled by Wittel/Lustig

posted Solimar/10000 : 2/28/17 (1 sign)
Website (data, advisory, log): 2/28/17
press release: 2/28/17
email HD + PWA:
Beachwatch (data + advisories):
hotline: 2/28/17

posted Surfer's/13000 : 2/29/17
(too late in day for 2/28)
3 signs: 1@ sample locale,
1@ kiosk, 1@ end of paved
parking.

RUN ON: 03/06/17

WATER QUALITY RESULTS
FROM COLL DATE: 03/06/17
THRU COLL DATE: 03/06/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/06/17	0837	OCEAN	**ENVH 1000**	331	20	10
03/06/17	0909	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
03/06/17	****	OCEAN	**ENVH 7000**	183	<10	<10
03/06/17	0913	OCEAN	**ENVH 10000**	216	<10	<10
03/06/17	0923	OCEAN	**ENVH 11000**	63	<10	<10
03/06/17	0941	OCEAN	**ENVH 13000**	2,613	20	10
03/06/17	0955	OCEAN	**ENVH 14000**	448	<10	10
03/06/17	1005	OCEAN	**ENVH 19000**	987	<10	10
03/06/17	1022	OCEAN	**ENVH 25000**	2,143	<10	10
03/06/17	1047	OCEAN	**ENVH 35000**	520	<10	<10
03/06/17	1104	OCEAN	**ENVH 37000**	243	51	87
03/06/17	1110	OCEAN	**ENVH 38000**	282	10	31
03/06/17	1117	OCEAN	**ENVH 39000**	243	10	10
03/06/17	1125	OCEAN	**ENVH 40000**	313	10	<10
03/06/17	1144	OCEAN	**ENVH 41000**	110	74	<10
03/06/17	1155	OCEAN	**ENVH 42000**	20	20	<10
03/06/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
03/06/17	1216	OCEAN	**ENVH 44000**	20	10	<10
03/06/17	1250	OCEAN	**ENVH 49500**	<10	<10	<10
03/06/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Bozek					

Signs removed (10000, 13000): 3/8/17
website (data + advisory): 3/7/17
hotline: 3/7/17
email HD + PWA:
Beachwatch (data + close out advisories):

RUN ON: 03/13/17

WATER QUALITY RESULTS
FROM COLL DATE: 03/13/17
THRU COLL DATE: 03/13/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/13/17	0945	OCEAN	**ENVH 1000**	75	<10	<10
03/13/17	****	OCEAN	**ENVH 4000**	NO	SAMPLE	COLLECTED
03/13/17	0922	OCEAN	**ENVH 7000**	41	10	<10
03/13/17	0913	OCEAN	**ENVH 10000**	233	<10	<10
03/13/17	0904	OCEAN	**ENVH 11000**	364	<10	<10
03/13/17	0845	OCEAN	**ENVH 13000**	887	<10	<10
03/13/17	0853	OCEAN	**ENVH 14000**	253	<10	<10
03/13/17	0832	OCEAN	**ENVH 19000**	63	<10	<10
03/13/17	1027	OCEAN	**ENVH 25000**	63	10	<10
03/13/17	1048	OCEAN	**ENVH 35000**	20	<10	<10
03/13/17	1104	OCEAN	**ENVH 37000**	41	<10	<10
03/13/17	1109	OCEAN	**ENVH 38000**	10,462	109	20
03/13/17	1115	OCEAN	**ENVH 39000**	30	<10	10
03/13/17	1120	OCEAN	**ENVH 40000**	10	<10	<10
03/13/17	1148	OCEAN	**ENVH 41000**	10	<10	<10
03/13/17	1154	OCEAN	**ENVH 42000**	121	52	53
03/13/17	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
03/13/17	1220	OCEAN	**ENVH 44000**	98	63	10
03/13/17	1245	OCEAN	**ENVH 49500**	10	<10	<10
03/13/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Wahe					

posted 38000 : 3/14/17 1 sign
Website (log, advisory, data): 3/14/17
hotline : 3/14/17
email PWA + HD: 3/15/17
beachwatch (advisory + data): 3/15/17

RUN ON: 03/20/17

WATER QUALITY RESULTS
FROM COLL DATE: 03/20/17
THRU COLL DATE: 03/20/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/20/17	0956	OCEAN	**ENVH 1000**	15,531	10	31
03/20/17	0934	OCEAN	**ENVH 4000**	20	20	<10
03/20/17	0920	OCEAN	**ENVH 7000**	51	10	31
03/20/17	0911	OCEAN	**ENVH 10000**	63	<10	<10
03/20/17	0903	OCEAN	**ENVH 11000**	<10	<10	<10
03/20/17	0845	OCEAN	**ENVH 13000**	171	<10	<10
03/20/17	0837	OCEAN	**ENVH 14000**	231	<10	<10
03/20/17	0828	OCEAN	**ENVH 19000**	20	<10	<10
03/20/17	1035	OCEAN	**ENVH 25000**	480	<10	10
03/20/17	1103	OCEAN	**ENVH 35000**	<10	<10	<10
03/20/17	1117	OCEAN	**ENVH 36000**	10	<10	<10
03/20/17	1123	OCEAN	**ENVH 37000**	75	41	20
03/20/17	1126	OCEAN	**ENVH 38000**	<10	<10	<10
03/20/17	1133	OCEAN	**ENVH 39000**	<10	<10	<10
03/20/17	1140	OCEAN	**ENVH 40000**	<10	<10	<10
03/20/17	1210	OCEAN	**ENVH 41000**	20	<10	<10
03/20/17	1218	OCEAN	**ENVH 42000**	<10	<10	<10
03/20/17	1222	OCEAN	**ENVH 43000**	52	52	<10
03/20/17	****	OCEAN	**ENVH 44000**	NO	SAMPLE	COLLECTED
03/20/17	1313	OCEAN	**ENVH 49500**	<10	<10	<10
03/20/17	1430	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by		Wahl				

rain P.R.: 3/21/17 (start)
pull 38000 P.R: 3/21/17
remove post 38000: 3/21/17
website (rain advisory): 3/21/17
hotline: 3/21/17 rain
website (log, data): 3/21/17
Beachwatch (data, close 38000, open rain advisory): 3/22/17
Beachwatch (advisory 1000): open
email HD + PWA:

Rain advisory in effect as of today, 3/21, so no posting placed at the beach for 1000. However posting included on log @ website.

RUN ON: 03/27/17

WATER QUALITY RESULTS
FROM COLL DATE: 03/27/17
THRU COLL DATE: 03/27/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/27/17	0946	OCEAN	**ENVH 1000**	185	52	<10
03/27/17	0925	OCEAN	**ENVH 4000**	63	10	<10
03/27/17	0911	OCEAN	**ENVH 7000**	41	<10	<10
03/27/17	0902	OCEAN	**ENVH 10000**	4,611	<10	192
03/27/17	0857	OCEAN	**ENVH 11000**	52	<10	<10
03/27/17	0844	OCEAN	**ENVH 13000**	146	<10	10
03/27/17	0835	OCEAN	**ENVH 14000**	292	<10	10
03/27/17	0826	OCEAN	**ENVH 19000**	120	<10	20
03/27/17	1030	OCEAN	**ENVH 25000**	results not 41, entered	<10	blank was <10
03/27/17	1050	OCEAN	**ENVH 35000**	41	<10	<10
03/27/17	1104	OCEAN	**ENVH 36000**	428	10	<10
03/27/17	1107	OCEAN	**ENVH 37000**	20	<10	<10
03/27/17	1113	OCEAN	**ENVH 38000**	<10	<10	<10
03/27/17	1121	OCEAN	**ENVH 39000**	<10	<10	10
03/27/17	1125	OCEAN	**ENVH 40000**	20	10	<10
03/27/17	1157	OCEAN	**ENVH 41000**	275	63	384
03/27/17	1202	OCEAN	**ENVH 42000**	122	20	10
03/27/17	1206	OCEAN	**ENVH 43000**	31	<10	<10
03/27/17	1236	OCEAN	**ENVH 44000**	31	20	<10
03/27/17	1302	OCEAN	**ENVH 49500**	10	10	<10
03/27/17	1345	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl						

website (data, log, advisory): 3/28/17
hotline: 3/28/17
Email HD + PWA:
Beachwatch (data/new advisories):
Beachwatch (close advisory/1000):

Posted 41000: 3/28/17
Posted 10000: 3/29/17 am

pull posts 41000 + 10000:

RUN ON: 04/04/17

WATER QUALITY RESULTS
FROM COLL DATE: 04/04/17
THRU COLL DATE: 04/04/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/04/17	0833	OCEAN	**EN,VH 29,000**	84	<10	<10
04/04/17	0842	OCEAN	**EN,VH 30,000**	10	10	<10
04/04/17	0850	OCEAN	**EN,VH 32,000**	<10	<10	10
04/04/17	0855	OCEAN	**EN,VH 33,000**	<10	<10	<10
04/04/17	0909	OCEAN	**EN,VH 34,000**	<10	<10	<10
04/04/17	0913	OCEAN	**EN,VH 35,000**	<10	<10	<10
04/04/17	0924	OCEAN	**EN,VH 36,000**	20	<10	20
04/04/17	0928	OCEAN	**EN,VH 37,000**	146	52	<10
04/04/17	0930	OCEAN	**EN,VH 38,000**	<10	<10	<10
04/04/17	0936	OCEAN	**EN,VH 39,000**	<10	<10	<10
04/04/17	0943	OCEAN	**EN,VH 40,000**	<10	<10	<10
04/04/17	1004	OCEAN	**EN,VH 41,000**	41	<10	<10
04/04/17	1016	OCEAN	**EN,VH 42,000**	<10	<10	<10
04/04/17	1020	OCEAN	**EN,VH 43,000**	<10	<10	<10
04/04/17	1044	OCEAN	**EN,VH 44,000**	<10	<10	<10
04/04/17	1107	OCEAN	**EN,VH 45,000**	<10	<10	<10
04/04/17	1117	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/04/17	1122	OCEAN	**EN,VH 47,000**	10	<10	<10
04/04/17	1130	OCEAN	**EN,VH 49,500**	10	<10	<10
04/04/17	1138	OCEAN	**EN,VH 50,000**	<10	<10	<10
04/04/17	1315	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Dragan/Basseri						
website: 4/5/17						
hotline: 4/5/17						
email HD + PWA: 4/10/17						
Beachwatch:						
pull sign @ 10000: 4/5/17						

rain press release: 4/7/17

RUN ON: 04/10/17

WATER QUALITY RESULTS
FROM COLL DATE: 04/10/17
THRU COLL DATE: 04/10/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/10/17	1230	OCEAN	**EN,VH 29,000**	<10	<10	<10
04/10/17	1222	OCEAN	**EN,VH 30,000**	10	<10	<10
04/10/17	1213	OCEAN	**EN,VH 32,000**	10	10	<10
04/10/17	1207	OCEAN	**EN,VH 33,000**	20	10	10
04/10/17	1157	OCEAN	**EN,VH 34,000**	<10	<10	<10
04/10/17	1148	OCEAN	**EN,VH 35,000**	<10	<10	<10
04/10/17	1100	OCEAN	**EN,VH 36,000**	20	<10	<10
04/10/17	1104	OCEAN	**EN,VH 37,000**	146	<10	<10
04/10/17	1110	OCEAN	**EN,VH 38,000**	<10	<10	<10
04/10/17	1114	OCEAN	**EN,VH 39,000**	<10	<10	<10
04/10/17	1124	OCEAN	**EN,VH 40,000**	10	<10	<10
04/10/17	1030	OCEAN	**EN,VH 41,000**	20	10	<10
04/10/17	1033	OCEAN	**EN,VH 42,000**	<10	<10	<10
04/10/17	1035	OCEAN	**EN,VH 43,000**	<10	<10	20
04/10/17	1012	OCEAN	**EN,VH 44,000**	20	<10	<10
04/10/17	0950	OCEAN	**EN,VH 45,000**	85	<10	<10
04/10/17	0942	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/10/17	0937	OCEAN	**EN,VH 47,000**	30	<10	<10
04/10/17	0928	OCEAN	**EN,VH 49,500**	10	10	<10
04/10/17	0923	OCEAN	**EN,VH 50,000**	10	<10	<10
04/10/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl						
Website (data + advisory): 4/12/17						
Beach Walk-in: 4/12/17						
email HD + PWA: 4/12/17						
hotline: 4/12/17						

RUN ON: 04/19/17

WATER QUALITY RESULTS
FROM COLL DATE: 04/19/17
THRU COLL DATE: 04/19/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/19/17	1250	OCEAN	**EN,VH 29,000**	10	10	10
04/19/17	1240	OCEAN	**EN,VH 30,000**	10	10	<10
04/19/17	1230	OCEAN	**EN,VH 32,000**	<10	<10	<10
04/19/17	1225	OCEAN	**EN,VH 33,000**	10	<10	<10
04/19/17	1214	OCEAN	**EN,VH 34,000**	<10	<10	<10
04/19/17	1208	OCEAN	**EN,VH 35,000**	<10	<10	<10
04/19/17	1117	OCEAN	**EN,VH 36,000**	75	52	<10
04/19/17	1121	OCEAN	**EN,VH 37,000**	738	<10	<10
04/19/17	1128	OCEAN	**EN,VH 38,000**	10	<10	<10
04/19/17	1138	OCEAN	**EN,VH 39,000**	20	<10	<10
04/19/17	1146	OCEAN	**EN,VH 40,000**	10	<10	<10
04/19/17	1034	OCEAN	**EN,VH 41,000**	<10	<10	<10
04/19/17	1038	OCEAN	**EN,VH 42,000**	<10	<10	<10
04/19/17	1044	OCEAN	**EN,VH 43,000**	<10	<10	<10
04/19/17	1013	OCEAN	**EN,VH 44,000**	97	85	<10
04/19/17	0857	OCEAN	**EN,VH 45,000**	20	20	<10
04/19/17	0908	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/19/17	0914	OCEAN	**EN,VH 47,000**	10	<10	<10
04/19/17	0928	OCEAN	**EN,VH 49,500**	68	20	<10
04/19/17	0936	OCEAN	**EN,VH 50,000**	20	<10	<10
04/19/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
Beach Watch: 4/25/17						
Website: 4/20/17						
Email HD + PWA: 4/25/17						
hotline: 4/20/17						

RUN ON: 04/24/17

WATER QUALITY RESULTS
FROM COLL DATE: 04/24/17
THRU COLL DATE: 04/24/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/24/17	1242	OCEAN	**EN,VH 29,000**	10	10	<10
04/24/17	1233	OCEAN	**EN,VH 30,000**	<10	<10	<10
04/24/17	1221	OCEAN	**EN,VH 32,000**	10	<10	<10
04/24/17	1217	OCEAN	**EN,VH 33,000**	10	<10	<10
04/24/17	1210	OCEAN	**EN,VH 34,000**	10	<10	<10
04/24/17	1200	OCEAN	**EN,VH 35,000**	<10	<10	<10
04/24/17	1123	OCEAN	**EN,VH 36,000**	20	<10	<10
04/24/17	1126	OCEAN	**EN,VH 37,000**	135	110	87
04/24/17	1132	OCEAN	**EN,VH 38,000**	10	<10	<10
04/24/17	1138	OCEAN	**EN,VH 39,000**	20	<10	<10
04/24/17	1142	OCEAN	**EN,VH 40,000**	<10	<10	<10
04/24/17	1040	OCEAN	**EN,VH 41,000**	<10	<10	<10
04/24/17	1046	OCEAN	**EN,VH 42,000**	20	<10	<10
04/24/17	1051	OCEAN	**EN,VH 43,000**	<10	<10	<10
04/24/17	1015	OCEAN	**EN,VH 44,000**	<10	<10	<10
04/24/17	0904	OCEAN	**EN,VH 45,000**	63	<10	<10
04/24/17	0911	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/24/17	0916	OCEAN	**EN,VH 47,000**	<10	<10	<10
04/24/17	0932	OCEAN	**EN,VH 49,500**	41	10	<10
04/24/17	0942	OCEAN	**EN,VH 50,000**	20	<10	<10
04/24/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl						
Website (advisory + data): 4/26/17						
Beach Watch (data):						
email HD + PWA: 4/26/17						

RUN ON: 05/01/17

WATER QUALITY RESULTS
FROM COLL DATE: 05/01/17
THRU COLL DATE: 05/01/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/01/17	1215	OCEAN	**EN,VH 29,000**	<10	<10	<10
05/01/17	1210	OCEAN	**EN,VH 30,000**	10	<10	<10
05/01/17	1200	OCEAN	**EN,VH 32,000**	<10	<10	<10
05/01/17	1156	OCEAN	**EN,VH 33,000**	20	<10	<10
05/01/17	1148	OCEAN	**EN,VH 34,000**	<10	<10	<10
05/01/17	1141	OCEAN	**EN,VH 35,000**	10	<10	<10
05/01/17	1104	OCEAN	**EN,VH 36,000**	187	20	<10
05/01/17	1108	OCEAN	**EN,VH 37,000**	228	<10	<10
05/01/17	1113	OCEAN	**EN,VH 38,000**	<10	<10	<10
05/01/17	1118	OCEAN	**EN,VH 39,000**	10	<10	<10
05/01/17	1123	OCEAN	**EN,VH 40,000**	10	<10	<10
05/01/17	1128	OCEAN	**EN,VH 41,000**	<10	<10	<10
05/01/17	1032	OCEAN	**EN,VH 42,000**	<10	<10	<10
05/01/17	1038	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/01/17	****	OCEAN	**EN,VH 44,000**	NO	SAMPLE	COLLECTED
05/01/17	0905	OCEAN	**EN,VH 45,000**	20	10	10
05/01/17	0915	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/01/17	0921	OCEAN	**EN,VH 47,000**	20	<10	<10
05/01/17	0932	OCEAN	**EN,VH 49,500**	10	<10	<10
05/01/17	0938	OCEAN	**EN,VH 50,000**	10	<10	64
05/01/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Ward						
website: 5/3/17						
hotline:						
email PWA + HD: 5/3/17						
Beach Watch:						

RUN ON: 05/08/17

WATER QUALITY RESULTS
FROM COLL DATE: 05/08/17
THRU COLL DATE: 05/08/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/08/17	1236	OCEAN	**EN,VH 29,000**	10	<10	<10
05/08/17	1228	OCEAN	**EN,VH 30,000**	<10	<10	<10
05/08/17	1220	OCEAN	**EN,VH 32,000**	<10	<10	<10
05/08/17	1215	OCEAN	**EN,VH 33,000**	<10	<10	<10
05/08/17	1204	OCEAN	**EN,VH 34,000**	<10	<10	<10
05/08/17	1157	OCEAN	**EN,VH 35,000**	<10	<10	<10
05/08/17	1110	OCEAN	**EN,VH 36,000**	20	<10	<10
05/08/17	1113	OCEAN	**EN,VH 37,000**	41	<10	20
05/08/17	1117	OCEAN	**EN,VH 38,000**	10	<10	<10
05/08/17	1124	OCEAN	**EN,VH 39,000**	<10	<10	<10
05/08/17	1130	OCEAN	**EN,VH 40,000**	20	<10	<10
05/08/17	1030	OCEAN	**EN,VH 41,000**	10	<10	<10
05/08/17	1035	OCEAN	**EN,VH 42,000**	<10	<10	<10
05/08/17	1040	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/08/17	1012	OCEAN	**EN,VH 44,000**	10	10	<10
05/08/17	0900	OCEAN	**EN,VH 45,000**	10	<10	<10
05/08/17	0908	OCEAN	**EN,VH 46,000**	10	10	<10
05/08/17	0912	OCEAN	**EN,VH 47,000**	20	10	10
05/08/17	0930	OCEAN	**EN,VH 49,500**	10	<10	<10
05/08/17	0936	OCEAN	**EN,VH 50,000**	10	<10	<10
05/08/17	1315	OCEAN	**LAB BLANK**	<10	<10	<10
Website (data + advisory): 5/10/17						
hotline:						
email PWA + HD: 5/10/17						
Beach watch:						

RUN ON: 05/15/17

WATER QUALITY RESULTS
FROM COLL DATE: 05/15/17
THRU COLL DATE: 05/15/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/15/17	1245	OCEAN	**EN,VH 29,000**	31	<10	<10
05/15/17	1237	OCEAN	**EN,VH 30,000**	10	<10	<10
05/15/17	1230	OCEAN	**EN,VH 32,000**	<10	<10	<10
05/15/17	1225	OCEAN	**EN,VH 33,000**	10	<10	<10
05/15/17	1218	OCEAN	**EN,VH 34,000**	<10	<10	<10
05/15/17	1206	OCEAN	**EN,VH 35,000**	<10	<10	<10
05/15/17	1130	OCEAN	**EN,VH 36,000**	41	<10	<10
05/15/17	1135	OCEAN	**EN,VH 37,000**	275	97	<10
05/15/17	1138	OCEAN	**EN,VH 38,000**	<10	<10	<10
05/15/17	1144	OCEAN	**EN,VH 39,000**	<10	<10	<10
05/15/17	1150	OCEAN	**EN,VH 40,000**	10	<10	<10
05/15/17	1100	OCEAN	**EN,VH 41,000**	<10	<10	<10
05/15/17	1104	OCEAN	**EN,VH 42,000**	<10	<10	<10
05/15/17	1108	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/15/17	1125	OCEAN	**EN,VH 44,000**	<10	<10	<10
05/15/17	0910	OCEAN	**EN,VH 45,000**	203	10	<10
05/15/17	0920	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/15/17	0926	OCEAN	**EN,VH 47,000**	<10	<10	10
05/15/17	0936	OCEAN	**EN,VH 49,500**	20	10	<10
05/15/17	0947	OCEAN	**EN,VH 50,000**	10	<10	<10
05/15/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Water						
Website (advisory + date): 5/17/17						
email HD + PWA: 5/17/17						
hotline:						
Beach Watch:						

RUN ON: 05/22/17

WATER QUALITY RESULTS
FROM COLL DATE: 05/22/17
THRU COLL DATE: 05/22/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/22/17	1228	OCEAN	**EN,VH 29,000**	<10	<10	<10
05/22/17	1222	OCEAN	**EN,VH 30,000**	<10	<10	<10
05/22/17	1214	OCEAN	**EN,VH 32,000**	<10	<10	<10
05/22/17	1208	OCEAN	**EN,VH 33,000**	<10	<10	<10
05/22/17	1158	OCEAN	**EN,VH 34,000**	10	<10	<10
05/22/17	1153	OCEAN	**EN,VH 35,000**	<10	<10	<10
05/22/17	1114	OCEAN	**EN,VH 36,000**	<10	<10	<10
05/22/17	1117	OCEAN	**EN,VH 37,000**	109	<10	<10
05/22/17	1120	OCEAN	**EN,VH 38,000**	<10	<10	<10
05/22/17	1130	OCEAN	**EN,VH 39,000**	<10	<10	<10
05/22/17	1135	OCEAN	**EN,VH 40,000**	<10	<10	<10
05/22/17	1035	OCEAN	**EN,VH 41,000**	<10	<10	<10
05/22/17	1040	OCEAN	**EN,VH 42,000**	<10	<10	10
05/22/17	1045	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/22/17	1015	OCEAN	**EN,VH 44,000**	<10	<10	<10
05/22/17	0904	OCEAN	**EN,VH 45,000**	41	<10	<10
05/22/17	0913	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/22/17	0918	OCEAN	**EN,VH 47,000**	10	10	<10
05/22/17	0930	OCEAN	**EN,VH 49,500**	<10	<10	<10
05/22/17	0938	OCEAN	**EN,VH 50,000**	<10	<10	<10
05/22/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Wahl					
	hotline: 5/24/17					
	website: 5/24/17					
	email HD + PWA: 5/25/17					
	Beachwatch:					

RUN ON: 05/30/17

WATER QUALITY RESULTS
FROM COLL DATE: 05/30/17
THRU COLL DATE: 05/30/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/30/17	0858	OCEAN	**ENVH 1000**	<10	<10	<10
05/30/17	0935	OCEAN	**ENVH 4000**	10	<10	<10
05/30/17	0946	OCEAN	**ENVH 7000**	<10	<10	<10
05/30/17	1000	OCEAN	**ENVH 10000**	74	10	<10
05/30/17	1015	OCEAN	**ENVH 11000**	<10	<10	<10
05/30/17	1032	OCEAN	**ENVH 13000**	121	<10	<10
05/30/17	1042	OCEAN	**ENVH 14000**	20	<10	<10
05/30/17	1054	OCEAN	**ENVH 19000**	63	20	<10
05/30/17	1116	OCEAN	**ENVH 25000**	10	<10	<10
05/30/17	1142	OCEAN	**ENVH 35000**	10	<10	<10
05/30/17	1154	OCEAN	**ENVH 36000**	108	41	10
05/30/17	1200	OCEAN	**ENVH 37000**	75	41	1,652
05/30/17	1207	OCEAN	**ENVH 38000**	<10	<10	<10
05/30/17	1212	OCEAN	**ENVH 39000**	20	<10	<10
05/30/17	1218	OCEAN	**ENVH 40000**	<10	<10	<10
05/30/17	1240	OCEAN	**ENVH 41000**	<10	<10	<10
05/30/17	1245	OCEAN	**ENVH 42000**	<10	<10	<10
05/30/17	1250	OCEAN	**ENVH 43000**	<10	<10	<10
05/30/17	1307	OCEAN	**ENVH 44000**	<10	<10	<10
05/30/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Water						

posted 37000 on 5/31/17
no resample collected - holiday schedule
Hotline: 5/31/17
website: 5/31/17
Beachwatch: 6/1/17
email HD + PWA: 6/1/17

RUN ON: 06/05/17

WATER QUALITY RESULTS
FROM COLL DATE: 06/05/17
THRU COLL DATE: 06/05/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/05/17	1220	OCEAN	**EN,VH 29,000**	<10	<10	<10
06/05/17	1212	OCEAN	**EN,VH 30,000**	20	<10	<10
06/05/17	1200	OCEAN	**EN,VH 32,000**	<10	<10	<10
06/05/17	1155	OCEAN	**EN,VH 33,000**	<10	<10	<10
06/05/17	1150	OCEAN	**EN,VH 34,000**	10	<10	<10
06/05/17	1143	OCEAN	**EN,VH 35,000**	10	<10	<10
06/05/17	1102	OCEAN	**EN,VH 36,000**	<10	<10	<10
06/05/17	1105	OCEAN	**EN,VH 37,000**	61	<10	10
06/05/17	1110	OCEAN	**EN,VH 38,000**	<10	<10	<10
06/05/17	1116	OCEAN	**EN,VH 39,000**	<10	<10	<10
06/05/17	1121	OCEAN	**EN,VH 40,000**	<10	<10	<10
06/05/17	1026	OCEAN	**EN,VH 41,000**	<10	<10	<10
06/05/17	1030	OCEAN	**EN,VH 42,000**	<10	<10	<10
06/05/17	1036	OCEAN	**EN,VH 43,000**	10	<10	<10
06/05/17	1005	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/05/17	0850	OCEAN	**EN,VH 45,000**	<10	<10	<10
06/05/17	0900	OCEAN	**EN,VH 46,000**	<10	<10	<10
06/05/17	0907	OCEAN	**EN,VH 47,000**	74	<10	20
06/05/17	0916	OCEAN	**EN,VH 49,500**	41	<10	20
06/05/17	0930	OCEAN	**EN,VH 50,000**	<10	<10	<10
06/05/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl						
Website	6/6/17 (log/advisory)					
hotline	: 6/6/17					
pulled post from 37000	: 6/6					
website	(data) : 6/7/17					
email	HD + PWA : 6/7/17					

Beach Watch:

RUN ON: 06/12/17

WATER QUALITY RESULTS
FROM COLL DATE: 06/12/17
THRU COLL DATE: 06/12/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/12/17	1243	OCEAN	**EN,VH 29,000**	30	<10	<10
06/12/17	1232	OCEAN	**EN,VH 30,000**	10	<10	<10
06/12/17	1223	OCEAN	**EN,VH 32,000**	52	<10	<10
06/12/17	1219	OCEAN	**EN,VH 33,000**	20	<10	<10
06/12/17	1212	OCEAN	**EN,VH 34,000**	31	<10	<10
06/12/17	1207	OCEAN	**EN,VH 35,000**	<10	<10	<10
06/12/17	1115	OCEAN	**EN,VH 36,000**	<10	<10	<10
06/12/17	1118	OCEAN	**EN,VH 37,000**	20	10	<10
06/12/17	1124	OCEAN	**EN,VH 38,000**	<10	<10	<10
06/12/17	1130	OCEAN	**EN,VH 39,000**	<10	<10	<10
06/12/17	1138	OCEAN	**EN,VH 40,000**	10	<10	<10
06/12/17	1043	OCEAN	**EN,VH 41,000**	<10	<10	<10
06/12/17	1049	OCEAN	**EN,VH 42,000**	30	30	<10
06/12/17	1054	OCEAN	**EN,VH 43,000**	<10	<10	<10
06/12/17	1021	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/12/17	1003	OCEAN	**EN,VH 45,000**	132	10	<10
06/12/17	0953	OCEAN	**EN,VH 46,000**	110	20	<10
06/12/17	0938	OCEAN	**EN,VH 47,000**	<10	<10	<10
06/12/17	0908	OCEAN	**EN,VH 49,500**	10	<10	<10
06/12/17	0922	OCEAN	**EN,VH 50,000**	20	<10	<10
06/12/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Walt					
Website: 6/14/17						
hotline: 6/14/17						
email HD + PWA:						
Beachwatch: 6/15/17						

RUN ON: 06/19/17

WATER QUALITY RESULTS
FROM COLL DATE: 06/19/17
THRU COLL DATE: 06/19/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/19/17	1238	OCEAN	**EN,VH 29,000**	20	<10	20
06/19/17	1232	OCEAN	**EN,VH 30,000**	41	10	<10
06/19/17	1223	OCEAN	**EN,VH 32,000**	10	<10	<10
06/19/17	1220	OCEAN	**EN,VH 33,000**	10	<10	<10
06/19/17	1210	OCEAN	**EN,VH 34,000**	<10	<10	<10
06/19/17	1203	OCEAN	**EN,VH 35,000**	10	<10	<10
06/19/17	1120	OCEAN	**EN,VH 36,000**	20	<10	<10
06/19/17	1124	OCEAN	**EN,VH 37,000**	30	10	<10
06/19/17	1128	OCEAN	**EN,VH 38,000**	10	<10	<10
06/19/17	1136	OCEAN	**EN,VH 39,000**	<10	<10	<10
06/19/17	1141	OCEAN	**EN,VH 40,000**	<10	<10	<10
06/19/17	1040	OCEAN	**EN,VH 41,000**	10	<10	10
06/19/17	1046	OCEAN	**EN,VH 42,000**	<10	<10	<10
06/19/17	1052	OCEAN	**EN,VH 43,000**	10	<10	<10
06/19/17	1123	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/19/17	1004	OCEAN	**EN,VH 45,000**	10	<10	<10
06/19/17	0955	OCEAN	**EN,VH 46,000**	10	10	<10
06/19/17	0936	OCEAN	**EN,VH 47,000**	<10	<10	<10
06/19/17	0927	OCEAN	**EN,VH 49,500**	<10	<10	<10
06/19/17	0916	OCEAN	**EN,VH 50,000**	<10	<10	<10
06/19/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wachl						
website (advisory + data): 6/21/17						
hotline: 6/21/17						
email HD + PWA: 6/21/17						

Beachwatch: 6/21/17

RUN ON: 06/27/17

WATER QUALITY RESULTS
FROM COLL DATE: 06/27/17
THRU COLL DATE: 06/27/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/27/17	1213	OCEAN	**EN,VH 29,000**	20	<10	<10
06/27/17	1207	OCEAN	**EN,VH 30,000**	10	10	53
06/27/17	1158	OCEAN	**EN,VH 32,000**	<10	<10	<10
06/27/17	1153	OCEAN	**EN,VH 33,000**	<10	<10	<10
06/27/17	1146	OCEAN	**EN,VH 34,000**	<10	<10	<10
06/27/17	1138	OCEAN	**EN,VH 35,000**	<10	<10	<10
06/27/17	1053	OCEAN	**EN,VH 36,000**	20	10	<10
06/27/17	1057	OCEAN	**EN,VH 37,000**	97	20	10
06/27/17	1103	OCEAN	**EN,VH 38,000**	<10	<10	<10
06/27/17	1109	OCEAN	**EN,VH 39,000**	<10	<10	<10
06/27/17	1116	OCEAN	**EN,VH 40,000**	10	<10	<10
06/27/17	1026	OCEAN	**EN,VH 41,000**	41	41	<10
06/27/17	1030	OCEAN	**EN,VH 42,000**	20	20	<10
06/27/17	1035	OCEAN	**EN,VH 43,000**	<10	<10	<10
06/27/17	0958	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/27/17	0850	OCEAN	**EN,VH 45,000**	144	10	<10
06/27/17	0858	OCEAN	**EN,VH 46,000**	10	10	<10
06/27/17	0903	OCEAN	**EN,VH 47,000**	10	<10	<10
06/27/17	0917	OCEAN	**EN,VH 49,500**	<10	<10	<10
06/27/17	0927	OCEAN	**EN,VH 50,000**	20	<10	<10
06/27/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl						
Website (advisory + data) : 6/29/17						
Hotline : 6/29/17						
email HD + PWA : 6/29/17						
Beachwatch : 6/29/17						

RUN ON: 07/05/17

WATER QUALITY RESULTS
FROM COLL DATE: 07/05/17
THRU COLL DATE: 07/05/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
07/05/17	0953	OCEAN	**ENVH 1000**	<10	<10	<10
07/05/17	0930	OCEAN	**ENVH 4000**	<10	<10	<10
07/05/17	0914	OCEAN	**ENVH 7000**	<10	<10	<10
07/05/17	0906	OCEAN	**ENVH 10000**	20	<10	<10
07/05/17	0856	OCEAN	**ENVH 11000**	<10	<10	<10
07/05/17	1030	OCEAN	**ENVH 13000**	131	<10	10
07/05/17	1040	OCEAN	**ENVH 14000**	63	<10	<10
07/05/17	1048	OCEAN	**ENVH 19000**	<10	<10	<10
07/05/17	1120	OCEAN	**ENVH 25000**	20	<10	<10
07/05/17	1141	OCEAN	**ENVH 35000**	<10	<10	<10
07/05/17	1150	OCEAN	**ENVH 36000**	<10	<10	<10
07/05/17	1154	OCEAN	**ENVH 37000**	10	<10	<10
07/05/17	1158	OCEAN	**ENVH 38000**	20	<10	<10
07/05/17	1204	OCEAN	**ENVH 39000**	20	<10	<10
07/05/17	1211	OCEAN	**ENVH 40000**	10	<10	<10
07/05/17	1243	OCEAN	**ENVH 41000**	313	<10	<10
07/05/17	1248	OCEAN	**ENVH 42000**	<10	<10	<10
07/05/17	1256	OCEAN	**ENVH 43000**	<10	<10	<10
07/05/17	1313	OCEAN	**ENVH 44000**	31	31	<10
07/05/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by (w)ater						
Website (data + advisory): 7/6/17						

hotline: 7/6/17
email HD + PWA: 7/6/17
Beachwatch: 7/6/17

RUN ON: 07/10/17

WATER QUALITY RESULTS
FROM COLL DATE: 07/10/17
THRU COLL DATE: 07/10/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
07/10/17	1227	OCEAN	**EN,VH 29,000**	<10	<10	<10
07/10/17	1231	OCEAN	**EN,VH 30,000**	10	<10	<10
07/10/17	1211	OCEAN	**EN,VH 32,000**	<10	<10	<10
07/10/17	1206	OCEAN	**EN,VH 33,000**	20	10	<10
07/10/17	1200	OCEAN	**EN,VH 34,000**	<10	<10	<10
07/10/17	1153	OCEAN	**EN,VH 35,000**	<10	<10	<10
07/10/17	1117	OCEAN	**EN,VH 36,000**	52	10	<10
07/10/17	1120	OCEAN	**EN,VH 37,000**	63	20	<10
07/10/17	1125	OCEAN	**EN,VH 38,000**	10	<10	<10
07/10/17	1132	OCEAN	**EN,VH 39,000**	10	<10	<10
07/10/17	1136	OCEAN	**EN,VH 40,000**	10	<10	<10
07/10/17	1040	OCEAN	**EN,VH 41,000**	20	<10	<10
07/10/17	1045	OCEAN	**EN,VH 42,000**	31	<10	<10
07/10/17	1050	OCEAN	**EN,VH 43,000**	<10	<10	<10
07/10/17	1017	OCEAN	**EN,VH 44,000**	10	<10	<10
07/10/17	0850	OCEAN	**EN,VH 45,000**	20	<10	<10
07/10/17	0858	OCEAN	**EN,VH 46,000**	<10	<10	<10
07/10/17	0905	OCEAN	**EN,VH 47,000**	20	10	<10
07/10/17	0940	OCEAN	**EN,VH 49,500**	20	10	<10
07/10/17	0930	OCEAN	**EN,VH 50,000**	10	<10	<10
07/10/17	1315	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Water						
Website (data + advisory): 7/12/17						
hotline: 7/12/17						
email HD + PWA: 7/12/17						
Beachwatch:						

RUN ON: 07/17/17

WATER QUALITY RESULTS
FROM COLL DATE: 07/17/17
THRU COLL DATE: 07/17/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MP N/100 ml
07/17/17	0915	OCEAN	**ENVH 2500**	<10	<10	<10
07/17/17	0938	OCEAN	**ENVH 1000**	<10	<10	<10
07/17/17	0925	OCEAN	**ENVH 1100**	10	10	<10
07/17/17	0951	OCEAN	**ENVH 4000**	<10	<10	<10
07/17/17	1000	OCEAN	**ENVH 5000**	<10	<10	<10
07/17/17	1036	OCEAN	**ENVH 36000**	41	<10	<10
07/17/17	1040	OCEAN	**ENVH 37000**	132	75	659
07/17/17	1046	OCEAN	**ENVH 38000**	63	<10	<10
07/17/17	1055	OCEAN	**ENVH 39000**	<10	<10	<10
07/17/17	1105	OCEAN	**ENVH 40000**	<10	<10	<10
07/17/17	1126	OCEAN	**ENVH 41000**	<10	<10	<10
07/17/17	1135	OCEAN	**ENVH 42000**	<10	<10	<10
07/17/17	1140	OCEAN	**ENVH 43000**	<10	<10	<10
07/17/17	1205	OCEAN	**ENVH 44000**	<10	<10	<10
07/17/17	1226	OCEAN	**ENVH 45000**	<10	<10	<10
07/17/17	1240	OCEAN	**ENVH 46000**	<10	<10	<10
07/17/17	1300	OCEAN	**ENVH blank**	<10	<10	<10

Website: 7/18/17 (37000)

hotline: ~~7/18/17~~ not changed yet due to message of sewage release

hotline: 7/19/17 am, Kiddie Beach

email PWA + HD: 7/20/17

Beachwatch (data): 7/20/17

Beachwatch (advisory 37000): 7/20/17

Sewage spill press release: 7/17/17

website sewage: 7/17/17

press release removed: 7/19/17

posting 37000: 7/18/17

resample 37000: 7/19/17 (lab short staffed) on 7/18/17

remove posts: 7/20/17

close out log: 7/20/17

RUN ON: 07/24/17

WATER QUALITY RESULTS
FROM COLL DATE: 07/24/17
THRU COLL DATE: 07/24/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
07/24/17	1255	OCEAN	**EN,VH 29,000**	<10	<10	<10
07/24/17	1246	OCEAN	**EN,VH 30,000**	10	<10	<10
07/24/17	1235	OCEAN	**EN,VH 32,000**	<10	<10	<10
07/24/17	1230	OCEAN	**EN,VH 33,000**	<10	<10	<10
07/24/17	1219	OCEAN	**EN,VH 34,000**	<10	<10	<10
07/24/17	1210	OCEAN	**EN,VH 35,000**	20	10	<10
07/24/17	1118	OCEAN	**EN,VH 36,000**	20	10	20
07/24/17	1124	OCEAN	**EN,VH 37,000**	393	181	31
07/24/17	1132	OCEAN	**EN,VH 38,000**	20	10	<10
07/24/17	1142	OCEAN	**EN,VH 39,000**	<10	<10	<10
07/24/17	1148	OCEAN	**EN,VH 40,000**	<10	<10	<10
07/24/17	1040	OCEAN	**EN,VH 41,000**	52	10	<10
07/24/17	1047	OCEAN	**EN,VH 42,000**	10	10	<10
07/24/17	1054	OCEAN	**EN,VH 43,000**	<10	<10	<10
07/24/17	1025	OCEAN	**EN,VH 44,000**	10	<10	<10
07/24/17	1003	OCEAN	**EN,VH 45,000**	<10	<10	<10
07/24/17	0948	OCEAN	**EN,VH 46,000**	10	<10	<10
07/24/17	0935	OCEAN	**EN,VH 47,000**	10	<10	<10
07/24/17	0925	OCEAN	**EN,VH 49,500**	10	<10	<10
07/24/17	0915	OCEAN	**EN,VH 50,000**	<10	<10	<10
07/24/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Wahl/Madison						
Website (advisory + data): 7/26/17						
hotline: 7/26/17						
email +ID + PWA:						
Beach Watch:						

**** RESAMPLE ****
RUN ON: 08/01/17

WATER QUALITY RESULTS
FROM COLL DATE: 08/01/17
THRU COLL DATE: 08/01/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
08/01/17		OCEAN	**EN,VH 29,000**			
08/01/17		OCEAN	**EN,VH 30,000**			
08/01/17		OCEAN	**EN,VH 32,000**			
08/01/17		OCEAN	**EN,VH 33,000**			
08/01/17		OCEAN	**EN,VH 34,000**			
08/01/17		OCEAN	**EN,VH 35,000**			
08/01/17	1428	OCEAN	**EN,VH 36,000**	41	30	31
08/01/17		OCEAN	**EN,VH 37,000**			
08/01/17		OCEAN	**EN,VH 38,000**			
08/01/17		OCEAN	**EN,VH 39,000**			
08/01/17		OCEAN	**EN,VH 40,000**			
08/01/17		OCEAN	**EN,VH 41,000**			
08/01/17		OCEAN	**EN,VH 42,000**			
08/01/17		OCEAN	**EN,VH 43,000**			
08/01/17		OCEAN	**EN,VH 44,000**			
08/01/17		OCEAN	**EN,VH 45,000**			
08/01/17		OCEAN	**EN,VH 46,000**			
08/01/17		OCEAN	**EN,VH 47,000**			
08/01/17		OCEAN	**EN,VH 49,500**			
08/01/17		OCEAN	**EN,VH 50,000**			
08/01/17		OCEAN	**LAB BLANK**			

Sampled by [illegible]
Website (data, advisory, Log): 8/2/17
hotline: 8/2/17
Email HD + PWA: 8/3/17
Beach Watch

RUN ON: 07/31/17

WATER QUALITY RESULTS
FROM COLL DATE: 07/31/17
THRU COLL DATE: 07/31/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
07/31/17	1252	OCEAN	**EN,VH 29,000**	<10	<10	<10
07/31/17	1245	OCEAN	**EN,VH 30,000**	<10	<10	<10
07/31/17	1236	OCEAN	**EN,VH 32,000**	<10	<10	<10
07/31/17	1232	OCEAN	**EN,VH 33,000**	<10	<10	<10
07/31/17	1234	OCEAN	**EN,VH 34,000**	31	20	<10
07/31/17	1218	OCEAN	**EN,VH 35,000**	10	10	<10
07/31/17	1131	OCEAN	**EN,VH 36,000**	1,607	1,500	<10
07/31/17	1136	OCEAN	**EN,VH 37,000**	86	10	<10
07/31/17	1141	OCEAN	**EN,VH 38,000**	<10	<10	<10
07/31/17	1149	OCEAN	**EN,VH 39,000**	<10	<10	<10
07/31/17	1155	OCEAN	**EN,VH 40,000**	<10	<10	<10
07/31/17	1044	OCEAN	**EN,VH 41,000**	<10	<10	<10
07/31/17	1050	OCEAN	**EN,VH 42,000**	<10	<10	<10
07/31/17	1057	OCEAN	**EN,VH 43,000**	<10	<10	<10
07/31/17	1024	OCEAN	**EN,VH 44,000**	31	<10	<10
07/31/17	0915	OCEAN	**EN,VH 45,000**	10	10	<10
07/31/17	0923	OCEAN	**EN,VH 46,000**	41	10	<10
07/31/17	0930	OCEAN	**EN,VH 47,000**	63	<10	<10
07/31/17	0956	OCEAN	**EN,VH 49,500**	<10	<10	<10
07/31/17	0949	OCEAN	**EN,VH 50,000**	<10	<10	<10
07/31/17	1320	OCEAN	**LAB BLANK**	<10	<10	<10

Sampled by Wahl

website (data, advisory, log): 8/2/17 Pull post 8/2/17

hotline: 8/2/17

email HD + RWA: 8/3/17

Benchwatch:

RUN ON: 08/07/17

WATER QUALITY RESULTS
FROM COLL DATE: 08/07/17
THRU COLL DATE: 08/07/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
08/07/17	1253	OCEAN	**EN,VH 29,000**	10	<10	<10
08/07/17	1246	OCEAN	**EN,VH 30,000**	10	<10	<10
08/07/17	1235	OCEAN	**EN,VH 32,000**	20	<10	<10
08/07/17	1231	OCEAN	**EN,VH 33,000**	<10	<10	<10
08/07/17	1221	OCEAN	**EN,VH 34,000**	<10	<10	<10
08/07/17	1215	OCEAN	**EN,VH 35,000**	<10	<10	<10
08/07/17	1133	OCEAN	**EN,VH 36,000**	10	<10	<10
08/07/17	1137	OCEAN	**EN,VH 37,000**	156	52	<10
08/07/17	1142	OCEAN	**EN,VH 38,000**	20	<10	<10
08/07/17	1150	OCEAN	**EN,VH 39,000**	<10	<10	<10
08/07/17	1157	OCEAN	**EN,VH 40,000**	<10	<10	<10
08/07/17	1045	OCEAN	**EN,VH 41,000**	<10	<10	<10
08/07/17	1051	OCEAN	**EN,VH 42,000**	10	<10	<10
08/07/17	1057	OCEAN	**EN,VH 43,000**	20	<10	<10
08/07/17	1027	OCEAN	**EN,VH 44,000**	<10	<10	<10
08/07/17	1006	OCEAN	**EN,VH 45,000**	<10	<10	<10
08/07/17	0954	OCEAN	**EN,VH 46,000**	<10	<10	<10
08/07/17	0940	OCEAN	**EN,VH 47,000**	10	<10	<10
08/07/17	0930	OCEAN	**EN,VH 49,500**	<10	<10	<10
08/07/17	0920	OCEAN	**EN,VH 50,000**	10	<10	<10
08/07/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10

Sampled by [illegible]
hotline: 8/9/17
Website (advisory + date): 8/9/17
Beachwatch:
email HD + PWA

RUN ON: 08/15/17

**** RESAMPLE ****

WATER QUALITY RESULTS
FROM COLL DATE: 08/15/17
THRU COLL DATE: 08/15/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
		OCEAN	**EN,VH 29,000**			
		OCEAN	**EN,VH 30,000**			
		OCEAN	**EN,VH 32,000**			
		OCEAN	**EN,VH 33,000**			
		OCEAN	**EN,VH 34,000**			
		OCEAN	**EN,VH 35,000**			
		OCEAN	**EN,VH 36,000**			
		OCEAN	**EN,VH 37,000**			
		OCEAN	**EN,VH 38,000**			
		OCEAN	**EN,VH 39,000**			
08/15/17	1415	OCEAN	**EN,VH 40,000**	10	<10	<10
		OCEAN	**EN,VH 41,000**			
		OCEAN	**EN,VH 42,000**			
		OCEAN	**EN,VH 43,000**			
		OCEAN	**EN,VH 44,000**			
		OCEAN	**EN,VH 45,000**			
		OCEAN	**EN,VH 46,000**			
		OCEAN	**EN,VH 47,000**			
		OCEAN	**EN,VH 49,500**			
		OCEAN	**EN,VH 50,000**			
		OCEAN	**LAB BLANK**			
Sampled by Wahl						
hotline: remove advisory: 8/16/17 5:00 pm						
website (data): 8/16/17						
Beach sign: 8/16/17 (data + advisory)						

RUN ON: 08/14/17

WATER QUALITY RESULTS
FROM COLL DATE: 08/14/17
THRU COLL DATE: 08/14/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
08/14/17	1300	OCEAN	EN,VH 29,000	<10	<10	<10
08/14/17	1255	OCEAN	EN,VH 30,000	<10	<10	<10
08/14/17	1243	OCEAN	EN.VH 32.000	<10	<10	<10
08/14/17	1238	OCEAN	EN,VH 33,000	10	<10	<10
08/14/17	1227	OCEAN	EN,VH 34,000	<10	<10	<10
08/14/17	1221	OCEAN	EN,VH 35,000	10	<10	<10
08/14/17	1132	OCEAN	EN,VH 36,000	41	<10	<10
08/14/17	1135	OCEAN	EN,VH 37,000	41	<10	<10
08/14/17	1140	OCEAN	EN,VH 38,000	41	< 10	<10
08/14/17	1147	OCEAN	EN,VH 39,000	<10	<10	<10
08/14/17	1155	OCEAN	EN,VH 40,000	Ratio 1,296	1,296	<10
08/14/17	1102	OCEAN	EN,VH 41,000	10	<10	<10
08/14/17	1108	OCEAN	EN,VH 42,000	<10	<10	<10
08/14/17	1114	OCEAN	EN,VH 43,000	<10	<10	<10
08/14/17	1028	OCEAN	EN,VH 44,000	10	<10	<10
08/14/17	0912	OCEAN	EN,VH 45,000	<10	<10	<10
08/14/17	0922	OCEAN	EN,VH 46,000	309	309	<10
08/14/17	0928	OCEAN	EN,VH 47,000	10	<10	<10
08/14/17	0940	OCEAN	EN,VH 49,500	10	10	<10
08/14/17	0948	OCEAN	EN,VH 50,000	<10	<10	<10
08/14/17	1330	OCEAN	LAB BLANK	<10	<10	<10
Sampled by Weha				Posted + re/sample 40000: 8/15/17		
website (data): 8/16/17				hotline 40000: 8/16/17 1:30pm		
email HD + PWA:				website advisory: 8/16/17 9:00am		
website (log 4000): 8/16/17				Remove posts: 8/16/17		
Beachwatch (data & advisory): 8/17/19						

RUN ON: 08/21/17

WATER QUALITY RESULTS
FROM COLL DATE: 08/21/17
THRU COLL DATE: 08/21/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
08/21/17	1310	OCEAN	**EN,VH 29,000**	<10	<10	<10
08/21/17	1303	OCEAN	**EN,VH 30,000**	<10	<10	<10
08/21/17	1250	OCEAN	**EN,VH 32,000**	<10	<10	<10
08/21/17	1248	OCEAN	**EN,VH 33,000**	<10	<10	<10
08/21/17	1240	OCEAN	**EN,VH 34,000**	<10	<10	<10
08/21/17	1230	OCEAN	**EN,VH 35,000**	<10	<10	<10
08/21/17	1143	OCEAN	**EN,VH 36,000**	10	<10	<10
08/21/17	1146	OCEAN	**EN,VH 37,000**	288	75	<10
08/21/17	1152	OCEAN	**EN,VH 38,000**	<10	<10	<10
08/21/17	1200	OCEAN	**EN,VH 39,000**	<10	<10	<10
08/21/17	1206	OCEAN	**EN,VH 40,000**	10	<10	<10
08/21/17	1050	OCEAN	**EN,VH 41,000**	<10	<10	<10
08/21/17	1055	OCEAN	**EN,VH 42,000**	10	<10	<10
08/21/17	1100	OCEAN	**EN,VH 43,000**	10	<10	<10
08/21/17	1023	OCEAN	**EN,VH 44,000**	10	<10	<10
08/21/17	1002	OCEAN	**EN,VH 45,000**	<10	<10	<10
08/21/17	0948	OCEAN	**EN,VH 46,000**	20	<10	<10
08/21/17	0909	OCEAN	**EN,VH 47,000**	31	<10	<10
08/21/17	0925	OCEAN	**EN,VH 49,500**	20	10	10
08/21/17	0940	OCEAN	**EN,VH 50,000**	<10	<10	<10
08/21/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
	Sampled by Mike					
hotline: 8/23/17						
website (advisory + data): 8/23/17						
email HD + PWA: 8/23/17						
Beachwatch:						

RUN ON: 08/28/17

WATER QUALITY RESULTS
FROM COLL DATE: 08/28/17
THRU COLL DATE: 08/28/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
08/28/17	1224	OCEAN	**EN,VH 29,000**	30	<10	<10
08/28/17	1214	OCEAN	**EN,VH 30,000**	<10	<10	<10
08/28/17	1204	OCEAN	**EN,VH 32,000**	<10	<10	<10
08/28/17	1200	OCEAN	**EN,VH 33,000**	<10	<10	<10
08/28/17	1151	OCEAN	**EN,VH 34,000**	<10	<10	<10
08/28/17	1142	OCEAN	**EN,VH 35,000**	<10	<10	<10
08/28/17	1051	OCEAN	**EN,VH 36,000**	10	10	<10
08/28/17	1055	OCEAN	**EN,VH 37,000**	148	98	87
08/28/17	1100	OCEAN	**EN,VH 38,000**	<10	<10	<10
08/28/17	1106	OCEAN	**EN,VH 39,000**	10	<10	<10
08/28/17	1118	OCEAN	**EN,VH 40,000**	10	<10	<10
08/28/17	1012	OCEAN	**EN,VH 41,000**	63	<10	<10
08/28/17	1017	OCEAN	**EN,VH 42,000**	<10	<10	<10
08/28/17	1022	OCEAN	**EN,VH 43,000**	63	41	<10
08/28/17	****	OCEAN	**EN,VH 44,000**	NO	SAMPLE	COLLECTED
08/28/17	0856	OCEAN	**EN,VH 45,000**	<10	<10	<10
08/28/17	0904	OCEAN	**EN,VH 46,000**	31	20	<10
08/28/17	0910	OCEAN	**EN,VH 47,000**	<10	<10	<10
08/28/17	0920	OCEAN	**EN,VH 49,500**	20	20	<10
08/28/17	0930	OCEAN	**EN,VH 50,000**	10	<10	<10
08/28/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
		Sampled by Wchd				
website (data + advisory): 8/30/17						
hotline: 8/30/17						
email HD + PW A: 8/30/17						
Beachwatch:						

RUN ON: 09/05/17

WATER QUALITY RESULTS
FROM COLL DATE: 09/05/17
THRU COLL DATE: 09/05/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
09/05/17	1305	OCEAN	**ENVH 1000**	31	<10	<10
09/05/17	1230	OCEAN	**ENVH 4000**	20	<10	<10
09/05/17	1218	OCEAN	**ENVH 7000**	20	<10	10
09/05/17	1208	OCEAN	**ENVH 10000**	20	<10	10
09/05/17	1202	OCEAN	**ENVH 11000**	10	<10	<10
09/05/17	1148	OCEAN	**ENVH 13000**	301	75	<10
09/05/17	1140	OCEAN	**ENVH 14000**	241	110	<10
09/05/17	1130	OCEAN	**ENVH 19000**	62	10	<10
09/05/17	1113	OCEAN	**ENVH 25000**	31	<10	<10
09/05/17	0900	OCEAN	**ENVH 35000**	10	<10	<10
09/05/17	0914	OCEAN	**ENVH 36000**	122	10	10
09/05/17	0918	OCEAN	**ENVH 37000**	265	161	87
09/05/17	0922	OCEAN	**ENVH 38000**	10	<10	<10
09/05/17	0927	OCEAN	**ENVH 39000**	31	10	<10
09/05/17	0932	OCEAN	**ENVH 40000**	20	10	<10
09/05/17	1003	OCEAN	**ENVH 41000**	<10	<10	<10
09/05/17	1010	OCEAN	**ENVH 42000**	10	<10	10
09/05/17	1015	OCEAN	**ENVH 43000**	<10	<10	<10
09/05/17	1035	OCEAN	**ENVH 44000**	<10	<10	<10
09/05/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
		Sampled by Wahl				
hotline: 9/6/17						

website (data + advisory): 9/6/17
email HD + PWA:
Beachwatch:

RUN ON: 09/11/17

WATER QUALITY RESULTS
FROM COLL DATE: 09/11/17
THRU COLL DATE: 09/11/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
09/11/17	1238	OCEAN	**EN,VH 29,000**	20	10	31
09/11/17	1230	OCEAN	**EN,VH 30,000**	<10	<10	**<10**
09/11/17	1220	OCEAN	**EN,VH 32,000**	<10	<10	**<10**
09/11/17	1215	OCEAN	**EN,VH 33,000**	<10	<10	**<10**
09/11/17	1203	OCEAN	**EN,VH 34,000**	<10	<10	**<10**
09/11/17	1157	OCEAN	**EN,VH 35,000**	52	<10	**<10**
09/11/17	1115	OCEAN	**EN,VH 36,000**	52	20	**<10**
09/11/17	1118	OCEAN	**EN,VH 37,000**	121	41	**10**
09/11/17	1123	OCEAN	**EN,VH 38,000**	<10	<10	**<10**
09/11/17	1130	OCEAN	**EN,VH 39,000**	<10	<10	**<10**
09/11/17	1135	OCEAN	**EN,VH 40,000**	10	<10	**<10**
09/11/17	1036	OCEAN	**EN,VH 41,000**	<10	<10	**10**
09/11/17	1041	OCEAN	**EN,VH 42,000**	<10	<10	**<10**
09/11/17	1047	OCEAN	**EN,VH 43,000**	<10	<10	**<10**
09/11/17	1021	OCEAN	**EN,VH 44,000**	10	10	**<10**
09/11/17	1000	OCEAN	**EN,VH 45,000**	10	10	**<10**
09/11/17	0948	OCEAN	**EN,VH 46,000**	<10	<10	**<10**
09/11/17	0932	OCEAN	**EN,VH 47,000**	20	10	**<10**
09/11/17	0925	OCEAN	**EN,VH 49,500**	10	<10	**<10**
09/11/17	0916	OCEAN	**EN,VH 50,000**	<10	<10	**<10**
09/11/17	1300	OCEAN	**LAB BLANK**	<10	<10	**<10**
	Sampled by Wahl					
Website (log, data, advisory): 9/13/17						
hotline: 9/13/17						
email HD + PHA: 9/17/17						
Beach Water (data + advisory):						

RUN ON: 09/18/17

WATER QUALITY RESULTS
FROM COLL DATE: 09/18/17
THRU COLL DATE: 09/18/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
09/18/17	1248	OCEAN	**EN,VH 29,000**	<10	<10	<10
09/18/17	1241	OCEAN	**EN,VH 30,000**	<10	<10	<10
09/18/17	1231	OCEAN	**EN,VH 32,000**	10	<10	<10
09/18/17	1226	OCEAN	**EN,VH 33,000**	<10	<10	<10
09/18/17	1218	OCEAN	**EN,VH 34,000**	<10	<10	<10
09/18/17	1210	OCEAN	**EN,VH 35,000**	<10	<10	<10
09/18/17	1116	OCEAN	**EN,VH 36,000**	158	74	<10
09/18/17	1121	OCEAN	**EN,VH 37,000**	110	10	<10
09/18/17	1128	OCEAN	**EN,VH 38,000**	<10	<10	<10
09/18/17	1136	OCEAN	**EN,VH 39,000**	<10	<10	<10
09/18/17	1145	OCEAN	**EN,VH 40,000**	20	<10	<10
09/18/17	1030	OCEAN	**EN,VH 41,000**	20	10	<10
09/18/17	1038	OCEAN	**EN,VH 42,000**	<10	10	<10
09/18/17	1046	OCEAN	**EN,VH 43,000**	20	<10	<10
09/18/17	1010	OCEAN	**EN,VH 44,000**	<10	<10	<10
09/18/17	0943	OCEAN	**EN,VH 45,000**	<10	<10	<10
09/18/17	0927	OCEAN	**EN,VH 46,000**	20	<10	<10
09/18/17	0920	OCEAN	**EN,VH 47,000**	<10	<10	<10
09/18/17	0911	OCEAN	**EN,VH 49,500**	20	<10	<10
09/18/17	0855	OCEAN	**EN,VH 50,000**	20	10	<10
09/18/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10

Sampled by Alex Gaskill

Beach Watch: 9/19/17

email HD + PWA: 9/20/17

update website: 9/20/17

hotline: 9/20/17

RUN ON: 09/25/17

WATER QUALITY RESULTS
FROM COLL DATE: 09/25/17
THRU COLL DATE: 09/25/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
09/25/17	1244	OCEAN	**EN,VH 29,000**	<10	<10	<10
09/25/17	1237	OCEAN	**EN,VH 30,000**	<10	<10	<10
09/25/17	1227	OCEAN	**EN,VH 32,000**	10	<10	<10
09/25/17	1221	OCEAN	**EN,VH 33,000**	<10	<10	<10
09/25/17	1214	OCEAN	**EN,VH 34,000**	<10	<10	<10
09/25/17	1205	OCEAN	**EN,VH 35,000**	<10	<10	<10
09/25/17	1117	OCEAN	**EN,VH 36,000**	10	<10	<10
09/25/17	1124	OCEAN	**EN,VH 37,000**	52	10	10
09/25/17	1127	OCEAN	**EN,VH 38,000**	<10	<10	<10
09/25/17	1134	OCEAN	**EN,VH 39,000**	<10	<10	<10
09/25/17	1139	OCEAN	**EN,VH 40,000**	<10	<10	<10
09/25/17	1035	OCEAN	**EN,VH 41,000**	20	10	<10
09/25/17	1042	OCEAN	**EN,VH 42,000**	<10	<10	<10
09/25/17	1047	OCEAN	**EN,VH 43,000**	<10	<10	<10
09/25/17	1014	OCEAN	**EN,VH 44,000**	52	20	<10
09/25/17	0948	OCEAN	**EN,VH 45,000**	10	<10	<10
09/25/17	0938	OCEAN	**EN,VH 46,000**	<10	<10	<10
09/25/17	0928	OCEAN	**EN,VH 47,000**	<10	<10	<10
09/25/17	0918	OCEAN	**EN,VH 49,500**	10	<10	<10
09/25/17	0910	OCEAN	**EN,VH 50,000**	<10	<10	<10
09/25/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10
Sampled by Garkill						
Website : 9/27/17						
Hotline : 9/27/17						
email HD + PWA : 9/27/17						
Beach Watch:						

RUN ON: 10/02/17

WATER QUALITY RESULTS
FROM COLL DATE: 10/02/17
THRU COLL DATE: 10/02/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
10/02/17	1241	OCEAN	**EN,VH 29,000**	63	10	<10
10/02/17	1233	OCEAN	**EN,VH 30,000**	10	<10	<10
10/02/17	1223	OCEAN	**EN,VH 32,000**	10	10	<10
10/02/17	1218	OCEAN	**EN,VH 33,000**	31	<10	<10
10/02/17	1208	OCEAN	**EN,VH 34,000**	20	<10	<10
10/02/17	1200	OCEAN	**EN,VH 35,000**	<10	<10	<10
10/02/17	1110	OCEAN	**EN,VH 36,000**	41	<10	<10
10/02/17	1114	OCEAN	**EN,VH 37,000**	93	10	10
10/02/17	1119	OCEAN	**EN,VH 38,000**	<10	<10	<10
10/02/17	1125	OCEAN	**EN,VH 39,000**	<10	<10	<10
10/02/17	1131	OCEAN	**EN,VH 40,000**	10	<10	<10
10/02/17	1032	OCEAN	**EN,VH 41,000**	<10	<10	<10
10/02/17	1040	OCEAN	**EN,VH 42,000**	10	<10	10
10/02/17	1050	OCEAN	**EN,VH 43,000**	<10	<10	<10
10/02/17	1002	OCEAN	**EN,VH 44,000**	<10	<10	<10
10/02/17	0935	OCEAN	**EN,VH 45,000**	<10	<10	<10
10/02/17	0925	OCEAN	**EN,VH 46,000**	10	10	<10
10/02/17	0918	OCEAN	**EN,VH 47,000**	10	<10	<10
10/02/17	0908	OCEAN	**EN,VH 49,500**	20	20	<10
10/02/17	0900	OCEAN	**EN,VH 50,000**	63	<10	10
10/02/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10

Sampled by Benitez

website : 10/4/17

hotline : 10/4/17

Beach Watch: 10/5/17

HD + PWA : 10/5/17

RUN ON: 10/10/17

WATER QUALITY RESULTS
FROM COLL DATE: 10/10/17
THRU COLL DATE: 10/10/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
10/10/17	1254	OCEAN	**EN,VH 29,000**	10	<10	10
10/10/17	1248	OCEAN	**EN,VH 30,000**	<10	<10	<10
10/10/17	1240	OCEAN	**EN,VH 32,000**	<10	<10	<10
10/10/17	1235	OCEAN	**EN,VH 33,000**	<10	<10	<10
10/10/17	1225	OCEAN	**EN,VH 34,000**	<10	<10	<10
10/10/17	1220	OCEAN	**EN,VH 35,000**	<10	<10	<10
10/10/17	1130	OCEAN	**EN,VH 36,000**	<10	<10	<10
10/10/17	1135	OCEAN	**EN,VH 37,000**	86	41	<10
10/10/17	1141	OCEAN	**EN,VH 38,000**	10	<10	<10
10/10/17	1148	OCEAN	**EN,VH 39,000**	<10	<10	<10
10/10/17	1157	OCEAN	**EN,VH 40,000**	20	<10	<10
10/10/17	1052	OCEAN	**EN,VH 41,000**	20	10	<10
10/10/17	1058	OCEAN	**EN,VH 42,000**	10	<10	<10
10/10/17	1106	OCEAN	**EN,VH 43,000**	<10	<10	<10
10/10/17	1007	OCEAN	**EN,VH 44,000**	<10	<10	20
10/10/17	0941	OCEAN	**EN,VH 45,000**	<10	<10	20
10/10/17	0930	OCEAN	**EN,VH 46,000**	<10	<10	<10
10/10/17	0917	OCEAN	**EN,VH 47,000**	10	<10	<10
10/10/17	0905	OCEAN	**EN,VH 49,500**	20	<10	<10
10/10/17	0853	OCEAN	**EN,VH 50,000**	20	<10	<10
10/10/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 10/16/17

WATER QUALITY RESULTS
FROM COLL DATE: 10/16/17
THRU COLL DATE: 10/16/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
10/16/17	1230	OCEAN	**EN,VH 29,000**	<10	<10	<10
10/16/17	1222	OCEAN	**EN,VH 30,000**	<10	<10	<10
10/16/17	1211	OCEAN	**EN,VH 32,000**	10	<10	<10
10/16/17	1206	OCEAN	**EN,VH 33,000**	10	<10	<10
10/16/17	1156	OCEAN	**EN,VH 34,000**	10	<10	<10
10/16/17	1145	OCEAN	**EN,VH 35,000**	<10	<10	<10
10/16/17	1055	OCEAN	**EN,VH 36,000**	20	10	<10
10/16/17	1100	OCEAN	**EN,VH 37,000**	110	10	<10
10/16/17	1106	OCEAN	**EN,VH 38,000**	<10	<10	<10
10/16/17	1113	OCEAN	**EN,VH 39,000**	<10	<10	<10
10/16/17	1120	OCEAN	**EN,VH 40,000**	<10	<10	<10
10/16/17	1018	OCEAN	**EN,VH 41,000**	10	<10	<10
10/16/17	1024	OCEAN	**EN,VH 42,000**	10	<10	<10
10/16/17	1032	OCEAN	**EN,VH 43,000**	10	<10	<10
10/16/17	0958	OCEAN	**EN,VH 44,000**	10	<10	<10
10/16/17	0937	OCEAN	**EN,VH 45,000**	<10	<10	<10
10/16/17	0918	OCEAN	**EN,VH 46,000**	<10	<10	<10
10/16/17	0911	OCEAN	**EN,VH 47,000**	10	<10	<10
10/16/17	0900	OCEAN	**EN,VH 49,500**	20	10	<10
10/16/17	0848	OCEAN	**EN,VH 50,000**	<10	<10	<10
10/16/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 10/23/17

WATER QUALITY RESULTS
FROM COLL DATE: 10/23/17
THRU COLL DATE: 10/23/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
10/23/17	1229	OCEAN	**EN,VH 29,000**	<10	<10	<10
10/23/17	1218	OCEAN	**EN,VH 30,000**	20	<10	10
10/23/17	1204	OCEAN	**EN,VH 32,000**	20	20	<10
10/23/17	1159	OCEAN	**EN,VH 33,000**	<10	<10	<10
10/23/17	1148	OCEAN	**EN,VH 34,000**	10	10	<10
10/23/17	1140	OCEAN	**EN,VH 35,000**	31	20	<10
10/23/17	1053	OCEAN	**EN,VH 36,000**	<10	<10	<10
10/23/17	1057	OCEAN	**EN,VH 37,000**	<10	<10	42
10/23/17	1102	OCEAN	**EN,VH 38,000**	63	52	<10
10/23/17	1110	OCEAN	**EN,VH 39,000**	<10	<10	<10
10/23/17	1116	OCEAN	**EN,VH 40,000**	<10	<10	<10
10/23/17	1014	OCEAN	**EN,VH 41,000**	10	<10	10
10/23/17	1020	OCEAN	**EN,VH 42,000**	<10	<10	<10
10/23/17	1030	OCEAN	**EN,VH 43,000**	10	10	<10
10/23/17	0947	OCEAN	**EN,VH 44,000**	<10	<10	<10
10/23/17	0914	OCEAN	**EN,VH 45,000**	<10	<10	10
10/23/17	0904	OCEAN	**EN,VH 46,000**	10	<10	<10
10/23/17	0858	OCEAN	**EN,VH 47,000**	10	10	<10
10/23/17	0848	OCEAN	**EN,VH 49,500**	10	<10	<10
10/23/17	0837	OCEAN	**EN,VH 50,000**	31	<10	<10
10/23/17	1330	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 10/30/17

WATER QUALITY RESULTS
FROM COLL DATE: 10/30/17
THRU COLL DATE: 10/30/17
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
10/30/17	1218	OCEAN	**EN,VH 29,000**	<10	<10	<10
10/30/17	1211	OCEAN	**EN,VH 30,000**	<10	<10	<10
10/30/17	1201	OCEAN	**EN,VH 32,000**	<10	<10	10
10/30/17	1156	OCEAN	**EN,VH 33,000**	<10	<10	<10
10/30/17	1147	OCEAN	**EN,VH 34,000**	10	<10	<10
10/30/17	1141	OCEAN	**EN,VH 35,000**	<10	<10	10
10/30/17	1058	OCEAN	**EN,VH 36,000**	52	31	<10
10/30/17	1102	OCEAN	**EN,VH 37,000**	197	144	20
10/30/17	1106	OCEAN	**EN,VH 38,000**	10	<10	<10
10/30/17	1111	OCEAN	**EN,VH 39,000**	10	<10	<10
10/30/17	1119	OCEAN	**EN,VH 40,000**	<10	<10	<10
10/30/17	1017	OCEAN	**EN,VH 41,000**	10	10	<10
10/30/17	1024	OCEAN	**EN,VH 42,000**	<10	<10	10
10/30/17	1338	OCEAN	**EN,VH 43,000**	20	10	10
10/30/17	0945	OCEAN	**EN,VH 44,000**	10	10	<10
10/30/17	0918	OCEAN	**EN,VH 45,000**	<10	<10	<10
10/30/17	0910	OCEAN	**EN,VH 46,000**	110	20	<10
10/30/17	0901	OCEAN	**EN,VH 47,000**	<10	<10	<10
10/30/17	0850	OCEAN	**EN,VH 49,500**	10	<10	10
10/30/17	0838	OCEAN	**EN,VH 50,000**	31	<10	10
10/30/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 11/06/17

WATER QUALITY RESULTS
FROM COLL DATE: 11/06/17
THRU COLL DATE: 11/06/17
LOCATION: ENVH, ENVH

** HOLIDAY/WINTER COLLECTION **

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/06/17	1216	OCEAN	**ENVH 1000**	<10	<10	<10
11/06/17	1157	OCEAN	**ENVH 4000**	<10	<10	<10
11/06/17	1148	OCEAN	**ENVH 7000**	265	249	<10
11/06/17	1138	OCEAN	**ENVH 10000**	<10	<10	<10
11/06/17	1131	OCEAN	**ENVH 11000**	<10	<10	<10
11/06/17	1117	OCEAN	**ENVH 13000**	20	<10	<10
11/06/17	1111	OCEAN	**ENVH 14000**	20	10	<10
11/06/17	1100	OCEAN	**ENVH 19000**	31	10	<10
11/06/17	1045	OCEAN	**ENVH 25000**	31	20	<10
11/06/17	1027	OCEAN	**ENVH 35000**	10	10	10
11/06/17	0942	OCEAN	**ENVH 36000**	41	10	<10
11/06/17	0947	OCEAN	**ENVH 37000**	20	20	31
11/06/17	0953	OCEAN	**ENVH 38000**	145	20	20
11/06/17	0958	OCEAN	**ENVH 39000**	41	<10	10
11/06/17	1005	OCEAN	**ENVH 40000**	10	<10	20
11/06/17	0906	OCEAN	**ENVH 41000**	10	10	<10
11/06/17	0912	OCEAN	**ENVH 42000**	10	10	<10
11/06/17	0918	OCEAN	**ENVH 43000**	169	10	<10
11/06/17	0835	OCEAN	**ENVH 44000**	<10	<10	<10
11/06/17	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 11/13/17

WATER QUALITY RESULTS
FROM COLL DATE: 11/13/17
THRU COLL DATE: 11/13/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/13/17	1210	OCEAN	**ENVH 1000**	<10	<10	<10
11/13/17	1151	OCEAN	**ENVH 4000**	10	<10	<10
11/13/17	1143	OCEAN	**ENVH 7000**	<10	<10	<10
11/13/17	1134	OCEAN	**ENVH 10000**	<10	<10	<10
11/13/17	1126	OCEAN	**ENVH 11000**	20	20	<10
11/13/17	1112	OCEAN	**ENVH 13000**	350	<10	<10
11/13/17	1105	OCEAN	**ENVH 14000**	52	10	<10
11/13/17	1053	OCEAN	**ENVH 19000**	31	<10	<10
11/13/17	1040	OCEAN	**ENVH 25000**	<10	<10	<10
11/13/17	1022	OCEAN	**ENVH 35000**	10	<10	<10
11/13/17	0946	OCEAN	**ENVH 36000**	20	<10	10
11/13/17	0949	OCEAN	**ENVH 37000**	52	10	<10
11/13/17	0953	OCEAN	**ENVH 38000**	20	10	<10
11/13/17	0958	OCEAN	**ENVH 39000**	10	10	<10
11/13/17	1003	OCEAN	**ENVH 40000**	<10	<10	<10
11/13/17	0912	OCEAN	**ENVH 41000**	<10	<10	<10
11/13/17	0918	OCEAN	**ENVH 42000**	<10	<10	<10
11/13/17	0926	OCEAN	**ENVH 43000**	20	20	<10
11/13/17	0824	OCEAN	**ENVH 44000**	52	20	10
11/13/17	1320	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 11/20/17

WATER QUALITY RESULTS
FROM COLL DATE: 11/20/17
THRU COLL DATE: 11/20/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
11/20/17	0826	OCEAN	**ENVH 1000**	<10	<10	<10
11/20/17	0906	OCEAN	**ENVH 4000**	<10	<10	<10
11/20/17	0918	OCEAN	**ENVH 7000**	10	<10	<10
11/20/17	0930	OCEAN	**ENVH 10000**	<10	<10	<10
11/20/17	0940	OCEAN	**ENVH 11000**	<10	<10	<10
11/20/17	0955	OCEAN	**ENVH 13000**	120	10	<10
11/20/17	1004	OCEAN	**ENVH 14000**	20	<10	<10
11/20/17	1013	OCEAN	**ENVH 19000**	31	<10	<10
11/20/17	1050	OCEAN	**ENVH 25000**	10	10	<10
11/20/17	****	OCEAN	**ENVH 35000**	NO	SAMPLE	COLLECTED
11/20/17	1119	OCEAN	**ENVH 36000**	20	10	<10
11/20/17	1123	OCEAN	**ENVH 37000**	132	10	99
11/20/17	1127	OCEAN	**ENVH 38000**	<10	<10	<10
11/20/17	1135	OCEAN	**ENVH 39000**	<10	<10	<10
11/20/17	1145	OCEAN	**ENVH 40000**	<10	<10	<10
11/20/17	1208	OCEAN	**ENVH 41000**	246	146	20
11/20/17	1222	OCEAN	**ENVH 42000**	10	10	<10
11/20/17	1232	OCEAN	**ENVH 43000**	<10	<10	<10
11/20/17	1254	OCEAN	**ENVH 44000**	31	31	42
11/20/17	1355	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 12/04/17

WATER QUALITY RESULTS
FROM COLL DATE: 12/04/17
THRU COLL DATE: 12/04/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
12/04/17	0831	OCEAN	**ENVH 1000**	10	10	10
12/04/17	0857	OCEAN	**ENVH 4000**	20	<10	10
12/04/17	0907	OCEAN	**ENVH 7000**	323	10	53
12/04/17	0921	OCEAN	**ENVH 10000**	171	75	64
12/04/17	0929	OCEAN	**ENVH 11000**	161	110	10
12/04/17	0940	OCEAN	**ENVH 13000**	74	31	10
12/04/17	0950	OCEAN	**ENVH 14000**	213	75	20
12/04/17	0959	OCEAN	**ENVH 19000**	20	<10	10
12/04/17	1010	OCEAN	**ENVH 25000**	<10	<10	20
12/04/17	1030	OCEAN	**ENVH 35000**	<10	<10	<10
12/04/17	1044	OCEAN	**ENVH 36000**	85	41	<10
12/04/17	1050	OCEAN	**ENVH 37000**	121	63	<10
12/04/17	1055	OCEAN	**ENVH 38000**	52	41	<10
12/04/17	1100	OCEAN	**ENVH 39000**	<10	<10	<10
12/04/17	1106	OCEAN	**ENVH 40000**	10	10	53
12/04/17	1127	OCEAN	**ENVH 41000**	650	161	53
12/04/17	1134	OCEAN	**ENVH 42000**	84	<10	20
12/04/17	1139	OCEAN	**ENVH 43000**	41	<10	10
12/04/17	1150	OCEAN	**ENVH 44000**	10	<10	<10
12/04/17	1250	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 12/11/17

WATER QUALITY RESULTS
FROM COLL DATE: 12/11/17
THRU COLL DATE: 12/11/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
12/11/17	0917	OCEAN	**ENVH 1000**	<10	<10	<10
12/11/17	0951	OCEAN	**ENVH 4000**	<10	<10	<10
12/11/17	1002	OCEAN	**ENVH 7000**	<10	<10	<10
12/11/17	1014	OCEAN	**ENVH 10000**	<10	<10	<10
12/11/17	1021	OCEAN	**ENVH 11000**	10	10	<10
12/11/17	1040	OCEAN	**ENVH 13000**	10	10	<10
12/11/17	1055	OCEAN	**ENVH 14000**	41	10	42
12/11/17	1104	OCEAN	**ENVH 19000**	31	10	<10
12/11/17	1125	OCEAN	**ENVH 25000**	<10	<10	<10
12/11/17	1145	OCEAN	**ENVH 35000**	<10	<10	<10
12/11/17	1203	OCEAN	**ENVH 36000**	10	<10	53
12/11/17	1206	OCEAN	**ENVH 37000**	<10	<10	<10
12/11/17	1209	OCEAN	**ENVH 38000**	<10	<10	<10
12/11/17	1228	OCEAN	**ENVH 39000**	<10	<10	<10
12/11/17	1235	OCEAN	**ENVH 40000**	<10	<10	<10
12/11/17	1250	OCEAN	**ENVH 41000**	52	52	64
12/11/17	1255	OCEAN	**ENVH 42000**	<10	<10	<10
12/11/17	1300	OCEAN	**ENVH 43000**	10	<10	<10
12/11/17	1310	OCEAN	**ENVH 44000**	<10	<10	<10
12/11/17	1430	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 12/18/17

WATER QUALITY RESULTS
FROM COLL DATE: 12/18/17
THRU COLL DATE: 12/18/17
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
12/18/17	0826	OCEAN	**ENVH 1000**	20	<10	<10
12/18/17	0856	OCEAN	**ENVH 4000**	<10	<10	<10
12/18/17	0905	OCEAN	**ENVH 7000**	41	20	10
12/18/17	0912	OCEAN	**ENVH 10000**	<10	<10	<10
12/18/17	0920	OCEAN	**ENVH 11000**	20	<10	10
12/18/17	0933	OCEAN	**ENVH 13000**	<10	<10	<10
12/18/17	0938	OCEAN	**ENVH 14000**	52	<10	<10
12/18/17	0945	OCEAN	**ENVH 19000**	10	<10	<10
12/18/17	1005	OCEAN	**ENVH 25000**	<10	<10	<10
12/18/17	1021	OCEAN	**ENVH 35000**	<10	<10	<10
12/18/17	1036	OCEAN	**ENVH 36000**	<10	<10	<10
12/18/17	1040	OCEAN	**ENVH 37000**	41	20	10
12/18/17	1045	OCEAN	**ENVH 38000**	63	41	<10
12/18/17	1100	OCEAN	**ENVH 39000**	10	<10	<10
12/18/17	1108	OCEAN	**ENVH 40000**	10	<10	<10
12/18/17	1128	OCEAN	**ENVH 41000**	30	<10	<10
12/18/17	1148	OCEAN	**ENVH 42000**	31	20	10
12/18/17	1153	OCEAN	**ENVH 43000**	10	<10	<10
12/18/17	1212	OCEAN	**ENVH 44000**	<10	<10	<10
12/18/17	1320	OCEAN	**LAB BLANK**	<10	<10	<10

WATER QUALITY RESULTS

RUN ON: 12/27/17 **FROM COLL DATE: 12/27/17**

THRU COLL DATE: 12/27/17

LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MP N/100 ml
12/27/17	0835	OCEAN	**ENVH 1000**	20	10	<10
12/27/17	0859	OCEAN	**ENVH 4000**	<10	<10	<10
12/27/17	0913	OCEAN	**ENVH 7000**	<10	<10	<10
12/27/17	0926	OCEAN	**ENVH 10000**	<10	<10	<10
12/27/17	0938	OCEAN	**ENVH 11000**	10	<10	10
12/27/17	0951	OCEAN	**ENVH 13000**	185	31	31
12/27/17	0958	OCEAN	**ENVH 14000**	146	10	53
12/27/17	1009	OCEAN	**ENVH 19000**	31	31	<10
12/27/17	1028	OCEAN	**ENVH 25000**	<10	<10	<10
12/27/17	1050	OCEAN	**ENVH 35000**	<10	<10	<10
12/27/17	1115	OCEAN	**ENVH 36000**	<10	<10	<10
12/27/17	1117	OCEAN	**ENVH 37000**	52	10	10
12/27/17	1120	OCEAN	**ENVH 38000**	<10	<10	<10
12/27/17	1130	OCEAN	**ENVH 39000**	<10	<10	10
12/27/17	1140	OCEAN	**ENVH 40000**	<10	<10	<10
12/27/17	1150	OCEAN	**ENVH 41000**	10	<10	<10
12/27/17	1155	OCEAN	**ENVH 42000**	<10	<10	10
12/27/17	1205	OCEAN	**ENVH 43000**	20	20	<10
12/27/17	1220	OCEAN	**ENVH 44000**	10	<10	<10
12/27/17	1300	OCEAN	**ENVH LAB BLANK**	<10	<10	<10

RUN ON: 01/02/18

WATER QUALITY RESULTS
FROM COLL DATE: 01/02/18
THRU COLL DATE: 01/02/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MP N/100 ml
01/02/18	0840	OCEAN	**ENVH 1000**	31	20	<10
01/02/18	0902	OCEAN	**ENVH 4000**	20	<10	<10
01/02/18	0911	OCEAN	**ENVH 7000**	30	10	31
01/02/18	0918	OCEAN	**ENVH 10000**	63	52	<10
01/02/18	0929	OCEAN	**ENVH 11000**	<10	<10	10
01/02/18	0941	OCEAN	**ENVH 13000**	10	10	10
01/02/18	0947	OCEAN	**ENVH 14000**	10	<10	20
01/02/18	0955	OCEAN	**ENVH 19000**	10	<10	<10
01/02/18	1013	OCEAN	**ENVH 25000**	52	10	10
01/02/18	1031	OCEAN	**ENVH 35000**	<10	<10	<10
01/02/18	1049	OCEAN	**ENVH 36000**	20	10	10
01/02/18	1051	OCEAN	**ENVH 37000**	10	<10	20
01/02/18	1056	OCEAN	**ENVH 38000**	31	20	10
01/02/18	1106	OCEAN	**ENVH 39000**	<10	<10	<10
01/02/18	1114	OCEAN	**ENVH 40000**	<10	<10	<10
01/02/18	1140	OCEAN	**ENVH 41000**	10	10	<10
01/02/18	1148	OCEAN	**ENVH 42000**	<10	<10	<10
01/02/18	1200	OCEAN	**ENVH 43000**	10	<10	<10
01/02/18	1218	OCEAN	**ENVH 44000**	<10	<10	<10
01/02/18	1300	OCEAN	**ENVH LAB BLANK**	<10	<10	<10

RUN ON: 01/08/18

WATER QUALITY RESULTS
FROM COLL DATE: 01/08/18
THRU COLL DATE: 01/08/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/08/18	0841	OCEAN	**ENVH 1000**	<10	<10	<10
01/08/18	0905	OCEAN	**ENVH 4000**	<10	<10	<10
01/08/18	0916	OCEAN	**ENVH 7000**	98	10	<10
01/08/18	0926	OCEAN	**ENVH 10000**	20	10	<10
01/08/18	0937	OCEAN	**ENVH 11000**	20	<10	<10
01/08/18	0952	OCEAN	**ENVH 13000**	52	30	<10
01/08/18	1000	OCEAN	**ENVH 14000**	<10	<10	<10
01/08/18	1011	OCEAN	**ENVH 19000**	148	10	<10
01/08/18	1033	OCEAN	**ENVH 25000**	20	20	<10
01/08/18	1053	OCEAN	**ENVH 35000**	10	10	10
01/08/18	1109	OCEAN	**ENVH 36000**	31	20	31
01/08/18	1114	OCEAN	**ENVH 37000**	75	63	99
01/08/18	1119	OCEAN	**ENVH 38000**	20	20	20
01/08/18	1128	OCEAN	**ENVH 39000**	<10	<10	<10
01/08/18	1133	OCEAN	**ENVH 40000**	41	20	<10
01/08/18	1156	OCEAN	**ENVH 41000**	<10	<10	<10
01/08/18	1203	OCEAN	**ENVH 42000**	10	10	20
01/08/18	1210	OCEAN	**ENVH 43000**	173	135	<10
01/08/18	1225	OCEAN	**ENVH 44000**	75	63	20
01/08/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 01/17/18

WATER QUALITY RESULTS
FROM COLL DATE: 01/17/18
THRU COLL DATE: 01/17/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/17/18		OCEAN	**ENVH 1000**			
01/17/18		OCEAN	**ENVH 4000**			
01/17/18		OCEAN	**ENVH 7000**			
01/17/18		OCEAN	**ENVH 10000**			
01/17/18	0858	OCEAN	**ENVH 11000**	3,448	20	31
01/17/18	0916	OCEAN	**ENVH 13000**	1,515	31	192
01/17/18	0922	OCEAN	**ENVH 14000**	1,112	41	99
01/17/18	0951	OCEAN	**ENVH 19000**	905	122	87
01/17/18	1004	OCEAN	**ENVH 25000**	624	10	31
01/17/18	1024	OCEAN	**ENVH 35000**	292	<10	42
01/17/18	1035	OCEAN	**ENVH 36000**	148	<10	<10
01/17/18	1038	OCEAN	**ENVH 37000**	203	52	53
01/17/18	1045	OCEAN	**ENVH 38000**	51	<10	10
01/17/18	1054	OCEAN	**ENVH 39000**	85	10	<10
01/17/18	1059	OCEAN	**ENVH 40000**	85	<10	<10
01/17/18	1135	OCEAN	**ENVH 41000**	52	<10	53
01/17/18	1140	OCEAN	**ENVH 42000**	10	<10	31
01/17/18	1145	OCEAN	**ENVH 43000**	<10	<10	<10
01/17/18	1210	OCEAN	**ENVH 44000**	10	<10	<10
01/17/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 01/22/18

WATER QUALITY RESULTS
FROM COLL DATE: 01/22/18
THRU COLL DATE: 01/22/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/22/18	0853	OCEAN	**ENVH 1000**	24,196	52	624
01/22/18	0923	OCEAN	**ENVH 4000**	2,489	52	111
01/22/18	0938	OCEAN	**ENVH 7000**	>24,196	63	>2,005
01/22/18	0945	OCEAN	**ENVH 10000**	6,488	41	164
01/22/18	0959	OCEAN	**ENVH 11000**	>24,196	96	>2,005
01/22/18	1015	OCEAN	**ENVH 13000**	4,884	20	99
01/22/18	1024	OCEAN	**ENVH 14000**	5,475	10	53
01/22/18	1035	OCEAN	**ENVH 19000**	1,553	31	20
01/22/18	1049	OCEAN	**ENVH 25000**	733	10	<10
01/22/18	1106	OCEAN	**ENVH 35000**	262	20	<10
01/22/18	1120	OCEAN	**ENVH 36000**	98	<10	10
01/22/18	1124	OCEAN	**ENVH 37000**	223	10	<10
01/22/18	1129	OCEAN	**ENVH 38000**	189	<10	<10
01/22/18	1131	OCEAN	**ENVH 39000**	148	10	20
01/22/18	1140	OCEAN	**ENVH 40000**	187	10	<10
01/22/18	1155	OCEAN	**ENVH 41000**	110	<10	<10
01/22/18	1159	OCEAN	**ENVH 42000**	31	<10	31
01/22/18	1210	OCEAN	**ENVH 43000**	10	<10	<10
01/22/18	1225	OCEAN	**ENVH 44000**	109	41	87
01/22/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 01/29/18

WATER QUALITY RESULTS
FROM COLL DATE: 01/29/18
THRU COLL DATE: 01/29/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
01/29/18	0848	OCEAN	**ENVH 1000**	1,782	10	150
01/29/18	0915	OCEAN	**ENVH 4000**	2,359	<10	64
01/29/18	0925	OCEAN	**ENVH 7000**	1,467	<10	42
01/29/18	0935	OCEAN	**ENVH 10000**	3,448	31	124
01/29/18	0950	OCEAN	**ENVH 11000**	4,611	<10	137
01/29/18	1003	OCEAN	**ENVH 13000**	1,597	20	53
01/29/18	1009	OCEAN	**ENVH 14000**	2,909	233	207
01/29/18	1018	OCEAN	**ENVH 19000**	2,909	52	20
01/29/18	1038	OCEAN	**ENVH 25000**	144	<10	<10
01/29/18	1059	OCEAN	**ENVH 35000**	173	<10	<10
01/29/18	1113	OCEAN	**ENVH 36000**	146	10	10
01/29/18	1116	OCEAN	**ENVH 37000**	52	<10	10
01/29/18	1121	OCEAN	**ENVH 38000**	10	<10	<10
01/29/18	1129	OCEAN	**ENVH 39000**	20	<10	<10
01/29/18	1138	OCEAN	**ENVH 40000**	10	<10	<10
01/29/18	1158	OCEAN	**ENVH 41000**	189	148	<10
01/29/18	1205	OCEAN	**ENVH 42000**	1,439	373	137
01/29/18	1216	OCEAN	**ENVH 43000**	187	134	137
01/29/18	1227	OCEAN	**ENVH 44000**	63	30	<10
01/29/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 02/05/18

WATER QUALITY RESULTS
FROM COLL DATE: 02/05/18
THRU COLL DATE: 02/05/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/05/18	0835	OCEAN	**ENVH 1000**	624	10	42
02/05/18	0901	OCEAN	**ENVH 4000**	97	20	<10
02/05/18	0913	OCEAN	**ENVH 7000**	299	<10	10
02/05/18	0925	OCEAN	**ENVH 10000**	373	10	10
02/05/18	0938	OCEAN	**ENVH 11000**	160	<10	10
02/05/18	0953	OCEAN	**ENVH 13000**	336	74	20
02/05/18	1000	OCEAN	**ENVH 14000**	189	<10	<10
02/05/18	1012	OCEAN	**ENVH 19000**	644	<10	20
02/05/18	1038	OCEAN	**ENVH 25000**	41	<10	20
02/05/18	1058	OCEAN	**ENVH 35000**	<10	<10	<10
02/05/18	1113	OCEAN	**ENVH 36000**	<10	<10	<10
02/05/18	1117	OCEAN	**ENVH 37000**	20	10	<10
02/05/18	1126	OCEAN	**ENVH 38000**	<10	<10	<10
02/05/18	1135	OCEAN	**ENVH 39000**	20	<10	10
02/05/18	1142	OCEAN	**ENVH 40000**	<10	<10	<10
02/05/18	1158	OCEAN	**ENVH 41000**	>24,196	>24,196	10
02/05/18	1205	OCEAN	**ENVH 42000**	<10	<10	<10
02/05/18	1211	OCEAN	**ENVH 43000**	41	31	10
02/05/18	1225	OCEAN	**ENVH 44000**	<10	<10	<10
02/05/18	1350	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 02/12/18

WATER QUALITY RESULTS
FROM COLL DATE: 02/12/18
THRU COLL DATE: 02/12/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/12/18	0835	OCEAN	**ENVH 1000**	1,333	41	42
02/12/18	0908	OCEAN	**ENVH 4000**	52	<10	<10
02/12/18	0918	OCEAN	**ENVH 7000**	521	31	10
02/12/18	0926	OCEAN	**ENVH 10000**	121	41	31
02/12/18	0936	OCEAN	**ENVH 11000**	538	31	137
02/12/18	0950	OCEAN	**ENVH 13000**	583	20	31
02/12/18	0956	OCEAN	**ENVH 14000**	754	51	53
02/12/18	1005	OCEAN	**ENVH 19000**	670	20	31
02/12/18	1034	OCEAN	**ENVH 25000**	882	20	42
02/12/18	1055	OCEAN	**ENVH 35000**	613	20	42
02/12/18	1108	OCEAN	**ENVH 36000**	285	30	<10
02/12/18	1110	OCEAN	**ENVH 37000**	86	31	<10
02/12/18	1115	OCEAN	**ENVH 38000**	52	<10	<10
02/12/18	1121	OCEAN	**ENVH 39000**	63	10	10
02/12/18	1133	OCEAN	**ENVH 40000**	10	<10	<10
02/12/18	1151	OCEAN	**ENVH 41000**	201	86	20
02/12/18	1158	OCEAN	**ENVH 42000**	10	<10	<10
02/12/18	1205	OCEAN	**ENVH 43000**	<10	<10	10
02/12/18	1223	OCEAN	**ENVH 44000**	<10	<10	<10
02/12/18	1330	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 02/20/18

WATER QUALITY RESULTS
FROM COLL DATE: 02/20/18
THRU COLL DATE: 02/20/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/20/18	0842	OCEAN	**ENVH 1000**	809	41	75
02/20/18	0910	OCEAN	**ENVH 4000**	31	<10	<10
02/20/18	0920	OCEAN	**ENVH 7000**	3,076	<10	99
02/20/18	0928	OCEAN	**ENVH 10000**	74	<10	<10
02/20/18	0939	OCEAN	**ENVH 11000**	399	<10	<10
02/20/18	0955	OCEAN	**ENVH 13000**	631	<10	42
02/20/18	1003	OCEAN	**ENVH 14000**	144	<10	<10
02/20/18	1014	OCEAN	**ENVH 19000**	75	<10	<10
02/20/18	1040	OCEAN	**ENVH 25000**	31	10	<10
02/20/18	1105	OCEAN	**ENVH 35000**	31	<10	<10
02/20/18	1117	OCEAN	**ENVH 36000**	<10	<10	<10
02/20/18	1119	OCEAN	**ENVH 37000**	98	86	<10
02/20/18	1124	OCEAN	**ENVH 38000**	<10	<10	<10
02/20/18	1132	OCEAN	**ENVH 39000**	<10	<10	<10
02/20/18	1139	OCEAN	**ENVH 40000**	<10	<10	<10
02/20/18	1150	OCEAN	**ENVH 41000**	<10	<10	<10
02/20/18	1206	OCEAN	**ENVH 42000**	10	<10	10
02/20/18	1215	OCEAN	**ENVH 43000**	52	31	10
02/20/18	1229	OCEAN	**ENVH 44000**	31	10	10
02/20/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 02/26/18

WATER QUALITY RESULTS
FROM COLL DATE: 02/26/18
THRU COLL DATE: 02/26/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
02/26/18	0843	OCEAN	**ENVH 1000**	203	31	<10
02/26/18	0916	OCEAN	**ENVH 4000**	52	<10	<10
02/26/18	0925	OCEAN	**ENVH 7000**	132	<10	31
02/26/18	0933	OCEAN	**ENVH 10000**	75	<10	20
02/26/18	0942	OCEAN	**ENVH 11000**	41	<10	64
02/26/18	0957	OCEAN	**ENVH 13000**	384	<10	20
02/26/18	1005	OCEAN	**ENVH 14000**	259	<10	31
02/26/18	1017	OCEAN	**ENVH 19000**	583	<10	20
02/26/18	1048	OCEAN	**ENVH 25000**	20	<10	10
02/26/18	1105	OCEAN	**ENVH 35000**	31	<10	<10
02/26/18	1115	OCEAN	**ENVH 36000**	41	<10	<10
02/26/18	1120	OCEAN	**ENVH 37000**	317	75	87
02/26/18	1130	OCEAN	**ENVH 38000**	20	<10	<10
02/26/18	1140	OCEAN	**ENVH 39000**	31	<10	<10
02/26/18	1150	OCEAN	**ENVH 40000**	10	10	<10
02/26/18	1200	OCEAN	**ENVH 41000**	10	10	<10
02/26/18	1206	OCEAN	**ENVH 42000**	<10	<10	<10
02/26/18	1212	OCEAN	**ENVH 43000**	10	<10	<10
02/26/18	1231	OCEAN	**ENVH 44000**	<10	<10	<10
02/26/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 03/5/18

WATER QUALITY RESULTS
FROM COLL DATE: 03/05/18
THRU COLL DATE: 03/05/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/05/18	0833	OCEAN	**ENVH 1000**	5,794	98	99
03/05/18	0902	OCEAN	**ENVH 4000**	521	<10	<10
03/05/18	0912	OCEAN	**ENVH 7000**	110	<10	<10
03/05/18	0921	OCEAN	**ENVH 10000**	110	<10	<10
03/05/18	0931	OCEAN	**ENVH 11000**	379	<10	20
03/05/18	0949	OCEAN	**ENVH 13000**	717	<10	52
03/05/18	0955	OCEAN	**ENVH 14000**	556	10	20
03/05/18	1004	OCEAN	**ENVH 19000**	637	20	31
03/05/18	1038	OCEAN	**ENVH 25000**	84	63	<10
03/05/18	1058	OCEAN	**ENVH 35000**	52	<10	10
03/05/18	1109	OCEAN	**ENVH 36000**	10	<10	<10
03/05/18	1113	OCEAN	**ENVH 37000**	135	63	<10
03/05/18	1120	OCEAN	**ENVH 38000**	31	<10	<10
03/05/18	1127	OCEAN	**ENVH 39000**	10	<10	<10
03/05/18	1132	OCEAN	**ENVH 40000**	10	<10	<10
03/05/18	1153	OCEAN	**ENVH 41000**	10	<10	<10
03/05/18	1209	OCEAN	**ENVH 42000**	120	63	41
03/05/18	1204	OCEAN	**ENVH 43000**	<10	<10	<10
03/05/18	1225	OCEAN	**ENVH 44000**	<10	<10	<10
03/05/18	1330	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 03/12/18

WATER QUALITY RESULTS
FROM COLL DATE: 03/12/18
THRU COLL DATE: 03/12/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/12/18	0840	OCEAN	**ENVH 1000**	3,255	218	659
03/12/18	0912	OCEAN	**ENVH 4000**	52	20	<10
03/12/18	0923	OCEAN	**ENVH 7000**	201	<10	<10
03/12/18	0934	OCEAN	**ENVH 10000**	262	<10	<10
03/12/18	0952	OCEAN	**ENVH 11000**	122	<10	<10
03/12/18	1008	OCEAN	**ENVH 13000**	63	<10	<10
03/12/18	1020	OCEAN	**ENVH 14000**	1,956	85	<10
03/12/18	1034	OCEAN	**ENVH 19000**	1,043	<10	111
03/12/18	1102	OCEAN	**ENVH 25000**	2,046	<10	10
03/12/18	1123	OCEAN	**ENVH 35000**	3,255	<10	<10
03/12/18	1137	OCEAN	**ENVH 36000**	1,162	171	10
03/12/18	1141	OCEAN	**ENVH 37000**	1,017	63	10
03/12/18	1147	OCEAN	**ENVH 38000**	2,247	<10	<10
03/12/18	1155	OCEAN	**ENVH 39000**	1,872	<10	<10
03/12/18	1202	OCEAN	**ENVH 40000**	1,500	<10	<10
03/12/18	1220	OCEAN	**ENVH 41000**	>24,196	110	10
03/12/18	1228	OCEAN	**ENVH 42000**	>24,196	389	453
03/12/18	1233	OCEAN	**ENVH 43000**	>24,196	10	10
03/12/18	1247	OCEAN	**ENVH 44000**	>24,196	75	31
03/12/18	1320	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 03/19/18

WATER QUALITY RESULTS
FROM COLL DATE: 03/19/18
THRU COLL DATE: 03/19/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/19/18	0840	OCEAN	**ENVH 1000**	1,500	85	6
03/19/18	0908	OCEAN	**ENVH 4000**	98	<10	<10
03/19/18	0919	OCEAN	**ENVH 7000**	52	<10	<10
03/19/18	0928	OCEAN	**ENVH 10000**	20	10	<10
03/19/18	0940	OCEAN	**ENVH 11000**	20	<10	<10
03/19/18	0958	OCEAN	**ENVH 13000**	175	<10	10
03/19/18	1005	OCEAN	**ENVH 14000**	189	<10	<10
03/19/18	1016	OCEAN	**ENVH 19000**	199	10	10
03/19/18	1033	OCEAN	**ENVH 25000**	31	<10	<10
03/19/18	1052	OCEAN	**ENVH 35000**	20	10	<10
03/19/18	1105	OCEAN	**ENVH 36000**	52	<10	<10
03/19/18	1108	OCEAN	**ENVH 37000**	41	10	<10
03/19/18	1115	OCEAN	**ENVH 38000**	10	<10	<10
03/19/18	1122	OCEAN	**ENVH 39000**	10	<10	<10
03/19/18	1132	OCEAN	**ENVH 40000**	<10	<10	<10
03/19/18	1153	OCEAN	**ENVH 41000**	135	<10	<10
03/19/18	1200	OCEAN	**ENVH 42000**	173	<10	<10
03/19/18	****	OCEAN	**ENVH 43000**	NO	SAMPLE	COLLECTED
03/19/18	****	OCEAN	**ENVH 44000**	NO	SAMPLE	COLLECTED
03/19/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 03/26/18

WATER QUALITY RESULTS
FROM COLL DATE: 03/26/18
THRU COLL DATE: 03/26/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
03/26/18	0810	OCEAN	**ENVH 1000**	4,352	75	150
03/26/18	0840	OCEAN	**ENVH 4000**	1,081	10	64
03/26/18	0853	OCEAN	**ENVH 7000**	2,046	31	238
03/26/18	0902	OCEAN	**ENVH 10000**	2,247	20	137
03/26/18	0917	OCEAN	**ENVH 11000**	1,956	10	124
03/26/18	0936	OCEAN	**ENVH 13000**	2,481	75	64
03/26/18	0948	OCEAN	**ENVH 14000**	3,076	20	111
03/26/18	0959	OCEAN	**ENVH 19000**	2,247	30	53
03/26/18	1021	OCEAN	**ENVH 25000**	563	10	31
03/26/18	1040	OCEAN	**ENVH 35000**	644	20	31
03/26/18	1052	OCEAN	**ENVH 36000**	121	<10	<10
03/26/18	1056	OCEAN	**ENVH 37000**	703	85	137
03/26/18	1105	OCEAN	**ENVH 38000**	246	<10	<10
03/26/18	1117	OCEAN	**ENVH 39000**	175	10	10
03/26/18	1126	OCEAN	**ENVH 40000**	145	<10	<10
03/26/18	1150	OCEAN	**ENVH 41000**	10	<10	<10
03/26/18	1200	OCEAN	**ENVH 42000**	74	<10	<10
03/26/18	1210	OCEAN	**ENVH 43000**	41	<10	<10
03/26/18	1225	OCEAN	**ENVH 44000**	31	10	<10
03/26/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 04/03/18

WATER QUALITY RESULTS
FROM COLL DATE: 04/03/18
THRU COLL DATE: 04/03/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/03/18	****	OCEAN	**EN,VH 29,000**	NO	****	****
04/03/18	****	OCEAN	**EN,VH 30,000**	****	SAMPLES	****
04/03/18	****	OCEAN	**EN,VH 32,000**	****	****	COLLECTED
04/03/18	****	OCEAN	**EN,VH 33,000**	****	****	****
04/03/18	1245	OCEAN	**EN,VH 34,000**	<10	<10	<10
04/03/18	1255	OCEAN	**EN,VH 35,000**	<10	<10	<10
04/03/18	1208	OCEAN	**EN,VH 36,000**	<10	<10	<10
04/03/18	1210	OCEAN	**EN,VH 37,000**	97	32	<10
04/03/18	1214	OCEAN	**EN,VH 38,000**	10	<10	53
04/03/18	1225	OCEAN	**EN,VH 39,000**	<10	<10	<10
04/03/18	1228	OCEAN	**EN,VH 40,000**	<10	<10	<10
04/03/18	1122	OCEAN	**EN,VH 41,000**	41	10	<10
04/03/18	1131	OCEAN	**EN,VH 42,000**	<10	<10	<10
04/03/18	1140	OCEAN	**EN,VH 43,000**	<10	<10	<10
04/03/18	1100	OCEAN	**EN,VH 44,000**	10	10	<10
04/03/18	0905	OCEAN	**EN,VH 45,000**	52	<10	<10
04/03/18	0916	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/03/18	0930	OCEAN	**EN,VH 47,000**	<10	<10	<10
04/03/18	0949	OCEAN	**EN,VH 49,500**	10	10	<10
04/03/18	1016	OCEAN	**EN,VH 50,000**	<10	<10	<10
04/03/18	1330	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 04/10/18

WATER QUALITY RESULTS
FROM COLL DATE: 04/10/18
THRU COLL DATE: 04/10/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/10/18	0810	OCEAN	**EN,VH 29,000**	265	<10	<10
04/10/18	0825	OCEAN	**EN,VH 30,000**	295	<10	<10
04/10/18	0845	OCEAN	**EN,VH 32,000**	228	<10	<10
04/10/18	0900	OCEAN	**EN,VH 33,000**	146	<10	<10
04/10/18	0915	OCEAN	**EN,VH 34,000**	185	<10	10
04/10/18	0925	OCEAN	**EN,VH 35,000**	98	<10	<10
04/10/18	0937	OCEAN	**EN,VH 36,000**	63	<10	<10
04/10/18	0940	OCEAN	**EN,VH 37,000**	20	10	<10
04/10/18	0948	OCEAN	**EN,VH 38,000**	10	<10	<10
04/10/18	1005	OCEAN	**EN,VH 39,000**	<10	<10	<10
04/10/18	1014	OCEAN	**EN,VH 40,000**	20	<10	<10
04/10/18	1035	OCEAN	**EN,VH 41,000**	10	<10	<10
04/10/18	1045	OCEAN	**EN,VH 42,000**	<10	<10	<10
04/10/18	1055	OCEAN	**EN,VH 43,000**	<10	<10	<10
04/10/18	1125	OCEAN	**EN,VH 44,000**	10	<10	31
04/10/18	1145	OCEAN	**EN,VH 45,000**	<10	<10	<10
04/10/18	1155	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/10/18	1205	OCEAN	**EN,VH 47,000**	10	<10	<10
04/10/18	1220	OCEAN	**EN,VH 49,500**	20	10	<10
04/10/18	1235	OCEAN	**EN,VH 50,000**	<10	<10	<10
04/10/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 04/17/18

WATER QUALITY RESULTS
FROM COLL DATE: 04/17/18
THRU COLL DATE: 04/17/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/17/18	0807	OCEAN	**EN,VH 29,000**	279	10	<10
04/17/18	0815	OCEAN	**EN,VH 30,000**	504	<10	<10
04/17/18	0835	OCEAN	**EN,VH 32,000**	605	<10	<10
04/17/18	0847	OCEAN	**EN,VH 33,000**	471	10	<10
04/17/18	0900	OCEAN	**EN,VH 34,000**	594	<10	<10
04/17/18	0912	OCEAN	**EN,VH 35,000**	435	<10	<10
04/17/18	0927	OCEAN	**EN,VH 36,000**	185	20	10
04/17/18	0930	OCEAN	**EN,VH 37,000**	121	63	288
04/17/18	0938	OCEAN	**EN,VH 38,000**	538	<10	10
04/17/18	0955	OCEAN	**EN,VH 39,000**	201	<10	<10
04/17/18	1005	OCEAN	**EN,VH 40,000**	10	<10	<10
04/17/18	1030	OCEAN	**EN,VH 41,000**	10	<10	<10
04/17/18	1040	OCEAN	**EN,VH 42,000**	20	<10	<10
04/17/18	1050	OCEAN	**EN,VH 43,000**	20	10	<10
04/17/18	1115	OCEAN	**EN,VH 44,000**	31	10	<10
04/17/18	1132	OCEAN	**EN,VH 45,000**	31	<10	<10
04/17/18	1140	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/17/18	1150	OCEAN	**EN,VH 47,000**	<10	<10	<10
04/17/18	1205	OCEAN	**EN,VH 49,500**	10	10	<10
04/17/18	1220	OCEAN	**EN,VH 50,000**	<10	<10	<10
04/17/18	1310	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 04/18/18

WATER QUALITY RESULTS
FROM COLL DATE: 04/18/18
THRU COLL DATE: 04/18/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
		OCEAN	**EN,VH 29,000**			
		OCEAN	**EN,VH 30,000**			
		OCEAN	**EN,VH 32,000**			
		OCEAN	**EN,VH 33,000**			
		OCEAN	**EN,VH 34,000**			
		OCEAN	**EN,VH 35,000**			
		OCEAN	**EN,VH 36,000**			
04/18/18	1515	OCEAN	**EN,VH 37,000**	75	52	31
		OCEAN	**EN,VH 38,000**			
		OCEAN	**EN,VH 39,000**			
		OCEAN	**EN,VH 40,000**			
		OCEAN	**EN,VH 41,000**			
		OCEAN	**EN,VH 42,000**			
		OCEAN	**EN,VH 43,000**			
		OCEAN	**EN,VH 44,000**			
		OCEAN	**EN,VH 45,000**			
		OCEAN	**EN,VH 46,000**			
		OCEAN	**EN,VH 47,000**			
		OCEAN	**EN,VH 49,500**			
		OCEAN	**EN,VH 50,000**			
		OCEAN	**LAB BLANK**			

RUN ON: 04/24/18

WATER QUALITY RESULTS
FROM COLL DATE: 04/24/18
THRU COLL DATE: 04/24/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
04/24/18	0815	OCEAN	**EN,VH 29,000**	<10	<10	<10
04/24/18	0825	OCEAN	**EN,VH 30,000**	395	<10	<10
04/24/18	0840	OCEAN	**EN,VH 32,000**	<10	<10	<10
04/24/18	0850	OCEAN	**EN,VH 33,000**	<10	<10	<10
04/24/18	0905	OCEAN	**EN,VH 34,000**	20	<10	<10
04/24/18	0915	OCEAN	**EN,VH 35,000**	<10	<10	<10
04/24/18	0928	OCEAN	**EN,VH 36,000**	41	<10	<10
04/24/18	0930	OCEAN	**EN,VH 37,000**	63	<10	<10
04/24/18	0936	OCEAN	**EN,VH 38,000**	10	<10	<10
04/24/18	0948	OCEAN	**EN,VH 39,000**	<10	<10	<10
04/24/18	0955	OCEAN	**EN,VH 40,000**	<10	<10	<10
04/24/18	1030	OCEAN	**EN,VH 41,000**	<10	<10	<10
04/24/18	1040	OCEAN	**EN,VH 42,000**	10	<10	<10
04/24/18	1050	OCEAN	**EN,VH 43,000**	<10	<10	<10
04/24/18	1115	OCEAN	**EN,VH 44,000**	<10	<10	<10
04/24/18	1135	OCEAN	**EN,VH 45,000**	<10	<10	<10
04/24/18	1150	OCEAN	**EN,VH 46,000**	<10	<10	<10
04/24/18	1205	OCEAN	**EN,VH 47,000**	<10	<10	<10
04/24/18	1220	OCEAN	**EN,VH 49,500**	<10	<10	<10
04/24/18	1230	OCEAN	**EN,VH 50,000**	<10	<10	<10
04/24/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 05/01/18

WATER QUALITY RESULTS
FROM COLL DATE: 05/01/18
THRU COLL DATE: 05/01/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/01/18	0840	OCEAN	**EN,VH 29,000**	383	<10	<10
05/01/18	0850	OCEAN	**EN,VH 30,000**	613	<10	<10
05/01/18	0900	OCEAN	**EN,VH 32,000**	420	<10	<10
05/01/18	0914	OCEAN	**EN,VH 33,000**	1,250	<10	<10
05/01/18	0928	OCEAN	**EN,VH 34,000**	1,119	<10	<10
05/01/18	0938	OCEAN	**EN,VH 35,000**	908	<10	<10
05/01/18	0953	OCEAN	**EN,VH 36,000**	10	<10	<10
05/01/18	0856	OCEAN	**EN,VH 37,000**	41	<10	<10
05/01/18	1002	OCEAN	**EN,VH 38,000**	63	<10	<10
05/01/18	1011	OCEAN	**EN,VH 39,000**	41	<10	<10
05/01/18	1018	OCEAN	**EN,VH 40,000**	<10	<10	<10
05/01/18	1038	OCEAN	**EN,VH 41,000**	10	<10	<10
05/01/18	1047	OCEAN	**EN,VH 42,000**	<10	<10	<10
05/01/18	1100	OCEAN	**EN,VH 43,000**	52	20	<10
05/01/18	1122	OCEAN	**EN,VH 44,000**	31	<10	<10
05/01/18	1149	OCEAN	**EN,VH 45,000**	216	41	<10
05/01/18	1157	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/01/18	1203	OCEAN	**EN,VH 47,000**	31	<10	<10
05/01/18	1211	OCEAN	**EN,VH 49,500**	20	20	<10
05/01/18	1219	OCEAN	**EN,VH 50,000**	<10	<10	<10
05/01/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 05/08/18

WATER QUALITY RESULTS
FROM COLL DATE: 05/08/18
THRU COLL DATE: 05/08/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/08/18	0800	OCEAN	**EN,VH 29,000**	10	10	<10
05/08/18	0815	OCEAN	**EN,VH 30,000**	<10	<10	<10
05/08/18	0825	OCEAN	**EN,VH 32,000**	<10	<10	<10
05/08/18	0840	OCEAN	**EN,VH 33,000**	<10	<10	<10
05/08/18	0855	OCEAN	**EN,VH 34,000**	10	10	<10
05/08/18	0905	OCEAN	**EN,VH 35,000**	<10	<10	<10
05/08/18	0920	OCEAN	**EN,VH 36,000**	62	<10	<10
05/08/18	0925	OCEAN	**EN,VH 37,000**	135	10	10
05/08/18	0935	OCEAN	**EN,VH 38,000**	<10	<10	<10
05/08/18	0945	OCEAN	**EN,VH 39,000**	10	<10	<10
05/08/18	0955	OCEAN	**EN,VH 40,000**	<10	<10	<10
05/08/18	1025	OCEAN	**EN,VH 41,000**	<10	<10	<10
05/08/18	1035	OCEAN	**EN,VH 42,000**	<10	<10	<10
05/08/18	1045	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/08/18	1110	OCEAN	**EN,VH 44,000**	10	10	<10
05/08/18	1130	OCEAN	**EN,VH 45,000**	10	<10	<10
05/08/18	1145	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/08/18	1200	OCEAN	**EN,VH 47,000**	<10	<10	<10
05/08/18	1210	OCEAN	**EN,VH 49,500**	<10	<10	<10
05/08/18	1220	OCEAN	**EN,VH 50,000**	<10	<10	<10
05/08/18	1310	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 05/14/18

WATER QUALITY RESULTS
FROM COLL DATE: 05/14/18
THRU COLL DATE: 05/14/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/14/18	0815	OCEAN	**EN,VH 29,000**	<10	<10	<10
05/14/18	0828	OCEAN	**EN,VH 30,000**	41	<10	<10
05/14/18	0840	OCEAN	**EN,VH 32,000**	10	<10	<10
05/14/18	0850	OCEAN	**EN,VH 33,000**	31	<10	<10
05/14/18	0905	OCEAN	**EN,VH 34,000**	10	<10	<10
05/14/18	0915	OCEAN	**EN,VH 35,000**	20	10	<10
05/14/18	0930	OCEAN	**EN,VH 36,000**	20	<10	<10
05/14/18	0935	OCEAN	**EN,VH 37,000**	20	10	20
05/14/18	0945	OCEAN	**EN,VH 38,000**	10	<10	<10
05/14/18	0950	OCEAN	**EN,VH 39,000**	<10	<10	<10
05/14/18	1000	OCEAN	**EN,VH 40,000**	<10	<10	<10
05/14/18	1026	OCEAN	**EN,VH 41,000**	10	10	10
05/14/18	1038	OCEAN	**EN,VH 42,000**	<10	<10	<10
05/14/18	1045	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/14/18	****	OCEAN	**EN,VH 44,000**	NO	SAMPLE	COLLECTED
05/14/18	1125	OCEAN	**EN,VH 45,000**	<10	<10	<10
05/14/18	1140	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/14/18	1155	OCEAN	**EN,VH 47,000**	<10	<10	<10
05/14/18	1210	OCEAN	**EN,VH 49,500**	<10	<10	<10
05/14/18	1220	OCEAN	**EN,VH 50,000**	<10	<10	<10
05/14/18	1320	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 05/22/18

WATER QUALITY RESULTS
FROM COLL DATE: 05/22/18
THRU COLL DATE: 05/22/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/22/18	0806	OCEAN	**EN,VH 29,000**	<10	<10	<10
05/22/18	0825	OCEAN	**EN,VH 30,000**	<10	<10	<10
05/22/18	0840	OCEAN	**EN,VH 32,000**	<10	<10	<10
05/22/18	0850	OCEAN	**EN,VH 33,000**	<10	<10	<10
05/22/18	0905	OCEAN	**EN,VH 34,000**	<10	<10	<10
05/22/18	0915	OCEAN	**EN,VH 35,000**	20	<10	<10
05/22/18	0930	OCEAN	**EN,VH 36,000**	20	<10	<10
05/22/18	0933	OCEAN	**EN,VH 37,000**	52	<10	<10
05/22/18	0940	OCEAN	**EN,VH 38,000**	20	<10	<10
05/22/18	0955	OCEAN	**EN,VH 39,000**	<10	<10	<10
05/22/18	1005	OCEAN	**EN,VH 40,000**	<10	<10	<10
05/22/18	1030	OCEAN	**EN,VH 41,000**	10	<10	<10
05/22/18	1040	OCEAN	**EN,VH 42,000**	10	<10	<10
05/22/18	1050	OCEAN	**EN,VH 43,000**	<10	<10	<10
05/22/18	1125	OCEAN	**EN,VH 44,000**	<10	<10	<10
05/22/18	1145	OCEAN	**EN,VH 45,000**	<10	<10	<10
05/22/18	1155	OCEAN	**EN,VH 46,000**	<10	<10	<10
05/22/18	1210	OCEAN	**EN,VH 47,000**	10	<10	<10
05/22/18	1220	OCEAN	**EN,VH 49,500**	<10	<10	<10
05/22/18	1230	OCEAN	**EN,VH 50,000**	<10	<10	<10
05/22/18	1320	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 05/30/18

WATER QUALITY RESULTS
FROM COLL DATE: 05/30/18
THRU COLL DATE: 05/30/18
LOCATION: ENVH, ENVH

**** HOLIDAY/WINTER COLLECTION ****

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
05/30/18	0908	OCEAN	**ENVH 1000**	20	10	<10
05/30/18	939	OCEAN	**ENVH 4000**	<10	<10	<10
05/30/18	0950	OCEAN	**ENVH 7000**	<10	<10	<10
05/30/18	1000	OCEAN	**ENVH 10000**	31	<10	<10
05/30/18	1013	OCEAN	**ENVH 11000**	10	10	10
05/30/18	1029	OCEAN	**ENVH 13000**	20	<10	<10
05/30/18	1035	OCEAN	**ENVH 14000**	10	<10	10
05/30/18	1046	OCEAN	**ENVH 19000**	31	<10	20
05/30/18	1106	OCEAN	**ENVH 25000**	20	<10	<10
05/30/18	1125	OCEAN	**ENVH 35000**	10	<10	<10
05/30/18	1141	OCEAN	**ENVH 36000**	10	<10	<10
05/30/18	1143	OCEAN	**ENVH 37000**	52	10	10
05/30/18	1148	OCEAN	**ENVH 38000**	<10	<10	<10
05/30/18	1155	OCEAN	**ENVH 39000**	<10	<10	<10
05/30/18	1159	OCEAN	**ENVH 40000**	<10	<10	<10
05/30/18	1215	OCEAN	**ENVH 41000**	<10	<10	<10
05/30/18	1231	OCEAN	**ENVH 42000**	<10	<10	<10
05/30/18	1240	OCEAN	**ENVH 43000**	<10	<10	<10
05/30/18	****	OCEAN	**ENVH 44000**	NO	SAMPLE	COLLECTED
05/30/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

WATER QUALITY RESULTS

RUN ON: 06/05/18 **FROM COLL DATE: 06/05/18**

THRU COLL DATE: 06/05/18

LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MP N/100 ml
06/05/18	0807	OCEAN	**ENVH 29000**	262	<10	<10
06/05/18	0820	OCEAN	**ENVH 30000**	10	<10	<10
06/05/18	0830	OCEAN	**ENVH 32000**	20	<10	<10
06/05/18	0845	OCEAN	**ENVH 33000**	20	<10	<10
06/05/18	0900	OCEAN	**ENVH 34000**	<10	<10	<10
06/05/18	0910	OCEAN	**ENVH 35000**	<10	<10	<10
06/05/18	0925	OCEAN	**ENVH 36000**	75	20	<10
06/05/18	0930	OCEAN	**ENVH 37000**	10	<10	10
06/05/18	0940	OCEAN	**ENVH 38000**	<10	<10	<10
06/05/18	0950	OCEAN	**ENVH 39000**	<10	<10	<10
06/05/18	1000	OCEAN	**ENVH 40000**	10	<10	<10
06/05/18	1030	OCEAN	**ENVH 41000**	<10	<10	<10
06/05/18	1040	OCEAN	**ENVH 42000**	10	<10	<10
06/05/18	1050	OCEAN	**ENVH 43000**	<10	<10	<10
06/05/18	1120	OCEAN	**ENVH 44000**	<10	<10	<10
06/05/18	1145	OCEAN	**ENVH 45000**	<10	<10	<10
06/05/18	1155	OCEAN	**ENVH 46000**	<10	<10	<10
06/05/18	1205	OCEAN	**ENVH 47000**	<10	<10	10
06/05/18	1220	OCEAN	**ENVH 49500**	52	<10	<10
06/05/18	1225	OCEAN	**ENVH 50000**	<10	<10	<10
06/05/18	1300	OCEAN	**ENVH LAB BLANK**	<10	<10	<10

RUN ON: 06/12/18

WATER QUALITY RESULTS
FROM COLL DATE: 06/12/18
THRU COLL DATE: 06/12/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/12/18	0805	OCEAN	**EN,VH 29,000**	98	<10	<10
06/12/18	0815	OCEAN	**EN,VH 30,000**	132	<10	<10
06/12/18	0830	OCEAN	**EN,VH 32,000**	63	<10	<10
06/12/18	0945	OCEAN	**EN,VH 33,000**	31	<10	<10
06/12/18	0900	OCEAN	**EN,VH 34,000**	10	<10	<10
06/12/18	0905	OCEAN	**EN,VH 35,000**	20	<10	<10
06/12/18	0925	OCEAN	**EN,VH 36,000**	122	121	20
06/12/18	0930	OCEAN	**EN,VH 37,000**	98	98	<10
06/12/18	0935	OCEAN	**EN,VH 38,000**	10	<10	<10
06/12/18	0950	OCEAN	**EN,VH 39,000**	10	<10	<10
06/12/18	1000	OCEAN	**EN,VH 40,000**	<10	<10	<10
06/12/18	1025	OCEAN	**EN,VH 41,000**	<10	<10	<10
06/12/18	1035	OCEAN	**EN,VH 42,000**	<10	<10	<10
06/12/18	1045	OCEAN	**EN,VH 43,000**	<10	<10	<10
06/12/18	1115	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/12/18	1135	OCEAN	**EN,VH 45,000**	<10	<10	<10
06/12/18	1150	OCEAN	**EN,VH 46,000**	<10	<10	<10
06/12/18	1200	OCEAN	**EN,VH 47,000**	10	<10	<10
06/12/18	****	OCEAN	**EN,VH 49,500**	NO	SAMPLE	COLLECTED
06/12/18	1220	OCEAN	**EN,VH 50,000**	<10	<10	<10
06/12/18	1300	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 06/19/18

WATER QUALITY RESULTS
FROM COLL DATE: 06/19/18
THRU COLL DATE: 06/19/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/19/18	0805	OCEAN	**EN,VH 29,000**	<10	<10	<10
06/19/18	0815	OCEAN	**EN,VH 30,000**	<10	<10	<10
06/19/18	0825	OCEAN	**EN,VH 32,000**	10	10	<10
06/19/18	0840	OCEAN	**EN,VH 33,000**	<10	<10	<10
06/19/18	0900	OCEAN	**EN,VH 34,000**	<10	<10	<10
06/19/18	0910	OCEAN	**EN,VH 35,000**	<10	<10	<10
06/19/18	0920	OCEAN	**EN,VH 36,000**	63	<10	10
06/19/18	0925	OCEAN	**EN,VH 37,000**	52	10	31
06/19/18	0930	OCEAN	**EN,VH 38,000**	<10	<10	<10
06/19/18	0950	OCEAN	**EN,VH 39,000**	<10	<10	<10
06/19/18	1000	OCEAN	**EN,VH 40,000**	<10	<10	<10
06/19/18	1030	OCEAN	**EN,VH 41,000**	<10	<10	<10
06/19/18	1040	OCEAN	**EN,VH 42,000**	<10	<10	<10
06/19/18	1050	OCEAN	**EN,VH 43,000**	<10	<10	<10
06/19/18	1120	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/19/18	1145	OCEAN	**EN,VH 45,000**	<10	<10	<10
06/19/18	1155	OCEAN	**EN,VH 46,000**	<10	<10	<10
06/19/18	1205	OCEAN	**EN,VH 47,000**	<10	<10	<10
06/19/18	****	OCEAN	**EN,VH 49,500**	NO	SAMPLE	COLLECTED
06/19/18	1225	OCEAN	**EN,VH 50,000**	<10	<10	<10
06/19/18	1325	OCEAN	**LAB BLANK**	<10	<10	<10

RUN ON: 06/26/18

WATER QUALITY RESULTS
FROM COLL DATE: 06/26/18
THRU COLL DATE: 06/26/18
LOCATION: ENVH, ENVH

Date	Time	Source	Specimen ID	T. COLI MPN/100 ml	E. COLI MPN/100 ml	ENTERO MPN/100 ml
06/26/18	0755	OCEAN	**EN,VH 29,000**	<10	<10	<10
06/26/18	0805	OCEAN	**EN,VH 30,000**	<10	<10	<10
06/26/18	0820	OCEAN	**EN,VH 32,000**	<10	<10	<10
06/26/18	0830	OCEAN	**EN,VH 33,000**	<10	<10	<10
06/26/18	0850	OCEAN	**EN,VH 34,000**	<10	<10	<10
06/26/18	0900	OCEAN	**EN,VH 35,000**	<10	<10	<10
06/26/18	0920	OCEAN	**EN,VH 36,000**	20	<10	99
+06/26/18	0925	OCEAN	**EN,VH 37,000**	41	10	<10
06/26/18	0930	OCEAN	**EN,VH 38,000**	<10	<10	<10
06/26/18	0940	OCEAN	**EN,VH 39,000**	20	<10	<10
06/26/18	0950	OCEAN	**EN,VH 40,000**	<10	<10	<10
06/26/18	1020	OCEAN	**EN,VH 41,000**	<10	<10	<10
06/26/18	1030	OCEAN	**EN,VH 42,000**	<10	<10	<10
06/26/18	1040	OCEAN	**EN,VH 43,000**	<10	<10	<10
06/26/18	1125	OCEAN	**EN,VH 44,000**	<10	<10	<10
06/26/18	1148	OCEAN	**EN,VH 45,000**	<10	<10	<10
06/26/18	1159	OCEAN	**EN,VH 46,000**	<10	<10	<10
06/26/18	1210	OCEAN	**EN,VH 47,000**	41	41	<10
06/26/18	1221	OCEAN	**EN,VH 49,500**	<10	<10	<10
06/26/18	1230	OCEAN	**EN,VH 50,000**	10	<10	<10
06/26/18	1320	OCEAN	**LAB BLANK**	<10	<10	<10

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
1000	OCEAN	2018-07-02	0820	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
1000	OCEAN	2018-07-02	0820	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
1000	OCEAN	2018-07-02	0820	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
4000	OCEAN	2018-07-02	0840	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
4000	OCEAN	2018-07-02	0840	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
4000	OCEAN	2018-07-02	0840	VC	Enterococcus	Enterolert	Results	=	20	MPN/100ml			
7000	OCEAN	2018-07-02	0855	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
7000	OCEAN	2018-07-02	0855	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
7000	OCEAN	2018-07-02	0855	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
10000	OCEAN	2018-07-02	0903	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
10000	OCEAN	2018-07-02	0903	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
10000	OCEAN	2018-07-02	0903	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
11000	OCEAN	2018-07-02	0917	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
11000	OCEAN	2018-07-02	0917	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
11000	OCEAN	2018-07-02	0917	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
13000	OCEAN	2018-07-02	0918	VC	Total Coliforms	Colilert 18 (Total)	Results	=	94	MPN/100ml			
13000	OCEAN	2018-07-02	0918	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
13000	OCEAN	2018-07-02	0918	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
14000	OCEAN	2018-07-02	0930	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
14000	OCEAN	2018-07-02	0930	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
14000	OCEAN	2018-07-02	0930	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
19000	OCEAN	2018-07-02	0945	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
19000	OCEAN	2018-07-02	0945	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
19000	OCEAN	2018-07-02	0945	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
25000	OCEAN	2018-07-02	1000	VC	Total Coliforms	Colilert 18 (Total)	Results	=	573	MPN/100ml			
25000	OCEAN	2018-07-02	1000	VC	E. Coli	Colilert 18 E. coli	Results	=	63	MPN/100ml			
25000	OCEAN	2018-07-02	1000	VC	Enterococcus	Enterolert	Results	=	87	MPN/100ml			
35000	OCEAN	2018-07-02	1024	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
35000	OCEAN	2018-07-02	1024	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
35000	OCEAN	2018-07-02	1024	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
36000	OCEAN	2018-07-02	1038	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
36000	OCEAN	2018-07-02	1038	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
36000	OCEAN	2018-07-02	1038	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
37000	OCEAN	2018-07-02	1041	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
37000	OCEAN	2018-07-02	1041	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
37000	OCEAN	2018-07-02	1041	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
38000	OCEAN	2018-07-02	1044	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
38000	OCEAN	2018-07-02	1044	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
38000	OCEAN	2018-07-02	1044	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
39000	OCEAN	2018-07-02	1055	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
39000	OCEAN	2018-07-02	1055	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
39000	OCEAN	2018-07-02	1055	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
40000	OCEAN	2018-07-02	1100	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
40000	OCEAN	2018-07-02	1100	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
40000	OCEAN	2018-07-02	1100	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
41000	OCEAN	2018-07-02	1120	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
41000	OCEAN	2018-07-02	1120	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
41000	OCEAN	2018-07-02	1120	VC	Enterococcus	Enterolert	Results	=	20	MPN/100ml			
42000	OCEAN	2018-07-02	1130	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
42000	OCEAN	2018-07-02	1130	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
42000	OCEAN	2018-07-02	1130	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
43000	OCEAN	2018-07-02	1138	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
43000	OCEAN	2018-07-02	1138	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
43000	OCEAN	2018-07-02	1138	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			
44000	OCEAN	2018-07-02	1205	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml			
44000	OCEAN	2018-07-02	1205	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml			
44000	OCEAN	2018-07-02	1205	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml			

tationI	npleCateg	ampleDat	artTim	bCo	arameterCod	nalysisMetho	mpleTy	al	Result	Units
29000	OCEAN	2018-07-10	810	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
29000	OCEAN	2018-07-10	810	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
29000	OCEAN	2018-07-10	810	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
30000	OCEAN	2018-07-10	820	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml
30000	OCEAN	2018-07-10	820	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml
30000	OCEAN	2018-07-10	820	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
32000	OCEAN	2018-07-10	830	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
32000	OCEAN	2018-07-10	830	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
32000	OCEAN	2018-07-10	830	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
33000	OCEAN	2018-07-10	840	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
33000	OCEAN	2018-07-10	840	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
33000	OCEAN	2018-07-10	840	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
34000	OCEAN	2018-07-10	850	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
34000	OCEAN	2018-07-10	850	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
34000	OCEAN	2018-07-10	850	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
35000	OCEAN	2018-07-10	900	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
35000	OCEAN	2018-07-10	900	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
35000	OCEAN	2018-07-10	900	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
36000	OCEAN	2018-07-10	920	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml
36000	OCEAN	2018-07-10	920	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml
36000	OCEAN	2018-07-10	920	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml
37000	OCEAN	2018-07-10	925	VC	Total Coliforms	Colilert 18 (Total)	Results	=	52	MPN/100ml
37000	OCEAN	2018-07-10	925	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml
37000	OCEAN	2018-07-10	925	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
38000	OCEAN	2018-07-10	930	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
38000	OCEAN	2018-07-10	930	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
38000	OCEAN	2018-07-10	930	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
39000	OCEAN	2018-07-10	940	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml
39000	OCEAN	2018-07-10	940	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml
39000	OCEAN	2018-07-10	940	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
40000	OCEAN	2018-07-10	945	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
40000	OCEAN	2018-07-10	945	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
40000	OCEAN	2018-07-10	945	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
41000	OCEAN	2018-07-10	1005	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
41000	OCEAN	2018-07-10	1005	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
41000	OCEAN	2018-07-10	1005	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml
42000	OCEAN	2018-07-10	1020	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
42000	OCEAN	2018-07-10	1020	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
42000	OCEAN	2018-07-10	1020	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
43000	OCEAN	2018-07-10	1025	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml
43000	OCEAN	2018-07-10	1025	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
43000	OCEAN	2018-07-10	1025	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
44000	OCEAN	2018-07-10	1050	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
44000	OCEAN	2018-07-10	1050	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
44000	OCEAN	2018-07-10	1050	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
45000	OCEAN	2018-07-10	1115	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
45000	OCEAN	2018-07-10	1115	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
45000	OCEAN	2018-07-10	1115	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml
46000	OCEAN	2018-07-10	1125	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
46000	OCEAN	2018-07-10	1125	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
46000	OCEAN	2018-07-10	1125	VC	Enterococcus	Enterolert	Results	=	31	MPN/100ml
47000	OCEAN	2018-07-10	1140	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml

47000	OCEAN	2018-07-10	1140	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml
47000	OCEAN	2018-07-10	1140	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
49500	OCEAN	2018-07-10	1155	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
49500	OCEAN	2018-07-10	1155	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
49500	OCEAN	2018-07-10	1155	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
50000	OCEAN	2018-07-10	1210	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
50000	OCEAN	2018-07-10	1210	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
50000	OCEAN	2018-07-10	1210	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml
BLANK	OCEAN	2018-07-10	1300	VC	Total Coliforms	Colilert 18 (Total)	Results	=	<10	MPN/100ml
BLANK	OCEAN	2018-07-10	1300	VC	E. Coli	Colilert 18 E. coli	Results	=	<10	MPN/100ml
BLANK	OCEAN	2018-07-10	1300	VC	Enterococcus	Enterolert	Results	=	<10	MPN/100ml

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-07-17	8:11	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
29000	OCEAN	2018-07-17	8:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	2018-07-17	8:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-07-17	8:19	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
30000	OCEAN	2018-07-17	8:19	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-07-17	8:19	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-07-17	8:31	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	2018-07-17	8:31	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-07-17	8:31	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-07-17	8:45	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	2018-07-17	8:45	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	2018-07-17	8:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-07-17	09:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
34000	OCEAN	2018-07-17	09:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-07-17	09:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-07-17	9:10	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
35000	OCEAN	2018-07-17	9:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-07-17	9:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-07-17	9:24	VC	Total Coliforms	Colilert 18 (Total)	Results	=	132	MPN/100ml			
36000	OCEAN	2018-07-17	9:24	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
36000	OCEAN	2018-07-17	9:24	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-07-17	9:26	VC	Total Coliforms	Colilert 18 (Total)	Results	=	368	MPN/100ml			
37000	OCEAN	2018-07-17	9:26	VC	E. Coli	Colilert 18 E. coli	Results	=	75	MPN/100ml			
37000	OCEAN	2018-07-17	9:26	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
38000	OCEAN	2018-07-17	9:31	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
38000	OCEAN	2018-07-17	9:31	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-07-17	9:31	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
39000	OCEAN	2018-07-17	9:39	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
39000	OCEAN	2018-07-17	9:39	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	2018-07-17	9:39	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-07-17	9:45	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
40000	OCEAN	2018-07-17	9:45	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
40000	OCEAN	2018-07-17	9:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-07-17	10:09	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
41000	OCEAN	2018-07-17	10:09	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	2018-07-17	10:09	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-07-17	10:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
42000	OCEAN	2018-07-17	10:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-07-17	10:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-07-17	10:25	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
43000	OCEAN	2018-07-17	10:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-07-17	10:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-07-17	11:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
44000	OCEAN	2018-07-17	11:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	2018-07-17	11:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-07-17	11:17	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
45000	OCEAN	2018-07-17	11:17	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
45000	OCEAN	2018-07-17	11:17	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
46000	OCEAN	2018-07-17	11:30	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
46000	OCEAN	2018-07-17	11:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-07-17	11:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-07-17	11:45	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
47000	OCEAN	2018-07-17	11:45	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
47000	OCEAN	2018-07-17	11:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-07-17	11:55	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
49500	OCEAN	2018-07-17	11:55	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-07-17	11:55	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
50000	OCEAN	2018-07-17	12:04	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
50000	OCEAN	2018-07-17	12:04	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	2018-07-17	12:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-17	13:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-17	13:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-17	13:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-07-24	08:18	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
29000	OCEAN	2018-07-24	08:18	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	2018-07-24	08:18	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-07-24	08:24	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
30000	OCEAN	2018-07-24	08:24	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-07-24	08:24	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-07-24	08:39	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	2018-07-24	08:39	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-07-24	08:39	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-07-24	08:47	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	2018-07-24	08:47	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	2018-07-24	08:47	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-07-24	08:54	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
34000	OCEAN	2018-07-24	08:54	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-07-24	08:54	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-07-24	9:04	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
35000	OCEAN	2018-07-24	9:04	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-07-24	9:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-07-24	9:17	VC	Total Coliforms	Colilert 18 (Total)	Results	=	86	MPN/100ml			
36000	OCEAN	2018-07-24	9:17	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
36000	OCEAN	2018-07-24	9:17	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-07-24	9:21	VC	Total Coliforms	Colilert 18 (Total)	Results	=	98	MPN/100ml			
37000	OCEAN	2018-07-24	9:21	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
37000	OCEAN	2018-07-24	9:21	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	2018-07-24	9:26	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
38000	OCEAN	2018-07-24	9:26	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-07-24	9:26	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-07-24	9:33	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
39000	OCEAN	2018-07-24	9:33	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	2018-07-24	9:33	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-07-24	9:38	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
40000	OCEAN	2018-07-24	9:38	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
40000	OCEAN	2018-07-24	9:38	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-07-24	10:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
41000	OCEAN	2018-07-24	10:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	2018-07-24	10:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-07-24	10:11	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
42000	OCEAN	2018-07-24	10:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-07-24	10:11	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
43000	OCEAN	2018-07-24	10:16	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
43000	OCEAN	2018-07-24	10:16	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-07-24	10:16	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-07-24	10:44	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
44000	OCEAN	2018-07-24	10:44	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	2018-07-24	10:44	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-07-24	11:04	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
45000	OCEAN	2018-07-24	11:04	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
45000	OCEAN	2018-07-24	11:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
46000	OCEAN	2018-07-24	11:13	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
46000	OCEAN	2018-07-24	11:13	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-07-24	11:13	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-07-24	11:22	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
47000	OCEAN	2018-07-24	11:22	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			

47000	OCEAN	2018-07-24	11:22	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-07-24	11:33	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
49500	OCEAN	2018-07-24	11:33	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-07-24	11:33	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
50000	OCEAN	2018-07-24	11:46	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
50000	OCEAN	2018-07-24	11:46	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	2018-07-24	11:46	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-24	13:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-24	13:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-24	13:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-07-31	8:27	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.19788742	-119.2486877
29000	OCEAN	2018-07-31	8:27	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.19788742	-119.2486877
29000	OCEAN	2018-07-31	8:27	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.19788742	-119.2486877
30000	OCEAN	2018-07-31	8:38	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.19034958	-119.2445755
30000	OCEAN	2018-07-31	8:38	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.19034958	-119.2445755
30000	OCEAN	2018-07-31	8:38	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.19034958	-119.2445755
32000	OCEAN	2018-07-31	8:52	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.17873001	-119.2384567
32000	OCEAN	2018-07-31	8:52	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.17873001	-119.2384567
32000	OCEAN	2018-07-31	8:52	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.17873001	-119.2384567
33000	OCEAN	2018-07-31	9:07	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.17651749	-119.2370834
33000	OCEAN	2018-07-31	9:07	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.17651749	-119.2370834
33000	OCEAN	2018-07-31	9:07	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.17651749	-119.2370834
34000	OCEAN	2018-07-31	9:20	VC	Total Coliforms	Colilert 18 (Total)	Results		10	MPN/100ml		34.16858673	-119.233078
34000	OCEAN	2018-07-31	9:20	VC	E. Coli	Colilert 18 E. coli	Results		10	MPN/100ml		34.16858673	-119.233078
34000	OCEAN	2018-07-31	9:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.16858673	-119.233078
35000	OCEAN	2018-07-31	9:31	VC	Total Coliforms	Colilert 18 (Total)	Results		52	MPN/100ml		34.16327667	-119.2302933
35000	OCEAN	2018-07-31	9:31	VC	E. Coli	Colilert 18 E. coli	Results		10	MPN/100ml		34.16327667	-119.2302933
35000	OCEAN	2018-07-31	9:31	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.16327667	-119.2302933
36000	OCEAN	2018-07-31	9:49	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.16123	-119.22247
36000	OCEAN	2018-07-31	9:49	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.16123	-119.22247
36000	OCEAN	2018-07-31	9:49	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.16123	-119.22247
37000	OCEAN	2018-07-31	9:52	VC	Total Coliforms	Colilert 18 (Total)	Results		41	MPN/100ml		34.1601	-119.22232
37000	OCEAN	2018-07-31	9:52	VC	E. Coli	Colilert 18 E. coli	Results		20	MPN/100ml		34.1601	-119.22232
37000	OCEAN	2018-07-31	9:52	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.1601	-119.22232
38000	OCEAN	2018-07-31	10:02	VC	Total Coliforms	Colilert 18 (Total)	Results		20	MPN/100ml		34.15727234	-119.2254257
38000	OCEAN	2018-07-31	10:02	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.15727234	-119.2254257
38000	OCEAN	2018-07-31	10:02	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.15727234	-119.2254257
39000	OCEAN	2018-07-31	10:11	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.15243912	-119.2201004
39000	OCEAN	2018-07-31	10:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.15243912	-119.2201004
39000	OCEAN	2018-07-31	10:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.15243912	-119.2201004
40000	OCEAN	2018-07-31	10:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.14738846	-119.2168274
40000	OCEAN	2018-07-31	10:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.14738846	-119.2168274
40000	OCEAN	2018-07-31	10:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.14738846	-119.2168274
41000	OCEAN	2018-07-31	10:49	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.14133835	-119.1951523
41000	OCEAN	2018-07-31	10:49	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.14133835	-119.1951523
41000	OCEAN	2018-07-31	10:49	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.14133835	-119.1951523
42000	OCEAN	2018-07-31	10:58	VC	Total Coliforms	Colilert 18 (Total)	Results		63	MPN/100ml		34.13898849	-119.1892395
42000	OCEAN	2018-07-31	10:58	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.13898849	-119.1892395
42000	OCEAN	2018-07-31	10:58	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.13898849	-119.1892395
43000	OCEAN	2018-07-31	11:07	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.13576889	-119.1836472
43000	OCEAN	2018-07-31	11:07	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.13576889	-119.1836472
43000	OCEAN	2018-07-31	11:07	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.13576889	-119.1836472
44000	OCEAN	2018-07-31	11:35	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.11952972	-119.160408
44000	OCEAN	2018-07-31	11:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.11952972	-119.160408
44000	OCEAN	2018-07-31	11:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.11952972	-119.160408
45000	OCEAN	2018-07-31	12:01	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.08780289	-119.0653305
45000	OCEAN	2018-07-31	12:01	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.08780289	-119.0653305
45000	OCEAN	2018-07-31	12:01	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.08780289	-119.0653305
46000	OCEAN	2018-07-31	12:12	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.07519913	-119.0237045
46000	OCEAN	2018-07-31	12:12	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.07519913	-119.0237045
46000	OCEAN	2018-07-31	12:12	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.07519913	-119.0237045
47000	OCEAN	2018-07-31	12:19	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.070354	-119.014049
47000	OCEAN	2018-07-31	12:19	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.070354	-119.014049
47000	OCEAN	2018-07-31	12:19	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.070354	-119.014049
49500	OCEAN	2018-07-31	12:30	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.051551	-118.959972
49500	OCEAN	2018-07-31	12:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.051551	-118.959972
49500	OCEAN	2018-07-31	12:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.051551	-118.959972
50000	OCEAN	2018-07-31	12:38	VC	Total Coliforms	Colilert 18 (Total)	Results		41	MPN/100ml		34.047184	-119.014049
50000	OCEAN	2018-07-31	12:38	VC	E. Coli	Colilert 18 E. coli	Results		10	MPN/100ml		34.047184	-119.014049
50000	OCEAN	2018-07-31	12:38	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.047184	-119.014049
BLANK	OCEAN	2018-07-31	13:30	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-31	13:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-07-31	13:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-08-07	08:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.19788742	-119.2486877
29000	OCEAN	2018-08-07	08:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.19788742	-119.2486877
29000	OCEAN	2018-08-07	08:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.19788742	-119.2486877
30000	OCEAN	2018-08-07	08:28	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.19034958	-119.2445755
30000	OCEAN	2018-08-07	08:28	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.19034958	-119.2445755
30000	OCEAN	2018-08-07	08:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.19034958	-119.2445755
32000	OCEAN	2018-08-07	08:53	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.17873001	-119.2384567
32000	OCEAN	2018-08-07	08:53	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.17873001	-119.2384567
32000	OCEAN	2018-08-07	08:53	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.17873001	-119.2384567
33000	OCEAN	2018-08-07	09:05	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.17651749	-119.2370834
33000	OCEAN	2018-08-07	09:05	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.17651749	-119.2370834
33000	OCEAN	2018-08-07	09:05	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.17651749	-119.2370834
34000	OCEAN	2018-08-07	09:16	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.16858673	-119.233078
34000	OCEAN	2018-08-07	09:16	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.16858673	-119.233078
34000	OCEAN	2018-08-07	09:16	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.16858673	-119.233078
35000	OCEAN	2018-08-07	****	VC	Total Coliforms	Colilert 18 (Total)	Results	NO	NO	MPN/100ml		34.16327667	-119.2302933
35000	OCEAN	2018-08-07	****	VC	E. Coli	Colilert 18 E. coli	Results	SAMPLE	SAMPLE	MPN/100ml		34.16327667	-119.2302933
35000	OCEAN	2018-08-07	****	VC	Enterococcus	Enterolert	Results	****	****	MPN/100ml		34.16327667	-119.2302933
36000	OCEAN	2018-08-07	9:45	VC	Total Coliforms	Colilert 18 (Total)	Results	=	173	MPN/100ml		34.16123	-119.22247
36000	OCEAN	2018-08-07	9:45	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.16123	-119.22247
36000	OCEAN	2018-08-07	9:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.16123	-119.22247
37000	OCEAN	2018-08-07	10:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.1601	-119.22232
37000	OCEAN	2018-08-07	10:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.1601	-119.22232
37000	OCEAN	2018-08-07	10:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.1601	-119.22232
38000	OCEAN	2018-08-07	10:07	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.15727234	-119.2254257
38000	OCEAN	2018-08-07	10:07	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.15727234	-119.2254257
38000	OCEAN	2018-08-07	10:07	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.15727234	-119.2254257
39000	OCEAN	2018-08-07	10:18	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.15243912	-119.2201004
39000	OCEAN	2018-08-07	10:18	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.15243912	-119.2201004
39000	OCEAN	2018-08-07	10:18	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.15243912	-119.2201004
40000	OCEAN	2018-08-07	10:25	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.14738846	-119.2168274
40000	OCEAN	2018-08-07	10:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.14738846	-119.2168274
40000	OCEAN	2018-08-07	10:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.14738846	-119.2168274
41000	OCEAN	2018-08-07	10:48	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.14133835	-119.1951523
41000	OCEAN	2018-08-07	10:48	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.14133835	-119.1951523
41000	OCEAN	2018-08-07	10:48	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.14133835	-119.1951523
42000	OCEAN	2018-08-07	11:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml		34.13898849	-119.1892395
42000	OCEAN	2018-08-07	11:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.13898849	-119.1892395
42000	OCEAN	2018-08-07	11:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.13898849	-119.1892395
43000	OCEAN	2018-08-07	11:09	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.13576889	-119.1836472
43000	OCEAN	2018-08-07	11:09	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.13576889	-119.1836472
43000	OCEAN	2018-08-07	11:09	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.13576889	-119.1836472
44000	OCEAN	2018-08-07	11:37	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml		34.11952972	-119.160408
44000	OCEAN	2018-08-07	11:37	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml		34.11952972	-119.160408
44000	OCEAN	2018-08-07	11:37	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.11952972	-119.160408
45000	OCEAN	2018-08-07	12:14	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.08780289	-119.0653305
45000	OCEAN	2018-08-07	12:14	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.08780289	-119.0653305
45000	OCEAN	2018-08-07	12:14	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.08780289	-119.0653305
46000	OCEAN	2018-08-07	12:23	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml		34.07519913	-119.0237045
46000	OCEAN	2018-08-07	12:23	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.07519913	-119.0237045
46000	OCEAN	2018-08-07	12:23	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.07519913	-119.0237045
47000	OCEAN	2018-08-07	12:34	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.070354	-119.014049
47000	OCEAN	2018-08-07	12:34	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.070354	-119.014049
47000	OCEAN	2018-08-07	12:34	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.070354	-119.014049
49500	OCEAN	2018-08-07	12:46	VC	Total Coliforms	Colilert 18 (Total)	Results	=	199	MPN/100ml		34.051551	-118.959972
49500	OCEAN	2018-08-07	12:46	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.051551	-118.959972
49500	OCEAN	2018-08-07	12:46	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.051551	-118.959972
50000	OCEAN	2018-08-07	12:59	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml		34.047184	-119.014049
50000	OCEAN	2018-08-07	12:59	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml		34.047184	-119.014049
50000	OCEAN	2018-08-07	12:59	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml		34.047184	-119.014049
BLANK	OCEAN	2018-08-07	13:35	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-07	13:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-07	13:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-08-13	8:19	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
29000	OCEAN	2018-08-13	8:19	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
29000	OCEAN	2018-08-13	8:19	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-13	8:26	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-13	8:26	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-13	8:26	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-13	8:35	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-13	8:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-13	8:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-08-13	8:43	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	2018-08-13	8:43	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	2018-08-13	8:43	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-13	8:54	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-13	8:54	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-13	8:54	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-08-13	9:01	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
35000	OCEAN	2018-08-13	9:01	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
35000	OCEAN	2018-08-13	9:01	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-08-13	9:15	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
36000	OCEAN	2018-08-13	9:15	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
36000	OCEAN	2018-08-13	9:15	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
37000	OCEAN	2018-08-13	9:22	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
37000	OCEAN	2018-08-13	9:22	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
37000	OCEAN	2018-08-13	9:22	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	2018-08-13	9:28	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
38000	OCEAN	2018-08-13	9:28	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-08-13	9:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-08-13	9:37	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
39000	OCEAN	2018-08-13	9:37	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	2018-08-13	9:37	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-08-13	9:44	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
40000	OCEAN	2018-08-13	9:44	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
40000	OCEAN	2018-08-13	9:44	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-13	10:04	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
41000	OCEAN	2018-08-13	10:04	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-13	10:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-13	10:11	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-13	10:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-13	10:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-08-13	10:16	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
43000	OCEAN	2018-08-13	10:16	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-08-13	10:16	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-08-13	10:44	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
44000	OCEAN	2018-08-13	10:44	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	2018-08-13	10:44	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-08-13	11:11	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
45000	OCEAN	2018-08-13	11:11	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
45000	OCEAN	2018-08-13	11:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-13	11:18	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
46000	OCEAN	2018-08-13	11:18	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-13	11:18	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-08-13	11:29	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
47000	OCEAN	2018-08-13	11:29	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			

47000	OCEAN	2018-08-13	11:29	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-08-13	11:42	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
49500	OCEAN	2018-08-13	11:42	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-08-13	11:42	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
50000	OCEAN	2018-08-13	11:52	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
50000	OCEAN	2018-08-13	11:52	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	2018-08-13	11:52	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-13	13:10	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-13	13:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-13	13:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-08-21	08:16	VC	Total Coliforms	Colilert 18 (Total)	Results	>	24,196	MPN/100ml			
29000	OCEAN	2018-08-21	08:16	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	2018-08-21	08:16	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-21	08:30	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
30000	OCEAN	2018-08-21	08:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-21	08:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-21	08:42	VC	Total Coliforms	Colilert 18 (Total)	Results	=	12,997	MPN/100ml			
32000	OCEAN	2018-08-21	08:42	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-21	08:42	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-08-21	08:56	VC	Total Coliforms	Colilert 18 (Total)	Results	=	179	MPN/100ml			
33000	OCEAN	2018-08-21	08:56	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
33000	OCEAN	2018-08-21	08:56	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-21	09:06	VC	Total Coliforms	Colilert 18 (Total)	Results	=	390	MPN/100ml			
34000	OCEAN	2018-08-21	09:06	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-21	09:06	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-08-21	9:17	VC	Total Coliforms	Colilert 18 (Total)	Results	=	102	MPN/100ml			
35000	OCEAN	2018-08-21	9:17	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-08-21	9:17	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-08-21	9:54	VC	Total Coliforms	Colilert 18 (Total)	Results	=	5,794	MPN/100ml			
36000	OCEAN	2018-08-21	9:54	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
36000	OCEAN	2018-08-21	9:54	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-08-21	9:58	VC	Total Coliforms	Colilert 18 (Total)	Results	=	2,987	MPN/100ml			
37000	OCEAN	2018-08-21	9:58	VC	E. Coli	Colilert 18 E. coli	Results	=	1,553	MPN/100ml			
37000	OCEAN	2018-08-21	9:58	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	2018-08-21	10:06	VC	Total Coliforms	Colilert 18 (Total)	Results	=	192	MPN/100ml			
38000	OCEAN	2018-08-21	10:06	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-08-21	10:06	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-08-21	10:16	VC	Total Coliforms	Colilert 18 (Total)	Results	=	74	MPN/100ml			
39000	OCEAN	2018-08-21	10:16:00 AM	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
39000	OCEAN	2018-08-21	10:16:00 AM	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-08-21	10:23	VC	Total Coliforms	Colilert 18 (Total)	Results	=	86	MPN/100ml			
40000	OCEAN	2018-08-21	10:23	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
40000	OCEAN	2018-08-21	10:23	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-21	10:46	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
41000	OCEAN	2018-08-21	10:46	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-21	10:46	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-21	10:55	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
42000	OCEAN	2018-08-21	10:55	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-21	10:55	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-08-21	11:04	VC	Total Coliforms	Colilert 18 (Total)	Results	=	116	MPN/100ml			
43000	OCEAN	2018-08-21	11:04	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-08-21	11:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-08-21	11:33	VC	Total Coliforms	Colilert 18 (Total)	Results	=	75	MPN/100ml			
44000	OCEAN	2018-08-21	11:33	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	2018-08-21	11:33	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-08-21	11:56	VC	Total Coliforms	Colilert 18 (Total)	Results	=	127	MPN/100ml			
45000	OCEAN	2018-08-21	11:56	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
45000	OCEAN	2018-08-21	11:56	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-21	12:03	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
46000	OCEAN	2018-08-21	12:03	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-21	12:03	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-08-21	12:10	VC	Total Coliforms	Colilert 18 (Total)	Results	=	40	MPN/100ml			
47000	OCEAN	2018-08-21	12:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			

47000	OCEAN	2018-08-21	12:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-08-21	12:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
49500	OCEAN	2018-08-21	12:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-08-21	12:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
50000	OCEAN	2018-08-21	12:27	VC	Total Coliforms	Colilert 18 (Total)	Results	=	30	MPN/100ml			
50000	OCEAN	2018-08-21	12:27	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	2018-08-21	12:27	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-21	1:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-21	1:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-21	1:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-08-28	08:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
29000	OCEAN	2018-08-28	08:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	2018-08-28	08:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-28	08:28	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
30000	OCEAN	2018-08-28	08:28	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-08-28	08:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-28	08:37	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-28	08:37	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-08-28	08:37	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-08-28	08:47	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
33000	OCEAN	2018-08-28	08:47	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	2018-08-28	08:47	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-28	08:56	VC	Total Coliforms	Colilert 18 (Total)	Results	=	30	MPN/100ml			
34000	OCEAN	2018-08-28	08:56	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-08-28	08:56	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-08-28	9:11	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
35000	OCEAN	2018-08-28	9:11:00 AM	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-08-28	9:11:00 AM	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-08-28	9:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
36000	OCEAN	2018-08-28	9:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
36000	OCEAN	2018-08-28	9:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-08-28	9:29	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
37000	OCEAN	2018-08-28	9:29	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
37000	OCEAN	2018-08-28	9:29	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	2018-08-28	9:34	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
38000	OCEAN	2018-08-28	9:34	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
38000	OCEAN	2018-08-28	9:34	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-08-28	9:44	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
39000	OCEAN	2018-08-28	9:44	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	2018-08-28	9:44	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-08-28	9:51	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
40000	OCEAN	2018-08-28	9:51	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
40000	OCEAN	2018-08-28	9:51	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-28	10:11	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-28	10:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	2018-08-28	10:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-28	10:22	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
42000	OCEAN	2018-08-28	10:22	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-08-28	10:22	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-08-28	10:29	VC	Total Coliforms	Colilert 18 (Total)	Results	=	73	MPN/100ml			
43000	OCEAN	2018-08-28	10:29	VC	E. Coli	Colilert 18 E. coli	Results	=	41	MPN/100ml			
43000	OCEAN	2018-08-28	10:29	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
44000	OCEAN	2018-08-28	10:57	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
44000	OCEAN	2018-08-28	10:57	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
44000	OCEAN	2018-08-28	10:57	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-08-28	11:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
45000	OCEAN	2018-08-28	11:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
45000	OCEAN	2018-08-28	11:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-28	11:27	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-28	11:27	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-08-28	11:27	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-08-28	11:39	VC	Total Coliforms	Colilert 18 (Total)	Results	=	120	MPN/100ml			
47000	OCEAN	2018-08-28	11:39	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			

47000	OCEAN	2018-08-28	11:39	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-08-28	11:51	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
49500	OCEAN	2018-08-28	11:51	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-08-28	11:51	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
50000	OCEAN	2018-08-28	12:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
50000	OCEAN	2018-08-28	12:00	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
50000	OCEAN	2018-08-28	12:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-28	12:50	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-28	12:50	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-08-28	12:50	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
1000	OCEAN	2018-09-04	08:30	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
1000	OCEAN	2018-09-04	08:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
1000	OCEAN	2018-09-04	08:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
4000	OCEAN	2018-09-04	08:47	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
4000	OCEAN	2018-09-04	08:47	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
4000	OCEAN	2018-09-04	08:47	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
7000	OCEAN	2018-09-04	08:57	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
7000	OCEAN	2018-09-04	08:57	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
7000	OCEAN	2018-09-04	08:57	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
10000	OCEAN	2018-09-04	09:04	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
10000	OCEAN	2018-09-04	09:04	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
10000	OCEAN	2018-09-04	09:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
11000	OCEAN	2018-09-04	09:12	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
11000	OCEAN	2018-09-04	09:12	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
11000	OCEAN	2018-09-04	09:12	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
13000	OCEAN	2018-09-04	9:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
13000	OCEAN	2018-09-04	9:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
13000	OCEAN	2018-09-04	9:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
14000	OCEAN	2018-09-04	9:35	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
14000	OCEAN	2018-09-04	9:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
14000	OCEAN	2018-09-04	9:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
19000	OCEAN	2018-09-04	9:41	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
19000	OCEAN	2018-09-04	9:41	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
19000	OCEAN	2018-09-04	9:41	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
25000	OCEAN	2018-09-04	9:56	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
25000	OCEAN	2018-09-04	9:56	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
25000	OCEAN	2018-09-04	9:56	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-04	10:22	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-04	10:22	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-04	10:22	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-09-04	10:33	VC	Total Coliforms	Colilert 18 (Total)	Results	=	148	MPN/100ml			
36000	OCEAN	2018-09-04	10:33	VC	E. Coli	Colilert 18 E. coli	Results	=	41	MPN/100ml			
36000	OCEAN	2018-09-04	10:33	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-09-04	10:37	VC	Total Coliforms	Colilert 18 (Total)	Results	=	504	MPN/100ml			
37000	OCEAN	2018-09-04	10:37	VC	E. Coli	Colilert 18 E. coli	Results	=	41	MPN/100ml			
37000	OCEAN	2018-09-04	10:37	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	2018-09-04	10:41	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
38000	OCEAN	2018-09-04	10:41	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-09-04	10:41	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-04	10:49	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-04	10:49	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-04	10:49	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-04	10:56	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-04	10:56	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-04	10:56	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-09-04	11:19	VC	Total Coliforms	Colilert 18 (Total)	Results	=	336	MPN/100ml			
41000	OCEAN	2018-09-04	11:19	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
41000	OCEAN	2018-09-04	11:19	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-09-04	11:31	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
42000	OCEAN	2018-09-04	11:31	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-09-04	11:31	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-04	11:38	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-04	11:38	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-04	11:38	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

44000	OCEAN	2018-09-04	11:59	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
44000	OCEAN	2018-09-04	11:59	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	2018-09-04	11:59	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-09-11	8:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	51	MPN/100ml			
29000	OCEAN	2018-09-11	8:20	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
29000	OCEAN	2018-09-11	8:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-11	8:27	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
30000	OCEAN	2018-09-11	8:27	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-11	8:27	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-11	8:39	VC	Total Coliforms	Colilert 18 (Total)	Results	=	63	MPN/100ml			
32000	OCEAN	2018-09-11	8:39	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-11	8:39	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-11	8:46	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
33000	OCEAN	2018-09-11	8:46	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
33000	OCEAN	2018-09-11	8:46	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-09-11	8:57	VC	Total Coliforms	Colilert 18 (Total)	Results	=	52	MPN/100ml			
34000	OCEAN	2018-09-11	8:57	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-09-11	8:57	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
35000	OCEAN	2018-09-11	9:06	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
35000	OCEAN	2018-09-11	9:06	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-11	9:06	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-09-11	9:18	VC	Total Coliforms	Colilert 18 (Total)	Results	=	85	MPN/100ml			
36000	OCEAN	2018-09-11	9:18	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
36000	OCEAN	2018-09-11	9:18	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-09-11	9:22	VC	Total Coliforms	Colilert 18 (Total)	Results	=	400	MPN/100ml			
37000	OCEAN	2018-09-11	9:22	VC	E. Coli	Colilert 18 E. coli	Results	=	328	MPN/100ml			
37000	OCEAN	2018-09-11	9:22	VC	Enterococcus	Enterolert	Results	=	530	MPN/100ml			
38000	OCEAN	2018-09-11	9:27	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
38000	OCEAN	2018-09-11	9:27	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
38000	OCEAN	2018-09-11	9:27	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-11	9:37	VC	Total Coliforms	Colilert 18 (Total)	Results	=	63	MPN/100ml			
39000	OCEAN	2018-09-11	9:37	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
39000	OCEAN	2018-09-11	9:37	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-11	9:45	VC	Total Coliforms	Colilert 18 (Total)	Results	=	85	MPN/100ml			
40000	OCEAN	2018-09-11	9:45	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
40000	OCEAN	2018-09-11	9:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-09-11	10:07	VC	Total Coliforms	Colilert 18 (Total)	Results	=	63	MPN/100ml			
41000	OCEAN	2018-09-11	10:07	VC	E. Coli	Colilert 18 E. coli	Results	=	52	MPN/100ml			
41000	OCEAN	2018-09-11	10:07	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-09-11	10:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	97	MPN/100ml			
42000	OCEAN	2018-09-11	10:20	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
42000	OCEAN	2018-09-11	10:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-11	10:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	110	MPN/100ml			
43000	OCEAN	2018-09-11	10:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-11	10:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-09-11	10:55	VC	Total Coliforms	Colilert 18 (Total)	Results	=	73	MPN/100ml			
44000	OCEAN	2018-09-11	10:55	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
44000	OCEAN	2018-09-11	10:55	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-09-11	11:17	VC	Total Coliforms	Colilert 18 (Total)	Results	=	256	MPN/100ml			
45000	OCEAN	2018-09-11	11:17	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
45000	OCEAN	2018-09-11	11:17	VC	Enterococcus	Enterolert	Results	=	20	MPN/100ml			
46000	OCEAN	2018-09-11	11:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	160	MPN/100ml			
46000	OCEAN	2018-09-11	11:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-09-11	11:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-09-11	11:33	VC	Total Coliforms	Colilert 18 (Total)	Results	=	146	MPN/100ml			
47000	OCEAN	2018-09-11	11:33	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
47000	OCEAN	2018-09-11	11:33	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-09-11	11:46	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
49500	OCEAN	2018-09-11	11:46	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
49500	OCEAN	2018-09-11	11:46	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
50000	OCEAN	2018-09-11	12:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
50000	OCEAN	2018-09-11	12:00	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
50000	OCEAN	2018-09-11	12:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-11	13:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-11	1:00:00 PM	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-11	1:00:00 PM	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-09-18	08:14	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
29000	OCEAN	2018-09-18	08:14	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	2018-09-18	08:14	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-18	08:21	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
30000	OCEAN	2018-09-18	08:21	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-18	08:21	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-18	08:35	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
32000	OCEAN	2018-09-18	08:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-18	08:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-18	08:43	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-18	08:43	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-18	08:43	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-09-18	08:51	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
34000	OCEAN	2018-09-18	08:51	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	2018-09-18	08:51	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-18	9:02	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
35000	OCEAN	2018-09-18	9:02	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
35000	OCEAN	2018-09-18	9:02	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-09-18	9:16	VC	Total Coliforms	Colilert 18 (Total)	Results	=	131	MPN/100ml			
36000	OCEAN	2018-09-18	9:16	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
36000	OCEAN	2018-09-18	9:16	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-09-18	9:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	97	MPN/100ml			
37000	OCEAN	2018-09-18	9:20	VC	E. Coli	Colilert 18 E. coli	Results	=	41	MPN/100ml			
37000	OCEAN	2018-09-18	9:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	2018-09-18	9:26	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
38000	OCEAN	2018-09-18	9:26	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-09-18	9:26	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-18	9:35	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
39000	OCEAN	2018-09-18	9:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-18	9:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-18	9:44	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
40000	OCEAN	2018-09-18	9:44	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-18	9:44	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-09-18	10:11	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
41000	OCEAN	2018-09-18	10:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	2018-09-18	10:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
42000	OCEAN	2018-09-18	10:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	52	MPN/100ml			
42000	OCEAN	2018-09-18	10:20	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
42000	OCEAN	2018-09-18	10:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-18	10:26	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
43000	OCEAN	2018-09-18	10:26	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-18	10:26	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-09-18	11:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
44000	OCEAN	2018-09-18	11:00	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
44000	OCEAN	2018-09-18	11:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	2018-09-18	11:19	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
45000	OCEAN	2018-09-18	11:19	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
45000	OCEAN	2018-09-18	11:19	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
46000	OCEAN	2018-09-18	11:28	VC	Total Coliforms	Colilert 18 (Total)	Results	=	75	MPN/100ml			
46000	OCEAN	2018-09-18	11:28	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
46000	OCEAN	2018-09-18	11:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-09-18	11:37	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
47000	OCEAN	2018-09-18	11:37	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
47000	OCEAN	2018-09-18	11:37	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-09-18	11:49	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
49500	OCEAN	2018-09-18	11:49	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-09-18	11:49	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
50000	OCEAN	2018-09-18	11:56	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
50000	OCEAN	2018-09-18	11:56	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	2018-09-18	11:56	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-18	13:10	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-18	13:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-18	13:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	2018-09-25	08:28	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
29000	OCEAN	2018-09-25	08:28	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	2018-09-25	08:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-25	08:47	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-25	08:47	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	2018-09-25	08:47	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-25	09:05	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-25	09:05	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	2018-09-25	09:05	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-25	09:13	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-25	09:13	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	2018-09-25	09:13	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	2018-09-25	09:28	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
34000	OCEAN	2018-09-25	09:28	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
34000	OCEAN	2018-09-25	09:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-25	9:36	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-25	9:36	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	2018-09-25	9:36	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	2018-09-25	9:46	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
36000	OCEAN	2018-09-25	9:46	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
36000	OCEAN	2018-09-25	9:46	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	2018-09-25	9:49	VC	Total Coliforms	Colilert 18 (Total)	Results	=	663	MPN/100ml			
37000	OCEAN	2018-09-25	9:49	VC	E. Coli	Colilert 18 E. coli	Results	=	135	MPN/100ml			
37000	OCEAN	2018-09-25	9:49	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
38000	OCEAN	2018-09-25	9:55	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
38000	OCEAN	2018-09-25	9:55	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
38000	OCEAN	2018-09-25	9:55	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	2018-09-25	10:04	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
39000	OCEAN	2018-09-25	10:04	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
39000	OCEAN	2018-09-25	10:04	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	2018-09-25	10:11	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
40000	OCEAN	2018-09-25	10:11	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
40000	OCEAN	2018-09-25	10:11	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	2018-09-25	10:32	VC	Total Coliforms	Colilert 18 (Total)	Results	=	30	MPN/100ml			
41000	OCEAN	2018-09-25	10:32	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
41000	OCEAN	2018-09-25	10:32	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
42000	OCEAN	2018-09-25	10:41	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
42000	OCEAN	2018-09-25	10:41	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	2018-09-25	10:41	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-25	10:47	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
43000	OCEAN	2018-09-25	10:47	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	2018-09-25	10:47	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	2018-09-25	11:20	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
44000	OCEAN	2018-09-25	11:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	2018-09-25	11:20	VC	Enterococcus	Enterolert	Results	=	53	MPN/100ml			
45000	OCEAN	2018-09-25	11:40	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
45000	OCEAN	2018-09-25	11:40	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
45000	OCEAN	2018-09-25	11:40	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
46000	OCEAN	2018-09-25	11:45	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
46000	OCEAN	2018-09-25	11:45	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	2018-09-25	11:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	2018-09-25	11:51	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
47000	OCEAN	2018-09-25	11:51	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			

47000	OCEAN	2018-09-25	11:51	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	2018-09-25	11:58	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
49500	OCEAN	2018-09-25	11:58	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	2018-09-25	11:58	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
50000	OCEAN	2018-09-25	12:05	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
50000	OCEAN	2018-09-25	12:05	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	2018-09-25	12:05	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-25	13:10	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-25	13:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	2018-09-25	13:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	10/2/2018	8:05	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
29000	OCEAN	10/2/2018	8:05	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	10/2/2018	8:05	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	10/2/2018	8:15	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
30000	OCEAN	10/2/2018	8:15	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	10/2/2018	8:15	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	10/2/2018	8:28	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	10/2/2018	8:28	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	10/2/2018	8:28	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
33000	OCEAN	10/2/2018	8:30	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	10/2/2018	8:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	10/2/2018	8:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	10/2/2018	8:50	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
34000	OCEAN	10/2/2018	8:50	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	10/2/2018	8:50	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	10/2/2018	9:00	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
35000	OCEAN	10/2/2018	9:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	10/2/2018	9:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	10/2/2018	9:13	VC	Total Coliforms	Colilert 18 (Total)	Results	=	52	MPN/100ml			
36000	OCEAN	10/2/2018	9:13	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
36000	OCEAN	10/2/2018	9:13	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
37000	OCEAN	10/2/2018	9:15	VC	Total Coliforms	Colilert 18 (Total)	Results	=	63	MPN/100ml			
37000	OCEAN	10/2/2018	9:15	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
37000	OCEAN	10/2/2018	9:15	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
38000	OCEAN	10/2/2018	9:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
38000	OCEAN	10/2/2018	9:25	VC	E. Coli	Colilert 18 E. coli	Results	=	31	MPN/100ml			
38000	OCEAN	10/2/2018	9:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	10/2/2018	9:35	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
39000	OCEAN	10/2/2018	9:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	10/2/2018	9:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
40000	OCEAN	10/2/2018	9:45	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
40000	OCEAN	10/2/2018	9:45	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
40000	OCEAN	10/2/2018	9:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	10/2/2018	10:05	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
41000	OCEAN	10/2/2018	10:05	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
41000	OCEAN	10/2/2018	10:05	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
42000	OCEAN	10/2/2018	10:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	51	MPN/100ml			
42000	OCEAN	10/2/2018	10:20	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
42000	OCEAN	10/2/2018	10:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	10/2/2018	10:30	VC	Total Coliforms	Colilert 18 (Total)	Results	=	52	MPN/100ml			
43000	OCEAN	10/2/2018	10:30	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
43000	OCEAN	10/2/2018	10:30	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
44000	OCEAN	10/2/2018	11:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
44000	OCEAN	10/2/2018	11:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
44000	OCEAN	10/2/2018	11:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
45000	OCEAN	10/2/2018	11:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
45000	OCEAN	10/2/2018	11:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
45000	OCEAN	10/2/2018	11:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
46000	OCEAN	10/2/2018	11:35	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
46000	OCEAN	10/2/2018	11:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
46000	OCEAN	10/2/2018	11:35	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
47000	OCEAN	10/2/2018	11:45	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
47000	OCEAN	10/2/2018	11:45	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
47000	OCEAN	10/2/2018	11:45	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	10/2/2018	11:55	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
49500	OCEAN	10/2/2018	11:55	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	10/2/2018	11:55	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
50000	OCEAN	10/2/2018	12:10	VC	Total Coliforms	Colilert 18 (Total)	Results	=	30	MPN/100ml			
50000	OCEAN	10/2/2018	12:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
50000	OCEAN	10/2/2018	12:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	10/2/2018	13:15	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	10/2/2018	13:15	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	10/2/2018	13:15	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Results	Units	Comments	Distance	Direction
29000	OCEAN	10/9/2018	08:10	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
29000	OCEAN	10/9/2018	08:11	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
29000	OCEAN	10/9/2018	08:12	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
30000	OCEAN	10/9/2018	08:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
30000	OCEAN	10/9/2018	08:20	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
30000	OCEAN	10/9/2018	08:20	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
32000	OCEAN	10/9/2018	08:30	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
32000	OCEAN	10/9/2018	08:30	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
32000	OCEAN	10/9/2018	08:30	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
33000	OCEAN	10/9/2018	08:40	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
33000	OCEAN	10/9/2018	08:40	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
33000	OCEAN	10/9/2018	08:40	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
34000	OCEAN	10/9/2018	08:55	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
34000	OCEAN	10/9/2018	08:55	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
34000	OCEAN	10/9/2018	08:55	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
35000	OCEAN	10/9/2018	9:10	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
35000	OCEAN	10/9/2018	9:10	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
35000	OCEAN	10/9/2018	9:10	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
36000	OCEAN	10/9/2018	9:15	VC	Total Coliforms	Colilert 18 (Total)	Results	=	31	MPN/100ml			
36000	OCEAN	10/9/2018	9:15	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
36000	OCEAN	10/9/2018	9:15	VC	Enterococcus	Enterolert	Results	=	31	MPN/100ml			
37000	OCEAN	10/9/2018	9:20	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
37000	OCEAN	10/9/2018	9:20	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
37000	OCEAN	10/9/2018	9:20	VC	Enterococcus	Enterolert	Results	=	42	MPN/100ml			
38000	OCEAN	10/9/2018	9:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	62	MPN/100ml			
38000	OCEAN	10/9/2018	9:25	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
38000	OCEAN	10/9/2018	9:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
39000	OCEAN	10/9/2018	9:40	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
39000	OCEAN	10/9/2018	9:40	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
39000	OCEAN	10/9/2018	9:40	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
40000	OCEAN	10/9/2018	9:50	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
40000	OCEAN	10/9/2018	9:50	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
40000	OCEAN	10/9/2018	9:50	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
41000	OCEAN	10/9/2018	10:10	VC	Total Coliforms	Colilert 18 (Total)	Results	=	63	MPN/100ml			
41000	OCEAN	10/9/2018	10:10	VC	E. Coli	Colilert 18 E. coli	Results	=	20	MPN/100ml			
41000	OCEAN	10/9/2018	10:10	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
42000	OCEAN	10/9/2018	10:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	41	MPN/100ml			
42000	OCEAN	10/9/2018	10:25	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
42000	OCEAN	10/9/2018	10:25	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
43000	OCEAN	10/9/2018	10:35	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
43000	OCEAN	10/9/2018	10:35	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
43000	OCEAN	10/9/2018	10:35	VC	Enterococcus	Enterolert	Results	=	10	MPN/100ml			
44000	OCEAN	10/9/2018	11:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
44000	OCEAN	10/9/2018	11:00	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
44000	OCEAN	10/9/2018	11:00	VC	Enterococcus	Enterolert	Results	<	<10	MPN/100ml			
45000	OCEAN	10/9/2018	11:25	VC	Total Coliforms	Colilert 18 (Total)	Results	=	292	MPN/100ml			
45000	OCEAN	10/9/2018	11:25	VC	E. Coli	Colilert 18 E. coli	Results	=	243	MPN/100ml			
45000	OCEAN	10/9/2018	11:25	VC	Enterococcus	Enterolert	Results	<	<10	MPN/100ml			
46000	OCEAN	10/9/2018	11:35	VC	Total Coliforms	Colilert 18 (Total)	Results	=	20	MPN/100ml			
46000	OCEAN	10/9/2018	11:35	VC	E. Coli	Colilert 18 E. coli	Results	<	<10	MPN/100ml			
46000	OCEAN	10/9/2018	11:35	VC	Enterococcus	Enterolert	Results	<	<10	MPN/100ml			
47000	OCEAN	10/9/2018	11:40	VC	Total Coliforms	Colilert 18 (Total)	Results	=	10	MPN/100ml			
47000	OCEAN	10/9/2018	11:40	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
47000	OCEAN	10/9/2018	11:40	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
49500	OCEAN	10/9/2018	12:00	VC	Total Coliforms	Colilert 18 (Total)	Results	=	275	MPN/100ml			
49500	OCEAN	10/9/2018	12:00	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
49500	OCEAN	10/9/2018	12:00	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
50000	OCEAN	10/9/2018	12:15	VC	Total Coliforms	Colilert 18 (Total)	Results	=	635	MPN/100ml			
50000	OCEAN	10/9/2018	12:15	VC	E. Coli	Colilert 18 E. coli	Results	=	10	MPN/100ml			
50000	OCEAN	10/9/2018	12:15	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			
BLANK	OCEAN	10/9/2018	13:15	VC	Total Coliforms	Colilert 18 (Total)	Results	<	10	MPN/100ml			
BLANK	OCEAN	10/9/2018	13:15	VC	E. Coli	Colilert 18 E. coli	Results	<	10	MPN/100ml			
BLANK	OCEAN	10/9/2018	13:15	VC	Enterococcus	Enterolert	Results	<	10	MPN/100ml			

StationID	SampleCategory	SampleDate	StartTime	LabCode	ParameterCode	AnalysisMethod	SampleType	Qualifier	Result	Units	Comments	RL	MDL	DILUTION	Distance
29000	OCEAN	10/16/2018	8:12	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2419.6	0.1	34.19788742
29000	OCEAN	10/16/2018	8:12	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.19788742
29000	OCEAN	10/16/2018	8:12	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19788742
30000	OCEAN	10/16/2018	8:20	VC	Total Coliforms	Colilert 18 (Total)	Result		199	MPN/100ml		2419.6	2419.6	0.1	34.19034958
30000	OCEAN	10/16/2018	8:20	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.19034958
30000	OCEAN	10/16/2018	8:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19034958
32000	OCEAN	10/16/2018	8:35	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2419.6	0.1	34.17873001
32000	OCEAN	10/16/2018	8:35	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.17873001
32000	OCEAN	10/16/2018	8:35	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.17873001
33000	OCEAN	10/16/2018	8:45	VC	Total Coliforms	Colilert 18 (Total)	Result		31	MPN/100ml		2419.6	2419.6	0.1	34.17651749
33000	OCEAN	10/16/2018	8:45	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.17651749
33000	OCEAN	10/16/2018	8:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.17651749
34000	OCEAN	10/16/2018	8:53	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.16858673
34000	OCEAN	10/16/2018	8:53	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.16858673
34000	OCEAN	10/16/2018	8:53	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16858673
35000	OCEAN	10/16/2018	9:03	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.16327667
35000	OCEAN	10/16/2018	9:03	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.16327667
35000	OCEAN	10/16/2018	9:03	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16327667
36000	OCEAN	10/16/2018	9:10	VC	Total Coliforms	Colilert 18 (Total)	Result		620	MPN/100ml		2419.6	2419.6	0.1	34.16123
36000	OCEAN	10/16/2018	9:10	VC	E. Coli	Colilert 18 E. coli	Result		20	MPN/100ml		2419.6	2419.6	0.1	34.16123
36000	OCEAN	10/16/2018	9:10	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.16123
37000	OCEAN	10/16/2018	9:15	VC	Total Coliforms	Colilert 18 (Total)	Result		959	MPN/100ml		2419.6	2419.6	0.1	34.1601
37000	OCEAN	10/16/2018	9:15	VC	E. Coli	Colilert 18 E. coli	Result		31	MPN/100ml		2419.6	2419.6	0.1	34.1601
37000	OCEAN	10/16/2018	9:15	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.1601
38000	OCEAN	10/16/2018	9:20	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.15727234
38000	OCEAN	10/16/2018	9:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.15727234
38000	OCEAN	10/16/2018	9:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.15727234
39000	OCEAN	10/16/2018	9:25	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.15243912
39000	OCEAN	10/16/2018	9:25	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.15243912
39000	OCEAN	10/16/2018	9:25	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.15243912
40000	OCEAN	10/16/2018	9:33	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.14738846
40000	OCEAN	10/16/2018	9:33	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.14738846
40000	OCEAN	10/16/2018	9:33	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.14738846
41000	OCEAN	10/16/2018	9:55	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.14133835
41000	OCEAN	10/16/2018	9:55	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.14133835
41000	OCEAN	10/16/2018	9:55	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.14133835
42000	OCEAN	10/16/2018	10:10	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.13898849
42000	OCEAN	10/16/2018	10:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.13898849
42000	OCEAN	10/16/2018	10:10	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.13898849
43000	OCEAN	10/16/2018	10:20	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.13576889
43000	OCEAN	10/16/2018	10:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.13576889
43000	OCEAN	10/16/2018	10:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.13576889
44000	OCEAN	10/16/2018	10:45	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2419.6	0.1	34.11952972
44000	OCEAN	10/16/2018	10:45	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.11952972
44000	OCEAN	10/16/2018	10:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.11952972
45000	OCEAN	10/16/2018	11:10	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.08780289
45000	OCEAN	10/16/2018	11:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.08780289
45000	OCEAN	10/16/2018	11:10	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.08780289
46000	OCEAN	10/16/2018	11:20	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.07519913
46000	OCEAN	10/16/2018	11:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.07519913
46000	OCEAN	10/16/2018	11:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.07519913
47000	OCEAN	10/16/2018	11:30	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.070354
47000	OCEAN	10/16/2018	11:30	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.070354
47000	OCEAN	10/16/2018	11:30	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.070354
49500	OCEAN	10/16/2018	11:45	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2419.6	0.1	34.051551
49500	OCEAN	10/16/2018	11:45	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.051551
49500	OCEAN	10/16/2018	11:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.051551
50000	OCEAN	10/16/2018	11:55	VC	Total Coliforms	Colilert 18 (Total)	Result		74	MPN/100ml		2419.6	2419.6	0.1	34.047184
50000	OCEAN	10/16/2018	11:55	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2419.6	0.1	34.047184
50000	OCEAN	10/16/2018	11:55	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.047184

StationID	Sample Category	SampleDate	StartTime	Lab Code	ParameterCode	AnalysisMethod	Sample Type	Qualifier	Result	Units	Comments	RL	MDL	DILUTION	Distance	Direction
29000	OCEAN	10/16/2018	8:12	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2420	2420	0.1	34.19788742	-119.2486877
29000	OCEAN	10/16/2018	8:12	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.19788742	-119.2486877
29000	OCEAN	10/16/2018	8:12	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19788742	-119.2486877
30000	OCEAN	10/16/2018	8:20	VC	Total Coliforms	Colilert 18 (Total)	Result		199	MPN/100ml		2420	2420	0.1	34.19034958	-119.2445755
30000	OCEAN	10/16/2018	8:20	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2420	2420	0.1	34.19034958	-119.2445755
30000	OCEAN	10/16/2018	8:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19034958	-119.2445755
32000	OCEAN	10/16/2018	8:35	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2420	2420	0.1	34.17873001	-119.2384567
32000	OCEAN	10/16/2018	8:35	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.17873001	-119.2384567
32000	OCEAN	10/16/2018	8:35	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.17873001	-119.2384567
33000	OCEAN	10/16/2018	8:45	VC	Total Coliforms	Colilert 18 (Total)	Result		31	MPN/100ml		2420	2420	0.1	34.17651749	-119.2370834
33000	OCEAN	10/16/2018	8:45	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2420	2420	0.1	34.17651749	-119.2370834
33000	OCEAN	10/16/2018	8:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.17651749	-119.2370834
34000	OCEAN	10/16/2018	8:53	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.16858673	-119.233078
34000	OCEAN	10/16/2018	8:53	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.16858673	-119.233078
34000	OCEAN	10/16/2018	8:53	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16858673	-119.233078
35000	OCEAN	10/16/2018	9:03	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.16327667	-119.2302933
35000	OCEAN	10/16/2018	9:03	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.16327667	-119.2302933
35000	OCEAN	10/16/2018	9:03	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16327667	-119.2302933
36000	OCEAN	10/16/2018	9:10	VC	Total Coliforms	Colilert 18 (Total)	Result		620	MPN/100ml		2420	2420	0.1	34.16123	-119.22247
36000	OCEAN	10/16/2018	9:10	VC	E. Coli	Colilert 18 E. coli	Result		20	MPN/100ml		2420	2420	0.1	34.16123	-119.22247
36000	OCEAN	10/16/2018	9:10	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.16123	-119.22247
37000	OCEAN	10/16/2018	9:15	VC	Total Coliforms	Colilert 18 (Total)	Result		959	MPN/100ml		2420	2420	0.1	34.1601	-119.22232
37000	OCEAN	10/16/2018	9:15	VC	E. Coli	Colilert 18 E. coli	Result		31	MPN/100ml		2420	2420	0.1	34.1601	-119.22232
37000	OCEAN	10/16/2018	9:15	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.1601	-119.22232
38000	OCEAN	10/16/2018	9:20	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2420	2420	0.1	34.15727234	-119.2254257
38000	OCEAN	10/16/2018	9:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.15727234	-119.2254257
38000	OCEAN	10/16/2018	9:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.15727234	-119.2254257
39000	OCEAN	10/16/2018	9:25	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.15243912	-119.2201004
39000	OCEAN	10/16/2018	9:25	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.15243912	-119.2201004
39000	OCEAN	10/16/2018	9:25	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.15243912	-119.2201004
40000	OCEAN	10/16/2018	9:33	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.14738846	-119.2168274
40000	OCEAN	10/16/2018	9:33	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.14738846	-119.2168274
40000	OCEAN	10/16/2018	9:33	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.14738846	-119.2168274
41000	OCEAN	10/16/2018	9:55	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2420	2420	0.1	34.14133835	-119.1951523
41000	OCEAN	10/16/2018	9:55	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2420	2420	0.1	34.14133835	-119.1951523
41000	OCEAN	10/16/2018	9:55	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.14133835	-119.1951523
42000	OCEAN	10/16/2018	10:10	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2420	2420	0.1	34.13898849	-119.1892395
42000	OCEAN	10/16/2018	10:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.13898849	-119.1892395
42000	OCEAN	10/16/2018	10:10	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.13898849	-119.1892395
43000	OCEAN	10/16/2018	10:20	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.13576889	-119.1836472
43000	OCEAN	10/16/2018	10:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.13576889	-119.1836472
43000	OCEAN	10/16/2018	10:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.13576889	-119.1836472
44000	OCEAN	10/16/2018	10:45	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2420	2420	0.1	34.11952972	-119.160408
44000	OCEAN	10/16/2018	10:45	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.11952972	-119.160408
44000	OCEAN	10/16/2018	10:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.11952972	-119.160408
45000	OCEAN	10/16/2018	11:10	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.08780289	-119.0653305
45000	OCEAN	10/16/2018	11:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.08780289	-119.0653305
45000	OCEAN	10/16/2018	11:10	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.08780289	-119.0653305
46000	OCEAN	10/16/2018	11:20	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1	34.07519913	-119.0237045
46000	OCEAN	10/16/2018	11:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.07519913	-119.0237045
46000	OCEAN	10/16/2018	11:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.07519913	-119.0237045
47000	OCEAN	10/16/2018	11:30	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2420	2420	0.1	34.070354	-119.014049
47000	OCEAN	10/16/2018	11:30	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.070354	-119.014049
47000	OCEAN	10/16/2018	11:30	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.070354	-119.014049
49500	OCEAN	10/16/2018	11:45	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2420	2420	0.1	34.051551	-118.959972
49500	OCEAN	10/16/2018	11:45	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.051551	-118.959972
49500	OCEAN	10/16/2018	11:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.051551	-118.959972
50000	OCEAN	10/16/2018	11:55	VC	Total Coliforms	Colilert 18 (Total)	Result		74	MPN/100ml		2420	2420	0.1	34.047184	-119.014049
50000	OCEAN	10/16/2018	11:55	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1	34.047184	-119.014049
50000	OCEAN	10/16/2018	11:55	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.047184	-119.014049

BLANK	OCEAN	10/16/2018	13:10	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2420	2420	0.1		
BLANK	OCEAN	10/16/2018	13:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2420	2420	0.1		
BLANK	OCEAN	10/16/2018	13:10	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1		

StationID	Sample Category	Sample Date	StartTime	LabCode	ParameterCode	AnalysisMethod	Sample Type	Qualifier	Result	Units	Comments	RL	MDL	DILUTION	Distance	Direction
29000	OCEAN	10/23/2018	8:13	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2420	0.1	34.19788742	-119.2486877
29000	OCEAN	10/23/2018	8:13	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.19788742	-119.2486877
29000	OCEAN	10/23/2018	8:13	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19788742	-119.2486877
30000	OCEAN	10/23/2018	8:25	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.19034958	-119.2445755
30000	OCEAN	10/23/2018	8:25	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.19034958	-119.2445755
30000	OCEAN	10/23/2018	8:25	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19034958	-119.2445755
32000	OCEAN	10/23/2018	8:40	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.17873001	-119.2384567
32000	OCEAN	10/23/2018	8:40	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17873001	-119.2384567
32000	OCEAN	10/23/2018	8:40	VC	Enterococcus	Enterolert	Result		20	MPN/100ml		200.5	200.5	0.1	34.17873001	-119.2384567
33000	OCEAN	10/23/2018	8:55	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17651749	-119.2370834
33000	OCEAN	10/23/2018	8:55	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17651749	-119.2370834
33000	OCEAN	10/23/2018	8:55	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.17651749	-119.2370834
34000	OCEAN	10/23/2018	9:05	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.16858673	-119.233078
34000	OCEAN	10/23/2018	9:05	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16858673	-119.233078
34000	OCEAN	10/23/2018	9:05	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16858673	-119.233078
35000	OCEAN	10/23/2018	9:20	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16327667	-119.2302933
35000	OCEAN	10/23/2018	9:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16327667	-119.2302933
35000	OCEAN	10/23/2018	9:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16327667	-119.2302933
36000	OCEAN	10/23/2018	9:40	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.16123	-119.22247
36000	OCEAN	10/23/2018	9:40	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.16123	-119.22247
36000	OCEAN	10/23/2018	9:40	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16123	-119.22247
37000	OCEAN	10/23/2018	9:45	VC	Total Coliforms	Colilert 18 (Total)	Result		450	MPN/100ml		2419.6	2420	0.1	34.1601	-119.22232
37000	OCEAN	10/23/2018	9:45	VC	E. Coli	Colilert 18 E. coli	Result		86	MPN/100ml		2419.6	2420	0.1	34.1601	-119.22232
37000	OCEAN	10/23/2018	9:45	VC	Enterococcus	Enterolert	Result		75	MPN/100ml		200.5	200.5	0.1	34.1601	-119.22232
38000	OCEAN	10/23/2018	9:48	VC	Total Coliforms	Colilert 18 (Total)	Result		122	MPN/100ml		2419.6	2420	0.1	34.15727234	-119.2254257
38000	OCEAN	10/23/2018	9:48	VC	E. Coli	Colilert 18 E. coli	Result		86	MPN/100ml		2419.6	2420	0.1	34.15727234	-119.2254257
38000	OCEAN	10/23/2018	9:48	VC	Enterococcus	Enterolert	Result		20	MPN/100ml		200.5	200.5	0.1	34.15727234	-119.2254257
39000	OCEAN	10/23/2018	10:00	VC	Total Coliforms	Colilert 18 (Total)	Result		41	MPN/100ml		2419.6	2420	0.1	34.15243912	-119.2201004
39000	OCEAN	10/23/2018	10:00	VC	E. Coli	Colilert 18 E. coli	Result		20	MPN/100ml		2419.6	2420	0.1	34.15243912	-119.2201004
39000	OCEAN	10/23/2018	10:00	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.15243912	-119.2201004
40000	OCEAN	10/23/2018	10:05	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.14738846	-119.2168274
40000	OCEAN	10/23/2018	10:05	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.14738846	-119.2168274
40000	OCEAN	10/23/2018	10:05	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.14738846	-119.2168274
41000	OCEAN	10/23/2018	10:30	VC	Total Coliforms	Colilert 18 (Total)	Result		52	MPN/100ml		2419.6	2420	0.1	34.14133835	-119.1951523
41000	OCEAN	10/23/2018	10:30	VC	E. Coli	Colilert 18 E. coli	Result		31	MPN/100ml		2419.6	2420	0.1	34.14133835	-119.1951523
41000	OCEAN	10/23/2018	10:30	VC	Enterococcus	Enterolert	Result		20	MPN/100ml		200.5	200.5	0.1	34.14133835	-119.1951523
42000	OCEAN	10/23/2018	10:40	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.13898849	-119.1892395
42000	OCEAN	10/23/2018	10:40	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.13898849	-119.1892395
42000	OCEAN	10/23/2018	10:40	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.13898849	-119.1892395
43000	OCEAN	10/23/2018	10:50	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.13576889	-119.1836472
43000	OCEAN	10/23/2018	10:50	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.13576889	-119.1836472
43000	OCEAN	10/23/2018	10:50	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.13576889	-119.1836472
44000	OCEAN	10/23/2018	11:20	VC	Total Coliforms	Colilert 18 (Total)	Result		41	MPN/100ml		2419.6	2420	0.1	34.11952972	-119.160408
44000	OCEAN	10/23/2018	11:20	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.11952972	-119.160408
44000	OCEAN	10/23/2018	11:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.11952972	-119.160408
45000	OCEAN	10/23/2018	11:45	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2420	0.1	34.08780289	-119.0653305
45000	OCEAN	10/23/2018	11:45	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.08780289	-119.0653305
45000	OCEAN	10/23/2018	11:45	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.08780289	-119.0653305
46000	OCEAN	10/23/2018	11:55	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.07519913	-119.0237045
46000	OCEAN	10/23/2018	11:55	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.07519913	-119.0237045
46000	OCEAN	10/23/2018	11:55	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.07519913	-119.0237045
47000	OCEAN	10/23/2018	12:00	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.070354	-119.014049
47000	OCEAN	10/23/2018	12:00	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.070354	-119.014049
47000	OCEAN	10/23/2018	12:00	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.070354	-119.014049
49500	OCEAN	10/23/2018	12:10	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.051551	-118.959972
49500	OCEAN	10/23/2018	12:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.051551	-118.959972
49500	OCEAN	10/23/2018	12:10	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.051551	-118.959972
50000	OCEAN	10/23/2018	12:20	VC	Total Coliforms	Colilert 18 (Total)	Result		119	MPN/100ml		2419.6	2420	0.1	34.047184	-119.014049
50000	OCEAN	10/23/2018	12:20	VC	E. Coli	Colilert 18 E. coli	Result		84	MPN/100ml		2419.6	2420	0.1	34.047184	-119.014049
50000	OCEAN	10/23/2018	12:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.047184	-119.014049

BLANK	OCEAN	10/23/2018	13:10	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1		
BLANK	OCEAN	10/23/2018	13:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1		
BLANK	OCEAN	10/23/2018	13:10	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1		

StationID	Sample Category	Sample Date	StartTime	LabCode	ParameterCode	AnalysisMethod	Sample Type	Qualifier	Result	Units	Comments	RL	MDL	DILUTION	Distance	Direction
29000	OCEAN	10/30/2018	8:15	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.19788742	-119.2486877
29000	OCEAN	10/30/2018	8:15	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.19788742	-119.2486877
29000	OCEAN	10/30/2018	8:15	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19788742	-119.2486877
30000	OCEAN	10/30/2018	8:25	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.19034958	-119.2445755
30000	OCEAN	10/30/2018	8:25	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.19034958	-119.2445755
30000	OCEAN	10/30/2018	8:25	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.19034958	-119.2445755
32000	OCEAN	10/30/2018	8:40	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17873001	-119.2384567
32000	OCEAN	10/30/2018	8:40	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17873001	-119.2384567
32000	OCEAN	10/30/2018	8:40	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.17873001	-119.2384567
33000	OCEAN	10/30/2018	8:50	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17651749	-119.2370834
33000	OCEAN	10/30/2018	8:50	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.17651749	-119.2370834
33000	OCEAN	10/30/2018	8:50	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.17651749	-119.2370834
34000	OCEAN	10/30/2018	9:00	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.16858673	-119.233078
34000	OCEAN	10/30/2018	9:00	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16858673	-119.233078
34000	OCEAN	10/30/2018	9:00	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16858673	-119.233078
35000	OCEAN	10/30/2018	9:10	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16327667	-119.2302933
35000	OCEAN	10/30/2018	9:10	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16327667	-119.2302933
35000	OCEAN	10/30/2018	9:10	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16327667	-119.2302933
36000	OCEAN	10/30/2018	9:25	VC	Total Coliforms	Colilert 18 (Total)	Result		132	MPN/100ml		2419.6	2420	0.1	34.16123	-119.22247
36000	OCEAN	10/30/2018	9:25	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.16123	-119.22247
36000	OCEAN	10/30/2018	9:25	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.16123	-119.22247
37000	OCEAN	10/30/2018	9:30	VC	Total Coliforms	Colilert 18 (Total)	Result		122	MPN/100ml		2419.6	2420	0.1	34.1601	-119.22232
37000	OCEAN	10/30/2018	9:30	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.1601	-119.22232
37000	OCEAN	10/30/2018	9:30	VC	Enterococcus	Enterolert	Result		64	MPN/100ml		200.5	200.5	0.1	34.1601	-119.22232
38000	OCEAN	10/30/2018	9:40	VC	Total Coliforms	Colilert 18 (Total)	Result		20	MPN/100ml		2419.6	2420	0.1	34.15727234	-119.2254257
38000	OCEAN	10/30/2018	9:40	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.15727234	-119.2254257
38000	OCEAN	10/30/2018	9:40	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.15727234	-119.2254257
39000	OCEAN	10/30/2018	9:50	VC	Total Coliforms	Colilert 18 (Total)	Result		41	MPN/100ml		2419.6	2420	0.1	34.15243912	-119.2201004
39000	OCEAN	10/30/2018	9:50	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.15243912	-119.2201004
39000	OCEAN	10/30/2018	9:50	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.15243912	-119.2201004
40000	OCEAN	10/30/2018	10:05	VC	Total Coliforms	Colilert 18 (Total)	Result		31	MPN/100ml		2419.6	2420	0.1	34.14738846	-119.2168274
40000	OCEAN	10/30/2018	10:05	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.14738846	-119.2168274
40000	OCEAN	10/30/2018	10:05	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.14738846	-119.2168274
41000	OCEAN	10/30/2018	10:35	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2420	0.1	34.14133835	-119.1951523
41000	OCEAN	10/30/2018	10:35	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.14133835	-119.1951523
41000	OCEAN	10/30/2018	10:35	VC	Enterococcus	Enterolert	Result		10	MPN/100ml		200.5	200.5	0.1	34.14133835	-119.1951523
42000	OCEAN	10/30/2018	10:50	VC	Total Coliforms	Colilert 18 (Total)	Result		31	MPN/100ml		2419.6	2420	0.1	34.13898849	-119.1892395
42000	OCEAN	10/30/2018	10:50	VC	E. Coli	Colilert 18 E. coli	Result		31	MPN/100ml		2419.6	2420	0.1	34.13898849	-119.1892395
42000	OCEAN	10/30/2018	10:50	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.13898849	-119.1892395
43000	OCEAN	10/30/2018	11:00	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.13576889	-119.1836472
43000	OCEAN	10/30/2018	11:00	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.13576889	-119.1836472
43000	OCEAN	10/30/2018	11:00	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.13576889	-119.1836472
44000	OCEAN	10/30/2018	11:25	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.11952972	-119.160408
44000	OCEAN	10/30/2018	11:25	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.11952972	-119.160408
44000	OCEAN	10/30/2018	11:25	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.11952972	-119.160408
45000	OCEAN	10/30/2018	11:48	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2420	0.1	34.08780289	-119.0653305
45000	OCEAN	10/30/2018	11:48	VC	E. Coli	Colilert 18 E. coli	Result		10	MPN/100ml		2419.6	2420	0.1	34.08780289	-119.0653305
45000	OCEAN	10/30/2018	11:48	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.08780289	-119.0653305
46000	OCEAN	10/30/2018	11:57	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.07519913	-119.0237045
46000	OCEAN	10/30/2018	11:57	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.07519913	-119.0237045
46000	OCEAN	10/30/2018	11:57	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.07519913	-119.0237045
47000	OCEAN	10/30/2018	12:04	VC	Total Coliforms	Colilert 18 (Total)	Result		63	MPN/100ml		2419.6	2420	0.1	34.070354	-119.014049
47000	OCEAN	10/30/2018	12:04	VC	E. Coli	Colilert 18 E. coli	Result		20	MPN/100ml		2419.6	2420	0.1	34.070354	-119.014049
47000	OCEAN	10/30/2018	12:04	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.070354	-119.014049
49500	OCEAN	10/30/2018	12:13	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2420	0.1	34.051551	-118.959972
49500	OCEAN	10/30/2018	12:13	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.051551	-118.959972
49500	OCEAN	10/30/2018	12:13	VC	Enterococcus	Enterolert	Result		20	MPN/100ml		200.5	200.5	0.1	34.051551	-118.959972
50000	OCEAN	10/30/2018	12:23	VC	Total Coliforms	Colilert 18 (Total)	Result		10	MPN/100ml		2419.6	2420	0.1	34.047184	-119.014049
50000	OCEAN	10/30/2018	12:23	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1	34.047184	-119.014049
50000	OCEAN	10/30/2018	12:23	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1	34.047184	-119.014049

BLANK	OCEAN	10/30/2018	13:20	VC	Total Coliforms	Colilert 18 (Total)	Result	<	10	MPN/100ml		2419.6	2420	0.1		
BLANK	OCEAN	10/30/2018	13:20	VC	E. Coli	Colilert 18 E. coli	Result	<	10	MPN/100ml		2419.6	2420	0.1		
BLANK	OCEAN	10/30/2018	13:20	VC	Enterococcus	Enterolert	Result	<	10	MPN/100ml		200.5	200.5	0.1		

December 14, 2018

Jenny Newman, Regional Programs Section Chief
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: 2018 ANNUAL MONITORING REPORT FOR SANTA CLARA RIVER BACTERIA TOTAL MAXIMUM DAILY LOAD

Dear Ms. Newman,

The Santa Clara River (SCR) Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria Total Maximum Daily Load (Bacteria TMDL) was adopted by the Los Angeles Regional Water Quality Control Board (Regional Water Board) on July 8, 2010 and came into effect on March 21, 2012. The Bacteria TMDL incorporates the reaches listed on the 303(d) list, Reach 3 added to 303(d) list in the 2016 Integrated Report, and all tributaries to the impaired SCR reaches.

The Cities of Fillmore, Oxnard, Santa Paula, and Ventura, and the County of Ventura are working collaboratively to implement Bacteria TMDL requirements for the lower SCR to address impairments to the SCR Estuary and Reach 3. The Bacteria TMDL required an in-stream compliance bacteria water quality Monitoring Plan, as well as an Implementation Plan (including an Outfall Monitoring Plan) to outline how the TMDL Responsible Agencies will achieve compliance with the Bacteria TMDL Waste Load Allocations and Load Allocations for the lower SCR. In accordance with the *Bacteria TMDL Final In-stream Compliance Monitoring Plan* (CMP), in-stream monitoring for the Reach 3 (SCRR3-RW1) and SCR Estuary (SCRE-R005) has been conducted since October 11, 2016. The Regional Water Board accepted the *Implementation Plan for the Lower Santa Clara River Watershed* (Implementation Plan) in a letter dated December 26, 2017, and following an extension granted by Ms. Newman on May 25, 2018, the outfall monitoring has been conducted in accordance with the Implementation Plan's Outfall Monitoring Plan at five jurisdictional outfalls since September 18, 2018.[1]

This annual report presents monitoring results for sampling events completed between November 7, 2017 and October 30, 2018, including outfall results collected between September 18, 2018 and October 30, 2018. The attached tables summarize the results of weekly monitoring required by the CMP and monthly monitoring required by the Outfall Monitoring Plan. Weekly sampling occurs on Tuesdays at in-stream receiving water monitoring locations, and monthly at the five jurisdictional outfall monitoring locations (in coordination with in-stream receiving water monitoring activities).

Table 1 displays the annual sampling results for both in-stream receiving water and outfall monitoring locations, while Table 2 presents weekly results rolling 30-day geometric means for

[1] One jurisdictional outfall was selected per agency in Fillmore, Santa Paula, Ventura, Oxnard, and County unincorporated Saticoy (MO-FIL, -SPA, -VEN, -SRG, and -SAT respectively)

the in-stream receiving water monitoring locations. Sample collection dates are marked with a diamond (♦) symbol. Daily geometric means for wet weather and dry weather using the past 30 days of the respective sampling data (Table 2). Non-sampling-day bacteria values are assigned the value of the most recent sampling event. To meet the prescribed dry weather geometric mean frequency, statistics were calculated for dry events at SCRR3-RW1 by assigning a concentration value of 0.01 colony-forming unit (CFU) (rather than 0.0 CFU) when the site was not flowing. A zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.

Samples were collected by Ventura City's Wastewater Treatment Plant (WWTP) staff at SCRE-R005 and by Rincon Consultants at SCRR3-RW1, MO-FIL, MO-SPA, MO-VEN, MO-SRG, and MO-SAT for bacteria analysis by Ventura City's WWTP Laboratory. This report was prepared by Rincon Consultants, Inc.

If you have any questions regarding the results or activities related to the lower SCR Bacteria TMDL monitoring, please contact Ewelina Mutkowska at (805) 645-1382.

Sincerely,

Arne Anselm
Deputy Director,
Ventura County Watershed Protection District

CC: Jeff Pratt, Ventura County Public Works Agency
Glenn Shephard, Ventura County Watershed Protection District
Ewelina Mutkowska, Ventura County Public Works Agency
Mary Joyce Ivers, City of Ventura
Roxanne Hughes, City of Fillmore
Clete J. Saunier, City of Santa Paula
Thien Ng, City of Oxnard

Table 1.
Sampling Results for Receiving Water (Weekly) and Outfalls (Monhtly)

Location	Time	Date		Rain		Single Sample E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)
						(235 MPN)		(10,000 MPN)		(400 MPN)		(104 MPN)
Santa Clara River Reach 3												
SCRR3-RW1	10:00	11/7/2017	♦	Dry	=	125.9		n/a		n/a		n/a
SCRR3-RW1	11:55	11/14/2017	♦	Dry	=	123.6		n/a		n/a		n/a
SCRR3-RW1	10:10	11/21/2017	♦	Dry	=	209.8		n/a		n/a		n/a
SCRR3-RW1	10:50	11/28/2017	♦	Dry	=	325.5		n/a		n/a		n/a
SCRR3-RW1	10:40	12/5/2017	♦	Dry	=	517.2		n/a		n/a		n/a
SCRR3-RW1	13:00	12/12/2017	♦	Dry	=	68.3		n/a		n/a		n/a
SCRR3-RW1	10:52	12/19/2017	♦	Dry	=	24.0		n/a		n/a		n/a
SCRR3-RW1	11:15	12/26/2017	♦	Dry	=	77.6		n/a		n/a		n/a
SCRR3-RW1	11:30	1/2/2018	♦	Dry	=	260.2		n/a		n/a		n/a
SCRR3-RW1	13:40	1/9/2018	♦	Wet	>	2,419.2		n/a		n/a		n/a
SCRR3-RW1	11:50	1/16/2018	♦	Dry	=	235.9		n/a		n/a		n/a
SCRR3-RW1	11:40	1/23/2018	♦	Dry	=	77.1		n/a		n/a		n/a
SCRR3-RW1	10:49	1/30/2018	♦	Dry	=	75.4		n/a		n/a		n/a
SCRR3-RW1	11:40	2/6/2018	♦	Dry	=	50.4		n/a		n/a		n/a
SCRR3-RW1	11:15	2/13/2018	♦	Dry	=	39.9		n/a		n/a		n/a
SCRR3-RW1	11:25	2/20/2018	♦	Dry	=	48.7		n/a		n/a		n/a
SCRR3-RW1	9:08	2/27/2018	♦	Dry	=	47.2		n/a		n/a		n/a
SCRR3-RW1	12:15	3/6/2018	♦	Wet	=	178.5		n/a		n/a		n/a
SCRR3-RW1	11:42	3/13/2018	♦	Wet	=	228.2		n/a		n/a		n/a
SCRR3-RW1	10:15	3/21/2018	♦	Wet	=	95.9		n/a		n/a		n/a
SCRR3-RW1	11:16	3/27/2018	♦	Dry	=	38.8		n/a		n/a		n/a
SCRR3-RW1	11:15	4/3/2018	♦	Dry	=	29.2		n/a		n/a		n/a
SCRR3-RW1	10:50	4/10/2018	♦	Dry	=	29.8		n/a		n/a		n/a
SCRR3-RW1	11:15	4/17/2018	♦	Dry	=	101.4		n/a		n/a		n/a
SCRR3-RW1	12:50	4/24/2018	♦	Dry	=	101.4		n/a		n/a		n/a
SCRR3-RW1	10:00	5/1/2018	♦	Dry	=	146.7		n/a		n/a		n/a
SCRR3-RW1	10:15	5/8/2018	♦	Dry	=	95.9		n/a		n/a		n/a
SCRR3-RW1	12:30	5/15/2018	♦	Dry	=	93.3		n/a		n/a		n/a
SCRR3-RW1	9:45	5/22/2018	♦	Dry	=	113.0		n/a		n/a		n/a
SCRR3-RW1	10:15	5/29/2018	♦	Dry	=	88.8		n/a		n/a		n/a
SCRR3-RW1	8:50	6/5/2018	♦	Dry	=	19.2		n/a		n/a		n/a
SCRR3-RW1	9:32	6/12/2018	♦	Dry	=	141.4		n/a		n/a		n/a
SCRR3-RW1	9:30	6/19/2018	♦	Dry	=	117.2		n/a		n/a		n/a
SCRR3-RW1	7:10	6/26/2018	♦	Dry	=	156.5		n/a		n/a		n/a
SCRR3-RW1	8:30	7/3/2018	♦	Dry	=	107.1		n/a		n/a		n/a
SCRR3-RW1	9:25	7/10/2018	♦	Dry	=	325.5		n/a		n/a		n/a
SCRR3-RW1	9:12	7/17/2018	♦	Dry	=	101.9		n/a		n/a		n/a
SCRR3-RW1	9:30	7/24/2018	♦	Dry	=	56.3		n/a		n/a		n/a
SCRR3-RW1	9:20	7/31/2018	♦	Dry	=	19.9		n/a		n/a		n/a
SCRR3-RW1	9:45	8/7/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	9:45	8/14/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	9:55	8/21/2018	♦	Dry	=	n/s		n/a		n/a		n/a

Table 1.
Sampling Results for Receiving Water (Weekly) and Outfalls (Monhtly)

Location	Time	Date		Rain		Single Sample E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)
						(235 MPN)		(10,000 MPN)		(400 MPN)		(104 MPN)
SCRR3-RW1	11:45	8/28/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	10:45	9/4/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	9:00	9/11/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	9:35	9/18/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	9:30	9/25/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	8:57	10/2/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	8:46	10/9/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	8:32	10/16/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	8:14	10/23/2018	♦	Dry	=	n/s		n/a		n/a		n/a
SCRR3-RW1	8:10	10/30/2018	♦	Dry	=	n/s		n/a		n/a		n/a
Santa Clara River Estuary												
SCRE-R005	9:48	11/8/2017	♦	Dry		n/a	=	5,000.0	=	40.0	=	14.5
SCRE-R005	9:40	11/14/2017	♦	Dry		n/a	=	340.0	=	11.0	=	16.8
SCRE-R005	8:45	11/21/2017	♦	Dry		n/a	=	260.0	=	21.0	=	30.5
SCRE-R005	10:16	11/28/2017	♦	Dry		n/a	=	2,200.0	=	130.0	=	15.8
SCRE-R005	9:17	12/5/2017	♦	Dry		n/a	=	2,400.0	=	170.0	=	72.3
SCRE-R005	9:24	12/12/2017	♦	Dry		n/a	=	900.0	=	11.0	=	21.1
SCRE-R005	9:55	12/19/2017	♦	Dry		n/a	=	500.0	=	14.0	=	6.3
SCRE-R005	10:01	12/27/2017	♦	Dry		n/a	=	500.0	=	14.0	=	3.0
SCRE-R005	9:57	1/3/2018	♦	Dry		n/a	=	300.0	=	80.0	=	27.0
SCRE-R005	9:48	1/9/2018	♦	Wet		n/a	=	1,300.0	=	220.0	=	114.0
SCRE-R005	9:30	1/17/2018	♦	Dry		n/a	=	9,000.0	=	300.0	=	63.0
SCRE-R005	9:48	1/9/2018	♦	Wet		n/a	=	1,300.0	=	220.0	=	114.0
SCRE-R005	9:30	1/17/2018	♦	Dry		n/a	=	9,000.0	=	300.0	=	63.0
SCRE-R005	9:59	1/23/2018	♦	Dry		n/a	=	9,000.0	=	5,000.0	=	72.0
SCRE-R005	9:10	1/30/2018	♦	Dry		n/a	=	1,600.0	=	500.0	=	436.0
SCRE-R005	9:26	2/7/2018	♦	Dry		n/a	=	1,100.0	=	130.0	=	57.0
SCRE-R005	9:31	2/13/2018	♦	Dry		n/a	=	16,000.0	=	220.0	=	46.0
SCRE-R005	9:00	2/20/2018	♦	Dry		n/a	=	1,300.0	=	80.0	=	21.0
SCRE-R005	9:43	2/27/2018	♦	Dry		n/a	=	110.0	=	50.0	=	21.0
SCRE-R005	10:10	3/6/2018	♦	Wet		n/a	=	9,000.0	=	220.0	=	151.0
SCRE-R005	11:10	3/13/2018	♦	Wet		n/a	=	9,000.0	=	800.0	=	60.0
SCRE-R005	9:50	3/20/2018	♦	Dry		n/a	=	900.0	=	80.0	=	19.0
SCRE-R005	9:14	3/27/2018	♦	Dry		n/a	=	16,000.0	=	500.0	=	45.0
SCRE-R005	10:01	4/3/2018	♦	Dry		n/a	=	1,100.0	=	230.0	=	14.0
SCRE-R005	9:35	4/10/2018	♦	Dry		n/a	=	800.0	=	130.0	=	10.0
SCRE-R005	10:46	4/17/2018	♦	Dry		n/a	=	1,700.0	=	22.0	=	14.0
SCRE-R005	9:26	4/24/2018	♦	Dry		n/a	=	5,000.0	=	230.0	=	60.1
SCRE-R005	10:23	5/2/2018	♦	Dry		n/a	=	280.0	=	70.0	=	14.6
SCRE-R005	9:58	5/8/2018	♦	Dry		n/a	=	1,100.0	=	170.0	=	20.1
SCRE-R005	9:27	5/16/2018	♦	Dry		n/a	=	1,700.0	=	230.0	=	24.6
SCRE-R005	8:57	5/22/2018	♦	Dry		n/a	=	2,400.0	=	500.0	=	71.7
SCRE-R005	8:59	5/30/2018	♦	Dry		n/a	=	5,000.0	=	900.0	=	2,419.2
SCRE-R005	8:41	6/5/2018	♦	Dry		n/a	>	16,000.0	=	80.0	=	43.1

Table 1.
Sampling Results for Receiving Water (Weekly) and Outfalls (Monhtly)

Location	Time	Date		Rain		Single Sample E.coli (MPN/100mL)		Single Sample Total Coliform (MPN/100mL)		Single Sample Fecal Coliform (MPN/100mL)		Single Sample Enterococcus (MPN/100mL)
						(235 MPN)		(10,000 MPN)		(400 MPN)		(104 MPN)
SCRE-R005	8:17	6/13/2018	♦	Dry		n/a	=	16,000.0	=	500.0	>	2,419.2
SCRE-R005	9:05	6/19/2018	♦	Dry		n/a	=	9,000.0	=	230.0	=	980.4
SCRE-R005	9:29	6/26/2018	♦	Dry		n/a	>	16,000.0	=	80.0	=	365.4
SCRE-R005	9:44	7/3/2018	♦	Dry		n/a	=	5,000.0	=	210.0	>	2,419.2
SCRE-R005	8:47	7/10/2018	♦	Dry		n/a	=	5,000.0	=	500.0	>	2,419.2
SCRE-R005	8:45	7/17/2018	♦	Dry		n/a	=	27.0	=	34.0	>	2,419.2
SCRE-R005	8:57	7/24/2018	♦	Dry		n/a	=	140.0	=	4.0	=	34.1
SCRE-R005	8:00	7/31/2018	♦	Dry		n/a	=	2,400.0	=	20.0	=	36.9
SCRE-R005	11:07	8/7/2018	♦	Dry		n/a	=	300.0	=	40.0	=	4.1
SCRE-R005	10:03	8/14/2018	♦	Dry		n/a	=	300.0	=	8.0	=	33.7
SCRE-R005	10:17	8/21/2018	♦	Dry		n/a	=	600.0	=	13.0	=	139.6
SCRE-R005	9:23	8/28/2018	♦	Dry		n/a	=	1,700.0	=	130.0	=	118.9
SCRE-R005	10:17	9/5/2018	♦	Dry		n/a	=	5,000.0	=	1,100.0	=	27.2
SCRE-R005	7:52	9/11/2018	♦	Dry		n/a	=	1,300.0	=	1,300.0	=	35.4
SCRE-R005	9:35	9/18/2018	♦	Dry		n/a	=	280.0	=	2.0	=	3.0
SCRE-R005	9:30	9/25/2018	♦	Dry		n/a	=	9,000.0	=	13.0	=	24.2
SCRE-R005	10:03	10/2/2018	♦	Dry		n/a	>	16,000.0	=	13.0	=	4.1
SCRE-R005	8:55	10/9/2018	♦	Dry		n/a	=	9,000.0	=	50.0	=	17.1
SCRE-R005	8:48	10/16/2018	♦	Dry		n/a	=	5,000.0	=	4.0	=	9.1
SCRE-R005	8:55	10/23/2018	♦	Dry		n/a	=	9,000.0	=	27.0	=	7.2
SCRE-R005	9:12	10/30/2018	♦	Dry		n/a	>	16,000.0	=	4.0	=	23.8
Fillmore Outfall												
MO-FIL	7:55	9/18/2018	♦	Dry	=	501.2	=	16,000.0	=	5,000.0	=	1,413.6
MO-FIL	8:03	10/16/2018	♦	Dry	=	1,732.6	>	16,000.0	=	2,400.0	=	1,413.6
Santa Paula Outfall												
MO-SPA	8:51	9/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SPA	8:43	10/16/2018	♦	Dry		n/s		n/s		n/s		n/s
Ventura Outfall												n/s
MO-VEN	9:27	9/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-VEN	9:37	10/16/2018	♦	Dry		n/s		n/s		n/s		n/s
Oxnard Outfall												
MO-SRG	9:59	9/18/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SRG	9:51	10/16/2018	♦	Dry		n/s		n/s		n/s		n/s
Saticoy Outfall												
MO-SAT	9:31	9/25/2018	♦	Dry		n/s		n/s		n/s		n/s
MO-SAT	9:11	10/16/2018	♦	Dry		n/s		n/s		n/s		n/s

Notes:

♦ Date of Sampling

MPN - most probably number

TMDL - Total Maximum Daily Load

E.coli - Escherichia coli

> - greater than

< - less than

= - equal to

n/s - not sampled due to dry conditions

n/a - not applicable to site

Table 2.

Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL) (235 MPN)	30-Day Geomean E.coli (MPN/100mL) (126 MPN)		Single Sample Total Coliform (MPN/100mL) (10,000 MPN)	30-Day Geomean Total Coliform (MPN/100mL) (1,000 MPN)		Single Sample Fecal Coliform (MPN/100mL) (400 MPN)	30-Day Geomean Fecal Coliform (MPN/100mL) (200 MPN)		Single Sample Enterococcus (MPN/100mL) (104 MPN)	30-Day Geomean Enterococcus (MPN/100mL) (35 MPN)
Santa Clara River Reach 3																
SCRR3-RW1	11/7/2017	♦	10:00	Dry	=	125.9	254.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/8/2017		-	Dry	=	125.9	266.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/9/2017		-	Dry	=	125.9	277.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/10/2017		-	Dry	=	125.9	288.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/11/2017		-	Dry	=	125.9	299.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/12/2017		-	Dry	=	125.9	311.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/13/2017		-	Dry	=	125.9	323.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/14/2017	♦	11:55	Dry	=	123.6	335.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/15/2017		-	Dry	=	123.6	348.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/16/2017		-	Dry	=	123.6	347.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/17/2017		-	Dry	=	123.6	345.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/18/2017		-	Dry	=	123.6	343.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/19/2017		-	Dry	=	123.6	341.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/20/2017		-	Dry	=	123.6	339.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/21/2017	♦	10:10	Dry	=	209.8	343.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/22/2017		-	Dry	=	209.8	347.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/23/2017		-	Dry	=	209.8	322.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/24/2017		-	Dry	=	209.8	299.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/25/2017		-	Dry	=	209.8	277.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/26/2017		-	Dry	=	209.8	257.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/27/2017		-	Dry	=	209.8	239.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/28/2017	♦	10:50	Dry	=	325.5	225.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/29/2017		-	Dry	=	325.5	212.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	11/30/2017		-	Dry	=	325.5	208.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/1/2017		-	Dry	=	325.5	204.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/2/2017		-	Dry	=	325.5	201.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/3/2017		-	Dry	=	325.5	197.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/4/2017		-	Dry	=	325.5	194.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/5/2017	♦	10:40	Dry	=	517.2	194.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/6/2017		-	Dry	=	517.2	193.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/7/2017		-	Dry	=	517.2	203.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/8/2017		-	Dry	=	517.2	212.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/9/2017		-	Dry	=	517.2	223.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/10/2017		-	Dry	=	517.2	233.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/11/2017		-	Dry	=	517.2	245.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/12/2017	♦	13:00	Dry	=	68.3	240.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/13/2017		-	Dry	=	68.3	235.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/14/2017		-	Dry	=	68.3	230.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/15/2017		-	Dry	=	68.3	226.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/16/2017		-	Dry	=	68.3	221.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/17/2017		-	Dry	=	68.3	217.4		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	12/18/2017		-	Dry	=	68.3	213.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/19/2017	♦	10:52	Dry	=	24.0	201.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/20/2017		-	Dry	=	24.0	191.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/21/2017		-	Dry	=	24.0	177.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/22/2017		-	Dry	=	24.0	165.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/23/2017		-	Dry	=	24.0	153.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/24/2017		-	Dry	=	24.0	143.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/25/2017		-	Dry	=	24.0	133.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/26/2017	♦	11:15	Dry	=	77.6	128.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/27/2017		-	Dry	=	77.6	124.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/28/2017		-	Dry	=	77.6	118.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/29/2017		-	Dry	=	77.6	113.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/30/2017		-	Dry	=	77.6	108.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	12/31/2017		-	Dry	=	77.6	102.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/1/2018		-	Dry	=	77.6	98.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/2/2018	♦	11:30	Dry	=	260.2	97.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/3/2018		-	Dry	=	260.2	96.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/4/2018		-	Dry	=	260.2	94.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/5/2018		-	Dry	=	260.2	92.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/6/2018		-	Dry	=	260.2	90.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/7/2018		-	Dry	=	260.2	88.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/8/2018		-	Dry	=	260.2	86.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/9/2018	♦	13:40	Wet	>	2,419.2	105.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/10/2018		-	Wet	>	2,419.2	109.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/11/2018		-	Wet	>	2,419.2	121.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/12/2018		-	Wet	>	2,419.2	133.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/13/2018		-	Wet	>	2,419.2	147.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/14/2018		-	Wet	>	2,419.2	162.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/15/2018		-	Wet	>	2,419.2	178.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/16/2018	♦	11:50	Dry	=	235.9	84.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/17/2018		-	Dry	=	235.9	81.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/18/2018		-	Dry	=	235.9	85.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/19/2018		-	Dry	=	235.9	88.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/20/2018		-	Dry	=	235.9	92.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/21/2018		-	Dry	=	235.9	96.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/22/2018		-	Dry	=	235.9	100.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/23/2018	♦	11:40	Dry	=	77.1	101.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/24/2018		-	Dry	=	77.1	101.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/25/2018		-	Dry	=	77.1	105.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/26/2018		-	Dry	=	77.1	109.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/27/2018		-	Dry	=	77.1	113.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/28/2018		-	Dry	=	77.1	118.5		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.

Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL) (235 MPN)	30-Day Geomean E.coli (MPN/100mL) (126 MPN)		Single Sample Total Coliform (MPN/100mL) (10,000 MPN)	30-Day Geomean Total Coliform (MPN/100mL) (1,000 MPN)		Single Sample Fecal Coliform (MPN/100mL) (400 MPN)	30-Day Geomean Fecal Coliform (MPN/100mL) (200 MPN)		Single Sample Enterococcus (MPN/100mL) (104 MPN)	30-Day Geomean Enterococcus (MPN/100mL) (35 MPN)
SCRR3-RW1	1/29/2018		-	Dry	=	77.1	123.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/30/2018	♦	10:49	Dry	=	75.4	128.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	1/31/2018		-	Dry	=	75.4	132.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/1/2018		-	Dry	=	75.4	132.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/2/2018		-	Dry	=	75.4	132.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/3/2018		-	Dry	=	75.4	132.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/4/2018		-	Dry	=	75.4	132.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/5/2018		-	Dry	=	75.4	132.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/6/2018	♦	11:40	Dry	=	50.4	130.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/7/2018		-	Dry	=	50.4	128.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/8/2018		-	Dry	=	50.4	121.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/9/2018		-	Dry	=	50.4	115.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/10/2018		-	Dry	=	50.4	109.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/11/2018		-	Dry	=	50.4	103.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/12/2018		-	Dry	=	50.4	97.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/13/2018	♦	11:15	Dry	=	39.9	91.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/14/2018		-	Dry	=	39.9	86.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/15/2018		-	Dry	=	39.9	81.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/16/2018		-	Dry	=	39.9	76.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/17/2018		-	Dry	=	39.9	72.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/18/2018		-	Dry	=	39.9	68.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/19/2018		-	Dry	=	39.9	64.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/20/2018	♦	11:25	Dry	=	48.7	60.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/21/2018		-	Dry	=	48.7	57.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/22/2018		-	Dry	=	48.7	56.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/23/2018		-	Dry	=	48.7	56.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/24/2018		-	Dry	=	48.7	55.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/25/2018		-	Dry	=	48.7	54.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/26/2018		-	Dry	=	48.7	53.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/27/2018	♦	9:08	Dry	=	47.2	52.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	2/28/2018		-	Dry	=	47.2	51.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/1/2018		-	Dry	=	47.2	51.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/2/2018		-	Dry	=	47.2	50.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/3/2018		-	Dry	=	47.2	49.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/4/2018		-	Dry	=	47.2	48.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/5/2018		-	Dry	=	47.2	47.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/6/2018	♦	12:15	Wet	=	178.5	180.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/7/2018		-	Wet	=	178.5	182.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/8/2018		-	Wet	=	178.5	179.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/9/2018		-	Wet	=	178.5	176.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/10/2018		-	Wet	=	178.5	173.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/11/2018		-	Wet	=	178.5	170.3		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL) (235 MPN)	30-Day Geomean E.coli (MPN/100mL) (126 MPN)		Single Sample Total Coliform (MPN/100mL) (10,000 MPN)	30-Day Geomean Total Coliform (MPN/100mL) (1,000 MPN)		Single Sample Fecal Coliform (MPN/100mL) (400 MPN)	30-Day Geomean Fecal Coliform (MPN/100mL) (200 MPN)		Single Sample Enterococcus (MPN/100mL) (104 MPN)	30-Day Geomean Enterococcus (MPN/100mL) (35 MPN)
SCRR3-RW1	3/12/2018		-	Wet	=	178.5	167.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/13/2018	♦	11:42	Wet	=	228.2	165.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/14/2018		-	Wet	=	228.2	164.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/15/2018		-	Wet	=	228.2	177.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/16/2018		-	Wet	=	228.2	191.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/17/2018		-	Wet	=	228.2	206.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/18/2018		-	Wet	=	228.2	223.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/19/2018		-	Wet	=	228.2	240.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/20/2018		-	Wet	=	228.2	260.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/21/2018	♦	10:15	Wet	=	95.9	272.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/22/2018		-	Wet	=	95.9	276.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/23/2018		-	Wet	=	95.9	279.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/24/2018		-	Wet	=	95.9	282.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/25/2018		-	Wet	=	95.9	286.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/26/2018		-	Wet	=	95.9	289.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/27/2018	♦	11:16	Dry	=	38.8	46.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/28/2018		-	Dry	=	38.8	45.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/29/2018		-	Dry	=	38.8	45.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/30/2018		-	Dry	=	38.8	45.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	3/31/2018		-	Dry	=	38.8	44.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/1/2018		-	Dry	=	38.8	44.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/2/2018		-	Dry	=	38.8	43.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/3/2018	♦	11:15	Dry	=	29.2	43.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/4/2018		-	Dry	=	29.2	42.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/5/2018		-	Dry	=	29.2	41.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/6/2018		-	Dry	=	29.2	41.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/7/2018		-	Dry	=	29.2	41.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/8/2018		-	Dry	=	29.2	40.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/9/2018		-	Dry	=	29.2	40.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/10/2018	♦	10:50	Dry	=	29.8	39.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/11/2018		-	Dry	=	29.8	39.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/12/2018		-	Dry	=	29.8	38.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/13/2018		-	Dry	=	29.8	38.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/14/2018		-	Dry	=	29.8	37.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/15/2018		-	Dry	=	29.8	36.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/16/2018		-	Dry	=	29.8	36.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/17/2018	♦	11:15	Dry	=	101.4	37.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/18/2018		-	Dry	=	101.4	38.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/19/2018		-	Dry	=	101.4	39.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/20/2018		-	Dry	=	101.4	40.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/21/2018		-	Dry	=	101.4	41.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/22/2018		-	Dry	=	101.4	42.2		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.

Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	4/23/2018		-	Dry	=	101.4	43.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/24/2018	♦	12:50	Dry	=	101.4	44.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/25/2018		-	Dry	=	101.4	45.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/26/2018		-	Dry	=	101.4	47.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/27/2018		-	Dry	=	101.4	48.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/28/2018		-	Dry	=	101.4	50.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/29/2018		-	Dry	=	101.4	51.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	4/30/2018		-	Dry	=	101.4	53.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/1/2018	♦	10:00	Dry	=	146.7	55.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/2/2018		-	Dry	=	146.7	58.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/3/2018		-	Dry	=	146.7	61.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/4/2018		-	Dry	=	146.7	65.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/5/2018		-	Dry	=	146.7	68.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/6/2018		-	Dry	=	146.7	72.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/7/2018		-	Dry	=	146.7	76.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/8/2018	♦	10:15	Dry	=	95.9	79.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/9/2018		-	Dry	=	95.9	82.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/10/2018		-	Dry	=	95.9	86.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/11/2018		-	Dry	=	95.9	89.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/12/2018		-	Dry	=	95.9	93.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/13/2018		-	Dry	=	95.9	96.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/14/2018		-	Dry	=	95.9	100.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/15/2018	♦	12:30	Dry	=	93.3	104.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/16/2018		-	Dry	=	93.3	108.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/17/2018		-	Dry	=	93.3	108.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/18/2018		-	Dry	=	93.3	107.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/19/2018		-	Dry	=	93.3	107.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/20/2018		-	Dry	=	93.3	107.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/21/2018		-	Dry	=	93.3	107.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/22/2018	♦	9:45	Dry	=	113.0	107.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/23/2018		-	Dry	=	113.0	107.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/24/2018		-	Dry	=	113.0	108.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/25/2018		-	Dry	=	113.0	108.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/26/2018		-	Dry	=	113.0	108.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/27/2018		-	Dry	=	113.0	109.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/28/2018		-	Dry	=	113.0	109.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/29/2018	♦	10:15	Dry	=	88.8	109.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/30/2018		-	Dry	=	88.8	108.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	5/31/2018		-	Dry	=	88.8	107.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/1/2018		-	Dry	=	88.8	105.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/2/2018		-	Dry	=	88.8	103.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/3/2018		-	Dry	=	88.8	101.7		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.

Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	6/4/2018		-	Dry	=	88.8	100.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/5/2018	♦	8:50	Dry	=	19.2	93.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/6/2018		-	Dry	=	19.2	87.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/7/2018		-	Dry	=	19.2	82.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/8/2018		-	Dry	=	19.2	78.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/9/2018		-	Dry	=	19.2	74.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/10/2018		-	Dry	=	19.2	70.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/11/2018		-	Dry	=	19.2	66.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/12/2018	♦	9:32	Dry	=	141.4	67.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/13/2018		-	Dry	=	141.4	68.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/14/2018		-	Dry	=	141.4	69.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/15/2018		-	Dry	=	141.4	70.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/16/2018		-	Dry	=	141.4	71.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/17/2018		-	Dry	=	141.4	72.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/18/2018		-	Dry	=	141.4	73.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/19/2018	♦	9:30	Dry	=	117.2	74.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/20/2018		-	Dry	=	117.2	74.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/21/2018		-	Dry	=	117.2	74.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/22/2018		-	Dry	=	117.2	74.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/23/2018		-	Dry	=	117.2	74.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/24/2018		-	Dry	=	117.2	75.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/25/2018		-	Dry	=	117.2	75.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/26/2018	♦	7:10	Dry	=	156.5	75.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/27/2018		-	Dry	=	156.5	76.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/28/2018		-	Dry	=	156.5	78.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/29/2018		-	Dry	=	156.5	79.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	6/30/2018		-	Dry	=	156.5	81.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/1/2018		-	Dry	=	156.5	82.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/2/2018		-	Dry	=	156.5	84.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/3/2018	♦	8:30	Dry	=	107.1	84.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/4/2018		-	Dry	=	107.1	85.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/5/2018		-	Dry	=	107.1	90.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/6/2018		-	Dry	=	107.1	95.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/7/2018		-	Dry	=	107.1	101.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/8/2018		-	Dry	=	107.1	107.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/9/2018		-	Dry	=	107.1	113.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/10/2018	♦	9:25	Dry	=	325.5	124.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/11/2018		-	Dry	=	325.5	137.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/12/2018		-	Dry	=	325.5	141.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/13/2018		-	Dry	=	325.5	145.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/14/2018		-	Dry	=	325.5	149.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/15/2018		-	Dry	=	325.5	153.5		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	7/16/2018		-	Dry	=	325.5	157.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/17/2018	♦	9:12	Dry	=	101.9	156.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/18/2018		-	Dry	=	101.9	154.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/19/2018		-	Dry	=	101.9	153.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/20/2018		-	Dry	=	101.9	152.9		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/21/2018		-	Dry	=	101.9	152.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/22/2018		-	Dry	=	101.9	151.5		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/23/2018		-	Dry	=	101.9	150.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/24/2018	♦	9:30	Dry	=	56.3	147.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/25/2018		-	Dry	=	56.3	143.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/26/2018		-	Dry	=	56.3	138.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/27/2018		-	Dry	=	56.3	134.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/28/2018		-	Dry	=	56.3	129.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/29/2018		-	Dry	=	56.3	125.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/30/2018		-	Dry	=	56.3	121.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	7/31/2018	♦	9:20	Dry	=	19.9	113.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/1/2018		-	Dry	=	19.9	105.6		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/2/2018		-	Dry	=	19.9	99.8		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/3/2018		-	Dry	=	19.9	94.4		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/4/2018		-	Dry	=	19.9	89.2		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/5/2018		-	Dry	=	19.9	84.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/6/2018		-	Dry	=	19.9	79.7		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/7/2018	♦	9:45	Dry	=	0.0	9.3		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/8/2018		-	Dry	=	0.0	1.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/9/2018		-	Dry	=	0.0	0.1		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/10/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/11/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/12/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/13/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/14/2018	♦	9:45	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/15/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/16/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/17/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/18/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/19/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/20/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/21/2018	♦	9:55	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/22/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/23/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/24/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/25/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/26/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.

Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRR3-RW1	8/27/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/28/2018	♦	11:45	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/29/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/30/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	8/31/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/1/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/2/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/3/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/4/2018	♦	10:45	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/5/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/6/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/7/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/8/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/9/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/10/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/11/2018	♦	9:00	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/12/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/13/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/14/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/15/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/16/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/17/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/18/2018	♦	9:35	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/19/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/20/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/21/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/22/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/23/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/24/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/25/2018	♦	9:30	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/26/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/27/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/28/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/29/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	9/30/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/1/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/2/2018	♦	8:57	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/3/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/4/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/5/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/6/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/7/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL) (235 MPN)	30-Day Geomean E.coli (MPN/100mL) (126 MPN)		Single Sample Total Coliform (MPN/100mL) (10,000 MPN)	30-Day Geomean Total Coliform (MPN/100mL) (1,000 MPN)		Single Sample Fecal Coliform (MPN/100mL) (400 MPN)	30-Day Geomean Fecal Coliform (MPN/100mL) (200 MPN)		Single Sample Enterococcus (MPN/100mL) (104 MPN)	30-Day Geomean Enterococcus (MPN/100mL) (35 MPN)
SCRR3-RW1	10/8/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/9/2018	♦	8:46	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/10/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/11/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/12/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/13/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/14/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/15/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/16/2018	♦	8:32	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/17/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/18/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/19/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/20/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/21/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/22/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/23/2018	♦	8:14	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/24/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/25/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/26/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/27/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/28/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/29/2018		-	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
SCRR3-RW1	10/30/2018	♦	8:10	Dry	=	0.0	0.0		n/a	n/a		n/a	n/a		n/a	n/a
Santa Clara River Estuary																
SCRE-R005	11/7/2017			Dry		n/a	n/a	=	1,300.0	6,453.6	=	13.0	23.9	=	11.0	17.2
SCRE-R005	11/8/2017	♦	9:48	Dry		n/a	n/a	=	5,000.0	6,890.7	=	40.0	25.7	=	14.5	17.9
SCRE-R005	11/9/2017		-	Dry		n/a	n/a	=	5,000.0	6,628.6	=	40.0	25.9	=	14.5	18.3
SCRE-R005	11/10/2017		-	Dry		n/a	n/a	=	5,000.0	6,376.6	=	40.0	26.2	=	14.5	18.6
SCRE-R005	11/11/2017		-	Dry		n/a	n/a	=	5,000.0	6,134.1	=	40.0	26.4	=	14.5	19.0
SCRE-R005	11/12/2017		-	Dry		n/a	n/a	=	5,000.0	5,900.8	=	40.0	26.7	=	14.5	19.4
SCRE-R005	11/13/2017		-	Dry		n/a	n/a	=	5,000.0	5,676.4	=	40.0	26.9	=	14.5	19.8
SCRE-R005	11/14/2017	♦	9:40	Dry		n/a	n/a	=	340.0	4,992.5	=	11.0	26.0	=	16.8	20.3
SCRE-R005	11/15/2017		-	Dry		n/a	n/a	=	340.0	4,391.0	=	11.0	25.2	=	16.8	20.8
SCRE-R005	11/16/2017		-	Dry		n/a	n/a	=	340.0	3,862.0	=	11.0	24.6	=	16.8	20.5
SCRE-R005	11/17/2017		-	Dry		n/a	n/a	=	340.0	3,396.7	=	11.0	24.0	=	16.8	20.1
SCRE-R005	11/18/2017		-	Dry		n/a	n/a	=	340.0	2,987.4	=	11.0	23.4	=	16.8	19.8
SCRE-R005	11/19/2017		-	Dry		n/a	n/a	=	340.0	2,627.5	=	11.0	22.8	=	16.8	19.5
SCRE-R005	11/20/2017		-	Dry		n/a	n/a	=	340.0	2,310.9	=	11.0	22.3	=	16.8	19.2
SCRE-R005	11/21/2017	♦	8:45	Dry		n/a	n/a	=	260.0	2,014.4	=	21.0	22.2	=	30.5	19.3
SCRE-R005	11/22/2017		-	Dry		n/a	n/a	=	260.0	1,755.9	=	21.0	22.1	=	30.5	19.4
SCRE-R005	11/23/2017		-	Dry		n/a	n/a	=	260.0	1,560.3	=	21.0	21.5	=	30.5	19.1
SCRE-R005	11/24/2017		-	Dry		n/a	n/a	=	260.0	1,386.4	=	21.0	20.9	=	30.5	18.8

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	11/25/2017		-	Dry		n/a	n/a	=	260.0	1,231.9	=	21.0	20.3	=	30.5	18.5
SCRE-R005	11/26/2017		-	Dry		n/a	n/a	=	260.0	1,094.7	=	21.0	19.7	=	30.5	18.2
SCRE-R005	11/27/2017		-	Dry		n/a	n/a	=	260.0	972.7	=	21.0	19.2	=	30.5	18.0
SCRE-R005	11/28/2017	♦	10:16	Dry		n/a	n/a	=	2,200.0	928.1	=	130.0	19.8	=	15.8	17.3
SCRE-R005	11/29/2017		-	Dry		n/a	n/a	=	2,200.0	885.5	=	130.0	20.4	=	15.8	16.7
SCRE-R005	11/30/2017		-	Dry		n/a	n/a	=	2,200.0	901.1	=	130.0	22.0	=	15.8	16.9
SCRE-R005	12/1/2017		-	Dry		n/a	n/a	=	2,200.0	917.1	=	130.0	23.8	=	15.8	17.1
SCRE-R005	12/2/2017		-	Dry		n/a	n/a	=	2,200.0	933.3	=	130.0	25.7	=	15.8	17.3
SCRE-R005	12/3/2017		-	Dry		n/a	n/a	=	2,200.0	949.8	=	130.0	27.7	=	15.8	17.5
SCRE-R005	12/4/2017		-	Dry		n/a	n/a	=	2,200.0	966.6	=	130.0	30.0	=	15.8	17.7
SCRE-R005	12/5/2017	♦	9:17	Dry		n/a	n/a	=	2,400.0	986.6	=	170.0	32.6	=	72.3	18.9
SCRE-R005	12/6/2017		-	Dry		n/a	n/a	=	2,400.0	1,007.0	=	170.0	35.6	=	72.3	20.1
SCRE-R005	12/7/2017		-	Dry		n/a	n/a	=	2,400.0	1,027.7	=	170.0	38.7	=	72.3	21.4
SCRE-R005	12/8/2017		-	Dry		n/a	n/a	=	2,400.0	1,002.9	=	170.0	40.7	=	72.3	22.6
SCRE-R005	12/9/2017		-	Dry		n/a	n/a	=	2,400.0	978.7	=	170.0	42.7	=	72.3	23.8
SCRE-R005	12/10/2017		-	Dry		n/a	n/a	=	2,400.0	955.0	=	170.0	44.8	=	72.3	25.1
SCRE-R005	12/11/2017		-	Dry		n/a	n/a	=	2,400.0	931.9	=	170.0	47.0	=	72.3	26.5
SCRE-R005	12/12/2017	♦	9:24	Dry		n/a	n/a	=	900.0	880.2	=	11.0	45.0	=	21.1	26.8
SCRE-R005	12/13/2017		-	Dry		n/a	n/a	=	900.0	831.3	=	11.0	43.1	=	21.1	27.2
SCRE-R005	12/14/2017		-	Dry		n/a	n/a	=	900.0	858.7	=	11.0	43.1	=	21.1	27.4
SCRE-R005	12/15/2017		-	Dry		n/a	n/a	=	900.0	887.0	=	11.0	43.1	=	21.1	27.6
SCRE-R005	12/16/2017		-	Dry		n/a	n/a	=	900.0	916.2	=	11.0	43.1	=	21.1	27.8
SCRE-R005	12/17/2017		-	Dry		n/a	n/a	=	900.0	946.5	=	11.0	43.1	=	21.1	28.0
SCRE-R005	12/18/2017		-	Dry		n/a	n/a	=	900.0	977.7	=	11.0	43.1	=	21.1	28.2
SCRE-R005	12/19/2017	♦	9:55	Dry		n/a	n/a	=	500.0	990.3	=	14.0	43.5	=	6.3	27.3
SCRE-R005	12/20/2017		-	Dry		n/a	n/a	=	500.0	1,003.1	=	14.0	43.8	=	6.3	26.4
SCRE-R005	12/21/2017		-	Dry		n/a	n/a	=	500.0	1,025.2	=	14.0	43.2	=	6.3	25.1
SCRE-R005	12/22/2017		-	Dry		n/a	n/a	=	500.0	1,047.8	=	14.0	42.6	=	6.3	23.8
SCRE-R005	12/23/2017		-	Dry		n/a	n/a	=	500.0	1,070.9	=	14.0	42.1	=	6.3	22.6
SCRE-R005	12/24/2017		-	Dry		n/a	n/a	=	500.0	1,094.5	=	14.0	41.5	=	6.3	21.4
SCRE-R005	12/25/2017		-	Dry		n/a	n/a	=	500.0	1,118.7	=	14.0	41.0	=	6.3	20.3
SCRE-R005	12/26/2017		-	Dry		n/a	n/a	=	500.0	1,143.3	=	14.0	40.4	=	6.3	19.3
SCRE-R005	12/27/2017	♦	10:01	Dry		n/a	n/a	=	500.0	1,168.5	=	14.0	39.9	=	3.0	17.8
SCRE-R005	12/28/2017		-	Dry		n/a	n/a	=	500.0	1,112.2	=	14.0	37.0	=	3.0	16.9
SCRE-R005	12/29/2017		-	Dry		n/a	n/a	=	500.0	1,058.6	=	14.0	34.4	=	3.0	16.0
SCRE-R005	12/30/2017		-	Dry		n/a	n/a	=	500.0	1,007.6	=	14.0	31.9	=	3.0	15.1
SCRE-R005	12/31/2017		-	Dry		n/a	n/a	=	500.0	959.0	=	14.0	29.6	=	3.0	14.3
SCRE-R005	1/1/2018		-	Dry		n/a	n/a	=	500.0	912.8	=	14.0	27.5	=	3.0	13.5
SCRE-R005	1/2/2018		-	Dry		n/a	n/a	=	500.0	868.8	=	14.0	25.5	=	3.0	12.8
SCRE-R005	1/3/2018	♦	9:57	Dry		n/a	n/a	=	300.0	813.0	=	80.0	25.1	=	27.0	13.0
SCRE-R005	1/4/2018		-	Dry		n/a	n/a	=	300.0	758.6	=	80.0	24.5	=	27.0	12.6
SCRE-R005	1/5/2018		-	Dry		n/a	n/a	=	300.0	707.8	=	80.0	23.9	=	27.0	12.2

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	1/6/2018		-	Dry		n/a	n/a	=	300.0	660.4	=	80.0	23.3	=	27.0	11.8
SCRE-R005	1/7/2018		-	Dry		n/a	n/a	=	300.0	616.1	=	80.0	22.7	=	27.0	11.4
SCRE-R005	1/8/2018		-	Dry		n/a	n/a	=	300.0	574.9	=	80.0	22.1	=	27.0	11.1
SCRE-R005	1/9/2018	♦	9:48	Wet		n/a	n/a	=	1,300.0	4,404.6	=	220.0	244.6	=	114.0	224.8
SCRE-R005	1/10/2018		-	Wet		n/a	n/a	=	1,300.0	4,051.0	=	220.0	216.1	=	114.0	203.0
SCRE-R005	1/11/2018		-	Wet		n/a	n/a	=	1,300.0	3,873.1	=	220.0	213.9	=	114.0	202.0
SCRE-R005	1/12/2018		-	Wet		n/a	n/a	=	1,300.0	3,703.1	=	220.0	211.7	=	114.0	201.0
SCRE-R005	1/13/2018		-	Wet		n/a	n/a	=	1,300.0	3,540.5	=	220.0	209.5	=	114.0	200.1
SCRE-R005	1/14/2018		-	Wet		n/a	n/a	=	1,300.0	3,385.0	=	220.0	207.3	=	114.0	199.1
SCRE-R005	1/15/2018		-	Wet		n/a	n/a	=	1,300.0	3,236.4	=	220.0	205.2	=	114.0	198.1
SCRE-R005	1/16/2018		-	Wet		n/a	n/a	=	1,300.0	3,094.3	=	220.0	203.1	=	114.0	197.1
SCRE-R005	1/17/2018	♦	9:30	Dry		n/a	n/a	=	9,000.0	572.8	=	300.0	21.1	=	63.0	10.3
SCRE-R005	1/18/2018		-	Dry		n/a	n/a	=	9,000.0	620.1	=	300.0	23.6	=	63.0	10.7
SCRE-R005	1/19/2018		-	Dry		n/a	n/a	=	9,000.0	671.3	=	300.0	26.4	=	63.0	11.1
SCRE-R005	1/20/2018		-	Dry		n/a	n/a	=	9,000.0	726.8	=	300.0	29.6	=	63.0	11.6
SCRE-R005	1/21/2018		-	Dry		n/a	n/a	=	9,000.0	786.9	=	300.0	33.2	=	63.0	12.0
SCRE-R005	1/22/2018		-	Dry		n/a	n/a	=	9,000.0	851.9	=	300.0	37.2	=	63.0	12.5
SCRE-R005	1/23/2018	♦	9:59	Dry		n/a	n/a	=	9,000.0	922.3	=	5,000.0	46.0	=	72.0	13.0
SCRE-R005	1/24/2018		-	Dry		n/a	n/a	=	9,000.0	998.5	=	5,000.0	56.8	=	72.0	13.6
SCRE-R005	1/25/2018		-	Dry		n/a	n/a	=	9,000.0	1,103.2	=	5,000.0	69.5	=	72.0	14.7
SCRE-R005	1/26/2018		-	Dry		n/a	n/a	=	9,000.0	1,218.8	=	5,000.0	85.2	=	72.0	16.0
SCRE-R005	1/27/2018		-	Dry		n/a	n/a	=	9,000.0	1,346.5	=	5,000.0	104.3	=	72.0	17.4
SCRE-R005	1/28/2018		-	Dry		n/a	n/a	=	9,000.0	1,487.6	=	5,000.0	127.7	=	72.0	19.0
SCRE-R005	1/29/2018		-	Dry		n/a	n/a	=	9,000.0	1,643.5	=	5,000.0	156.4	=	72.0	20.6
SCRE-R005	1/30/2018	♦	9:10	Dry		n/a	n/a	=	1,600.0	1,710.8	=	500.0	177.0	=	436.0	23.9
SCRE-R005	1/31/2018		-	Dry		n/a	n/a	=	1,600.0	1,780.8	=	500.0	200.2	=	436.0	27.6
SCRE-R005	2/1/2018		-	Dry		n/a	n/a	=	1,600.0	1,853.7	=	500.0	226.4	=	436.0	32.0
SCRE-R005	2/2/2018		-	Dry		n/a	n/a	=	1,600.0	1,929.5	=	500.0	256.2	=	436.0	38.0
SCRE-R005	2/3/2018		-	Dry		n/a	n/a	=	1,600.0	2,008.5	=	500.0	289.8	=	436.0	45.1
SCRE-R005	2/4/2018		-	Dry		n/a	n/a	=	1,600.0	2,090.7	=	500.0	327.8	=	436.0	53.5
SCRE-R005	2/5/2018		-	Dry		n/a	n/a	=	1,600.0	2,176.3	=	500.0	370.8	=	436.0	63.6
SCRE-R005	2/6/2018		-	Dry		n/a	n/a	=	1,600.0	2,265.3	=	500.0	419.5	=	436.0	75.5
SCRE-R005	2/7/2018	♦	9:26	Dry		n/a	n/a	=	1,100.0	2,327.8	=	130.0	453.0	=	57.0	83.5
SCRE-R005	2/8/2018		-	Dry		n/a	n/a	=	1,100.0	2,391.9	=	130.0	489.1	=	57.0	92.5
SCRE-R005	2/9/2018		-	Dry		n/a	n/a	=	1,100.0	2,501.5	=	130.0	497.4	=	57.0	94.9
SCRE-R005	2/10/2018		-	Dry		n/a	n/a	=	1,100.0	2,616.1	=	130.0	505.8	=	57.0	97.4
SCRE-R005	2/11/2018		-	Dry		n/a	n/a	=	1,100.0	2,736.0	=	130.0	514.3	=	57.0	99.9
SCRE-R005	2/12/2018		-	Dry		n/a	n/a	=	1,100.0	2,861.4	=	130.0	523.0	=	57.0	102.5
SCRE-R005	2/13/2018	♦	9:31	Dry		n/a	n/a	=	16,000.0	3,281.9	=	220.0	541.6	=	46.0	104.4
SCRE-R005	2/14/2018		-	Dry		n/a	n/a	=	16,000.0	3,764.3	=	220.0	560.8	=	46.0	106.3
SCRE-R005	2/15/2018		-	Dry		n/a	n/a	=	16,000.0	3,950.3	=	220.0	543.6	=	46.0	103.4
SCRE-R005	2/16/2018		-	Dry		n/a	n/a	=	16,000.0	4,026.8	=	220.0	538.0	=	46.0	102.3

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	2/17/2018		-	Dry		n/a	n/a	=	16,000.0	4,104.7	=	220.0	532.5	=	46.0	101.3
SCRE-R005	2/18/2018		-	Dry		n/a	n/a	=	16,000.0	4,184.2	=	220.0	527.0	=	46.0	100.2
SCRE-R005	2/19/2018		-	Dry		n/a	n/a	=	16,000.0	4,265.3	=	220.0	521.6	=	46.0	99.2
SCRE-R005	2/20/2018	♦	9:00	Dry		n/a	n/a	=	1,300.0	3,998.8	=	80.0	499.1	=	21.0	95.6
SCRE-R005	2/21/2018		-	Dry		n/a	n/a	=	1,300.0	3,749.1	=	80.0	477.6	=	21.0	92.2
SCRE-R005	2/22/2018		-	Dry		n/a	n/a	=	1,300.0	3,514.9	=	80.0	416.1	=	21.0	88.5
SCRE-R005	2/23/2018		-	Dry		n/a	n/a	=	1,300.0	3,295.4	=	80.0	362.5	=	21.0	84.9
SCRE-R005	2/24/2018		-	Dry		n/a	n/a	=	1,300.0	3,089.5	=	80.0	315.8	=	21.0	81.5
SCRE-R005	2/25/2018		-	Dry		n/a	n/a	=	1,300.0	2,896.6	=	80.0	275.2	=	21.0	78.2
SCRE-R005	2/26/2018		-	Dry		n/a	n/a	=	1,300.0	2,715.7	=	80.0	239.7	=	21.0	75.1
SCRE-R005	2/27/2018	♦	9:43	Dry		n/a	n/a	=	110.0	2,344.8	=	50.0	205.6	=	21.0	72.0
SCRE-R005	2/28/2018		-	Dry		n/a	n/a	=	110.0	2,024.7	=	50.0	176.4	=	21.0	69.1
SCRE-R005	3/1/2018		-	Dry		n/a	n/a	=	110.0	1,851.8	=	50.0	163.3	=	21.0	62.5
SCRE-R005	3/2/2018		-	Dry		n/a	n/a	=	110.0	1,693.7	=	50.0	151.3	=	21.0	56.5
SCRE-R005	3/3/2018		-	Dry		n/a	n/a	=	110.0	1,549.1	=	50.0	140.1	=	21.0	51.0
SCRE-R005	3/4/2018		-	Dry		n/a	n/a	=	110.0	1,416.8	=	50.0	129.7	=	21.0	46.1
SCRE-R005	3/5/2018		-	Dry		n/a	n/a	=	110.0	1,295.9	=	50.0	120.2	=	21.0	41.7
SCRE-R005	3/6/2018	♦	10:10	Wet		n/a	n/a	=	9,000.0	3,155.5	=	220.0	201.0	=	151.0	198.0
SCRE-R005	3/7/2018		-	Wet		n/a	n/a	=	9,000.0	3,217.9	=	220.0	198.9	=	151.0	198.9
SCRE-R005	3/8/2018		-	Wet		n/a	n/a	=	9,000.0	3,156.8	=	220.0	190.6	=	151.0	190.3
SCRE-R005	3/9/2018		-	Wet		n/a	n/a	=	9,000.0	3,096.8	=	220.0	182.5	=	151.0	182.0
SCRE-R005	3/10/2018		-	Wet		n/a	n/a	=	9,000.0	3,038.0	=	220.0	174.9	=	151.0	174.1
SCRE-R005	3/11/2018		-	Wet		n/a	n/a	=	9,000.0	2,980.3	=	220.0	167.5	=	151.0	166.5
SCRE-R005	3/12/2018		-	Wet		n/a	n/a	=	9,000.0	2,923.7	=	220.0	160.4	=	151.0	159.3
SCRE-R005	3/13/2018	♦	11:10	Wet		n/a	n/a	=	9,000.0	2,868.1	=	800.0	160.4	=	60.0	147.7
SCRE-R005	3/14/2018		-	Wet		n/a	n/a	=	9,000.0	2,924.9	=	800.0	173.2	=	60.0	137.0
SCRE-R005	3/15/2018		-	Wet		n/a	n/a	=	9,000.0	2,982.8	=	800.0	187.0	=	60.0	127.1
SCRE-R005	3/16/2018		-	Wet		n/a	n/a	=	9,000.0	3,041.8	=	800.0	202.0	=	60.0	117.9
SCRE-R005	3/17/2018		-	Wet		n/a	n/a	=	9,000.0	3,102.0	=	800.0	218.1	=	60.0	109.3
SCRE-R005	3/18/2018		-	Wet		n/a	n/a	=	9,000.0	3,163.3	=	800.0	235.5	=	60.0	101.4
SCRE-R005	3/19/2018		-	Wet		n/a	n/a	=	9,000.0	3,225.9	=	800.0	254.3	=	60.0	94.1
SCRE-R005	3/20/2018	♦	9:50	Dry		n/a	n/a	=	900.0	1,271.3	=	80.0	113.0	=	19.0	37.6
SCRE-R005	3/21/2018		-	Dry		n/a	n/a	=	900.0	1,247.1	=	80.0	106.3	=	19.0	33.8
SCRE-R005	3/22/2018		-	Dry		n/a	n/a	=	900.0	1,223.4	=	80.0	100.0	=	19.0	30.5
SCRE-R005	3/23/2018		-	Dry		n/a	n/a	=	900.0	1,215.3	=	80.0	98.4	=	19.0	29.4
SCRE-R005	3/24/2018		-	Dry		n/a	n/a	=	900.0	1,207.2	=	80.0	96.8	=	19.0	28.3
SCRE-R005	3/25/2018		-	Dry		n/a	n/a	=	900.0	1,199.1	=	80.0	95.3	=	19.0	27.3
SCRE-R005	3/26/2018		-	Dry		n/a	n/a	=	900.0	1,191.1	=	80.0	93.8	=	19.0	26.3
SCRE-R005	3/27/2018	♦	9:14	Dry		n/a	n/a	=	16,000.0	1,302.3	=	500.0	98.1	=	45.0	26.1
SCRE-R005	3/28/2018		-	Dry		n/a	n/a	=	16,000.0	1,423.9	=	500.0	102.6	=	45.0	25.9
SCRE-R005	3/29/2018		-	Dry		n/a	n/a	=	16,000.0	1,423.9	=	500.0	105.4	=	45.0	25.9
SCRE-R005	3/30/2018		-	Dry		n/a	n/a	=	16,000.0	1,423.9	=	500.0	108.3	=	45.0	25.9

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	3/31/2018		-	Dry		n/a	n/a	=	16,000.0	1,423.9	=	500.0	111.3	=	45.0	25.9
SCRE-R005	4/1/2018		-	Dry		n/a	n/a	=	16,000.0	1,423.9	=	500.0	114.4	=	45.0	25.8
SCRE-R005	4/2/2018		-	Dry		n/a	n/a	=	16,000.0	1,423.9	=	500.0	117.6	=	45.0	25.8
SCRE-R005	4/3/2018	♦	10:01	Dry		n/a	n/a	=	1,100.0	1,302.3	=	230.0	117.8	=	14.0	24.8
SCRE-R005	4/4/2018		-	Dry		n/a	n/a	=	1,100.0	1,191.1	=	230.0	118.0	=	14.0	23.9
SCRE-R005	4/5/2018		-	Dry		n/a	n/a	=	1,100.0	1,184.5	=	230.0	122.2	=	14.0	23.5
SCRE-R005	4/6/2018		-	Dry		n/a	n/a	=	1,100.0	1,177.9	=	230.0	126.6	=	14.0	23.2
SCRE-R005	4/7/2018		-	Dry		n/a	n/a	=	1,100.0	1,171.4	=	230.0	131.1	=	14.0	22.9
SCRE-R005	4/8/2018		-	Dry		n/a	n/a	=	1,100.0	1,164.9	=	230.0	135.8	=	14.0	22.6
SCRE-R005	4/9/2018		-	Dry		n/a	n/a	=	1,100.0	1,158.4	=	230.0	140.7	=	14.0	22.3
SCRE-R005	4/10/2018	♦	9:35	Dry		n/a	n/a	=	800.0	1,139.8	=	130.0	143.0	=	10.0	21.8
SCRE-R005	4/11/2018		-	Dry		n/a	n/a	=	800.0	1,121.5	=	130.0	145.3	=	10.0	21.2
SCRE-R005	4/12/2018		-	Dry		n/a	n/a	=	800.0	1,198.2	=	130.0	150.0	=	10.0	20.7
SCRE-R005	4/13/2018		-	Dry		n/a	n/a	=	800.0	1,280.1	=	130.0	154.8	=	10.0	20.2
SCRE-R005	4/14/2018		-	Dry		n/a	n/a	=	800.0	1,367.7	=	130.0	159.9	=	10.0	19.7
SCRE-R005	4/15/2018		-	Dry		n/a	n/a	=	800.0	1,461.2	=	130.0	165.0	=	10.0	19.2
SCRE-R005	4/16/2018		-	Dry		n/a	n/a	=	800.0	1,561.1	=	130.0	170.4	=	10.0	18.8
SCRE-R005	4/17/2018	♦	10:46	Dry		n/a	n/a	=	1,700.0	1,710.2	=	22.0	165.8	=	14.0	18.5
SCRE-R005	4/18/2018		-	Dry		n/a	n/a	=	1,700.0	1,873.7	=	22.0	161.3	=	14.0	18.3
SCRE-R005	4/19/2018		-	Dry		n/a	n/a	=	1,700.0	1,913.8	=	22.0	154.5	=	14.0	18.1
SCRE-R005	4/20/2018		-	Dry		n/a	n/a	=	1,700.0	1,954.8	=	22.0	148.0	=	14.0	17.9
SCRE-R005	4/21/2018		-	Dry		n/a	n/a	=	1,700.0	1,996.7	=	22.0	141.8	=	14.0	17.7
SCRE-R005	4/22/2018		-	Dry		n/a	n/a	=	1,700.0	2,039.5	=	22.0	135.8	=	14.0	17.5
SCRE-R005	4/23/2018		-	Dry		n/a	n/a	=	1,700.0	2,083.2	=	22.0	130.1	=	14.0	17.3
SCRE-R005	4/24/2018	♦	9:26	Dry		n/a	n/a	=	5,000.0	2,205.7	=	230.0	134.7	=	60.0	18.0
SCRE-R005	4/25/2018		-	Dry		n/a	n/a	=	5,000.0	2,335.5	=	230.0	139.6	=	60.0	18.7
SCRE-R005	4/26/2018		-	Dry		n/a	n/a	=	5,000.0	2,246.7	=	230.0	136.0	=	60.0	18.9
SCRE-R005	4/27/2018		-	Dry		n/a	n/a	=	5,000.0	2,161.2	=	230.0	132.5	=	60.0	19.1
SCRE-R005	4/28/2018		-	Dry		n/a	n/a	=	5,000.0	2,079.0	=	230.0	129.1	=	60.0	19.3
SCRE-R005	4/29/2018		-	Dry		n/a	n/a	=	5,000.0	2,000.0	=	230.0	125.8	=	60.0	19.5
SCRE-R005	4/30/2018		-	Dry		n/a	n/a	=	5,000.0	1,923.9	=	230.0	122.6	=	60.0	19.6
SCRE-R005	5/1/2018		-	Dry		n/a	n/a	=	5,000.0	1,850.7	=	230.0	119.5	=	60.0	19.8
SCRE-R005	5/2/2018	♦	10:23	Dry		n/a	n/a	=	280.0	1,617.3	=	70.0	111.9	=	14.6	19.1
SCRE-R005	5/3/2018		-	Dry		n/a	n/a	=	280.0	1,545.2	=	70.0	107.6	=	14.6	19.1
SCRE-R005	5/4/2018		-	Dry		n/a	n/a	=	280.0	1,476.3	=	70.0	103.4	=	14.6	19.2
SCRE-R005	5/5/2018		-	Dry		n/a	n/a	=	280.0	1,410.5	=	70.0	99.4	=	14.6	19.2
SCRE-R005	5/6/2018		-	Dry		n/a	n/a	=	280.0	1,347.6	=	70.0	95.5	=	14.6	19.2
SCRE-R005	5/7/2018		-	Dry		n/a	n/a	=	280.0	1,287.5	=	70.0	91.8	=	14.6	19.2
SCRE-R005	5/8/2018	♦	9:58	Dry		n/a	n/a	=	1,100.0	1,287.5	=	170.0	90.9	=	20.1	19.5
SCRE-R005	5/9/2018		-	Dry		n/a	n/a	=	1,100.0	1,287.5	=	170.0	89.9	=	20.1	19.7
SCRE-R005	5/10/2018		-	Dry		n/a	n/a	=	1,100.0	1,301.2	=	170.0	90.8	=	20.1	20.2
SCRE-R005	5/11/2018		-	Dry		n/a	n/a	=	1,100.0	1,315.1	=	170.0	91.6	=	20.1	20.6

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	5/12/2018		-	Dry		n/a	n/a	=	1,100.0	1,329.1	=	170.0	92.4	=	20.1	21.1
SCRE-R005	5/13/2018		-	Dry		n/a	n/a	=	1,100.0	1,343.3	=	170.0	93.2	=	20.1	21.6
SCRE-R005	5/14/2018		-	Dry		n/a	n/a	=	1,100.0	1,357.7	=	170.0	94.1	=	20.1	22.1
SCRE-R005	5/15/2018		-	Dry		n/a	n/a	=	1,100.0	1,372.2	=	170.0	94.9	=	20.1	22.7
SCRE-R005	5/16/2018	♦	9:27	Dry		n/a	n/a	=	1,700.0	1,407.1	=	230.0	96.7	=	24.6	23.4
SCRE-R005	5/17/2018		-	Dry		n/a	n/a	=	1,700.0	1,407.1	=	230.0	104.6	=	24.6	23.8
SCRE-R005	5/18/2018		-	Dry		n/a	n/a	=	1,700.0	1,407.1	=	230.0	113.1	=	24.6	24.2
SCRE-R005	5/19/2018		-	Dry		n/a	n/a	=	1,700.0	1,407.1	=	230.0	122.3	=	24.6	24.7
SCRE-R005	5/20/2018		-	Dry		n/a	n/a	=	1,700.0	1,407.1	=	230.0	132.3	=	24.6	25.2
SCRE-R005	5/21/2018		-	Dry		n/a	n/a	=	1,700.0	1,407.1	=	230.0	143.0	=	24.6	25.7
SCRE-R005	5/22/2018	♦	8:57	Dry		n/a	n/a	=	2,400.0	1,423.3	=	500.0	158.7	=	71.7	27.1
SCRE-R005	5/23/2018		-	Dry		n/a	n/a	=	2,400.0	1,439.8	=	500.0	176.1	=	71.7	28.6
SCRE-R005	5/24/2018		-	Dry		n/a	n/a	=	2,400.0	1,405.0	=	500.0	180.8	=	71.7	28.8
SCRE-R005	5/25/2018		-	Dry		n/a	n/a	=	2,400.0	1,371.0	=	500.0	185.5	=	71.7	28.9
SCRE-R005	5/26/2018		-	Dry		n/a	n/a	=	2,400.0	1,337.9	=	500.0	190.4	=	71.7	29.1
SCRE-R005	5/27/2018		-	Dry		n/a	n/a	=	2,400.0	1,305.6	=	500.0	195.4	=	71.7	29.3
SCRE-R005	5/28/2018		-	Dry		n/a	n/a	=	2,400.0	1,274.0	=	500.0	200.5	=	71.7	29.5
SCRE-R005	5/29/2018		-	Dry		n/a	n/a	=	2,400.0	1,243.2	=	500.0	205.7	=	71.7	29.6
SCRE-R005	5/30/2018	♦	8:59	Dry		n/a	n/a	=	5,000.0	1,243.2	=	900.0	215.3	=	2419.2	33.5
SCRE-R005	5/31/2018		-	Dry		n/a	n/a	=	5,000.0	1,243.2	=	900.0	225.3	=	2419.2	37.9
SCRE-R005	6/1/2018		-	Dry		n/a	n/a	=	5,000.0	1,368.6	=	900.0	245.4	=	2419.2	45.0
SCRE-R005	6/2/2018		-	Dry		n/a	n/a	=	5,000.0	1,506.6	=	900.0	267.2	=	2419.2	53.3
SCRE-R005	6/3/2018		-	Dry		n/a	n/a	=	5,000.0	1,658.5	=	900.0	290.9	=	2419.2	63.2
SCRE-R005	6/4/2018		-	Dry		n/a	n/a	=	5,000.0	1,825.8	=	900.0	316.7	=	2419.2	75.0
SCRE-R005	6/5/2018	♦	8:41	Dry		n/a	n/a	>	1,600.0	1,935.0	=	80.0	318.2	=	43.1	77.7
SCRE-R005	6/6/2018		-	Dry		n/a	n/a	>	1,600.0	2,050.8	=	80.0	319.6	=	43.1	80.6
SCRE-R005	6/7/2018		-	Dry		n/a	n/a	>	1,600.0	2,076.6	=	80.0	311.6	=	43.1	82.7
SCRE-R005	6/8/2018		-	Dry		n/a	n/a	>	1,600.0	2,102.7	=	80.0	303.9	=	43.1	84.8
SCRE-R005	6/9/2018		-	Dry		n/a	n/a	>	1,600.0	2,129.1	=	80.0	296.4	=	43.1	87.0
SCRE-R005	6/10/2018		-	Dry		n/a	n/a	>	1,600.0	2,155.8	=	80.0	289.0	=	43.1	89.2
SCRE-R005	6/11/2018		-	Dry		n/a	n/a	>	1,600.0	2,182.9	=	80.0	281.9	=	43.1	91.5
SCRE-R005	6/12/2018		-	Dry		n/a	n/a	>	1,600.0	2,210.4	=	80.0	274.9	=	43.1	93.9
SCRE-R005	6/13/2018	♦	8:17	Dry		n/a	n/a	=	16,000.0	2,416.7	=	500.0	284.9	>	2419.2	110.1
SCRE-R005	6/14/2018		-	Dry		n/a	n/a	=	16,000.0	2,642.3	=	500.0	295.4	>	2419.2	129.2
SCRE-R005	6/15/2018		-	Dry		n/a	n/a	=	16,000.0	2,847.3	=	500.0	303.1	>	2419.2	150.5
SCRE-R005	6/16/2018		-	Dry		n/a	n/a	=	16,000.0	3,068.3	=	500.0	311.0	>	2419.2	175.4
SCRE-R005	6/17/2018		-	Dry		n/a	n/a	=	16,000.0	3,306.3	=	500.0	319.2	>	2419.2	204.4
SCRE-R005	6/18/2018		-	Dry		n/a	n/a	=	16,000.0	3,562.9	=	500.0	327.6	>	2419.2	238.2
SCRE-R005	6/19/2018	♦	9:05	Dry		n/a	n/a	=	9,000.0	3,766.4	=	230.0	327.6	=	980.4	269.3
SCRE-R005	6/20/2018		-	Dry		n/a	n/a	=	9,000.0	3,981.6	=	230.0	327.6	=	980.4	304.5
SCRE-R005	6/21/2018		-	Dry		n/a	n/a	=	9,000.0	4,160.9	=	230.0	319.2	=	980.4	332.2
SCRE-R005	6/22/2018		-	Dry		n/a	n/a	=	9,000.0	4,348.4	=	230.0	311.0	=	980.4	362.5

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	6/23/2018		-	Dry		n/a	n/a	=	9,000.0	4,544.2	=	230.0	303.1	=	980.4	395.5
SCRE-R005	6/24/2018		-	Dry		n/a	n/a	=	9,000.0	4,748.9	=	230.0	295.4	=	980.4	431.5
SCRE-R005	6/25/2018		-	Dry		n/a	n/a	=	9,000.0	4,962.8	=	230.0	287.8	=	980.4	470.8
SCRE-R005	6/26/2018	♦	9:29	Dry		n/a	n/a	>	16,000.0	5,286.8	=	80.0	270.8	=	365.4	497.1
SCRE-R005	6/27/2018		-	Dry		n/a	n/a	>	16,000.0	5,631.9	=	80.0	254.7	=	365.4	524.8
SCRE-R005	6/28/2018		-	Dry		n/a	n/a	>	16,000.0	5,999.5	=	80.0	239.6	=	365.4	554.1
SCRE-R005	6/29/2018		-	Dry		n/a	n/a	>	16,000.0	6,236.7	=	80.0	221.0	=	365.4	520.3
SCRE-R005	6/30/2018		-	Dry		n/a	n/a	>	16,000.0	6,483.3	=	80.0	203.9	=	365.4	488.5
SCRE-R005	7/1/2018		-	Dry		n/a	n/a	>	16,000.0	6,739.6	=	80.0	188.1	=	365.4	458.7
SCRE-R005	7/2/2018		-	Dry		n/a	n/a	>	16,000.0	7,006.0	=	80.0	173.5	=	365.4	430.7
SCRE-R005	7/3/2018	♦	9:44	Dry		n/a	n/a	=	5,000.0	7,006.0	=	210.0	165.3	>	2419.2	430.7
SCRE-R005	7/4/2018		-	Dry		n/a	n/a	=	5,000.0	7,006.0	=	210.0	157.5	>	2419.2	430.7
SCRE-R005	7/5/2018		-	Dry		n/a	n/a	=	5,000.0	7,277.2	=	210.0	162.6	>	2419.2	492.6
SCRE-R005	7/6/2018		-	Dry		n/a	n/a	=	5,000.0	7,559.0	=	210.0	167.9	>	2419.2	563.3
SCRE-R005	7/7/2018		-	Dry		n/a	n/a	=	5,000.0	7,851.6	=	210.0	173.4	>	2419.2	644.3
SCRE-R005	7/8/2018		-	Dry		n/a	n/a	=	5,000.0	8,155.5	=	210.0	179.1	>	2419.2	736.8
SCRE-R005	7/9/2018		-	Dry		n/a	n/a	=	5,000.0	8,471.2	=	210.0	185.0	>	2419.2	842.7
SCRE-R005	7/10/2018	♦	8:47	Dry		n/a	n/a	=	5,000.0	8,799.2	=	500.0	196.6	>	2419.2	963.8
SCRE-R005	7/11/2018		-	Dry		n/a	n/a	=	5,000.0	9,139.8	=	500.0	209.0	>	2419.2	1,102.3
SCRE-R005	7/12/2018		-	Dry		n/a	n/a	=	5,000.0	9,493.6	=	500.0	222.2	>	2419.2	1,260.7
SCRE-R005	7/13/2018		-	Dry		n/a	n/a	=	5,000.0	9,132.6	=	500.0	222.2	>	2419.2	1,260.7
SCRE-R005	7/14/2018		-	Dry		n/a	n/a	=	5,000.0	8,785.3	=	500.0	222.2	>	2419.2	1,260.7
SCRE-R005	7/15/2018		-	Dry		n/a	n/a	=	5,000.0	8,451.2	=	500.0	222.2	>	2419.2	1,260.7
SCRE-R005	7/16/2018		-	Dry		n/a	n/a	=	5,000.0	8,129.8	=	500.0	222.2	>	2419.2	1,260.7
SCRE-R005	7/17/2018	♦	8:45	Dry		n/a	n/a	=	34.0	6,622.0	=	34.0	203.1	>	2419.2	1,260.7
SCRE-R005	7/18/2018		-	Dry		n/a	n/a	=	34.0	5,393.9	=	34.0	185.7	>	2419.2	1,260.7
SCRE-R005	7/19/2018		-	Dry		n/a	n/a	=	34.0	4,478.6	=	34.0	174.2	>	2419.2	1,299.2
SCRE-R005	7/20/2018		-	Dry		n/a	n/a	=	34.0	3,718.6	=	34.0	163.5	>	2419.2	1,338.9
SCRE-R005	7/21/2018		-	Dry		n/a	n/a	=	34.0	3,087.6	=	34.0	153.4	>	2419.2	1,379.8
SCRE-R005	7/22/2018		-	Dry		n/a	n/a	=	34.0	2,563.7	=	34.0	143.9	>	2419.2	1,422.0
SCRE-R005	7/23/2018		-	Dry		n/a	n/a	=	34.0	2,128.7	=	34.0	135.0	>	2419.2	1,465.5
SCRE-R005	7/24/2018	♦	8:57	Dry		n/a	n/a	=	140.0	1,852.8	=	4.0	118.0	>	2419.2	1,510.3
SCRE-R005	7/25/2018		-	Dry		n/a	n/a	=	140.0	1,612.8	=	4.0	103.1	>	2419.2	1,556.4
SCRE-R005	7/26/2018		-	Dry		n/a	n/a	=	140.0	1,377.1	=	4.0	93.3	>	2419.2	1,657.6
SCRE-R005	7/27/2018		-	Dry		n/a	n/a	=	140.0	1,175.9	=	4.0	84.4	>	2419.2	1,765.4
SCRE-R005	7/28/2018		-	Dry		n/a	n/a	=	140.0	1,004.1	=	4.0	76.4	>	2419.2	1,880.3
SCRE-R005	7/29/2018		-	Dry		n/a	n/a	=	140.0	857.4	=	4.0	69.1	>	2419.2	2,002.5
SCRE-R005	7/30/2018		-	Dry		n/a	n/a	=	140.0	732.1	=	4.0	62.6	>	2419.2	2,132.8
SCRE-R005	7/31/2018	♦	8:00	Dry		n/a	n/a	=	2,400.0	687.2	=	20.0	59.7	>	2419.2	2,271.5
SCRE-R005	8/1/2018		-	Dry		n/a	n/a	=	2,400.0	645.1	=	20.0	57.0	>	2419.2	2,419.2
SCRE-R005	8/2/2018		-	Dry		n/a	n/a	=	2,400.0	629.5	=	20.0	52.7	>	2419.2	2,419.2
SCRE-R005	8/3/2018		-	Dry		n/a	n/a	=	2,400.0	614.3	=	20.0	48.8	>	2419.2	2,419.2

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	8/4/2018		-	Dry		n/a	n/a	=	2,400.0	599.5	=	20.0	45.1	>	2419.2	2,419.2
SCRE-R005	8/5/2018		-	Dry		n/a	n/a	=	2,400.0	585.0	=	20.0	41.7	>	2419.2	2,419.2
SCRE-R005	8/6/2018		-	Dry		n/a	n/a	=	2,400.0	570.8	=	20.0	38.5	>	2419.2	2,419.2
SCRE-R005	8/7/2018	♦	11:07	Dry		n/a	n/a	=	2,400.0	557.0	=	20.0	35.6	>	2419.2	2,419.2
SCRE-R005	8/8/2018		-	Dry		n/a	n/a	=	2,400.0	543.6	=	20.0	33.0	>	2419.2	2,419.2
SCRE-R005	8/9/2018		-	Dry		n/a	n/a	=	2,400.0	530.4	=	20.0	29.6	>	2419.2	2,419.2
SCRE-R005	8/10/2018		-	Dry		n/a	n/a	=	2,400.0	517.6	=	20.0	26.6	>	2419.2	2,419.2
SCRE-R005	8/11/2018		-	Dry		n/a	n/a	=	2,400.0	505.1	=	20.0	23.9	>	2419.2	2,419.2
SCRE-R005	8/12/2018		-	Dry		n/a	n/a	=	2,400.0	492.9	=	20.0	21.5	>	2419.2	2,419.2
SCRE-R005	8/13/2018		-	Dry		n/a	n/a	=	2,400.0	481.0	=	20.0	19.3	>	2419.2	2,419.2
SCRE-R005	8/14/2018	♦	10:03	Dry		n/a	n/a	=	2,400.0	469.4	=	20.0	17.3	>	2419.2	2,419.2
SCRE-R005	8/15/2018		-	Dry		n/a	n/a	=	2,400.0	458.0	=	20.0	15.5	>	2419.2	2,419.2
SCRE-R005	8/16/2018		-	Dry		n/a	n/a	=	2,400.0	527.9	=	20.0	15.3	>	2419.2	2,419.2
SCRE-R005	8/17/2018		-	Dry		n/a	n/a	=	2,400.0	608.3	=	20.0	15.0	>	2419.2	2,419.2
SCRE-R005	8/18/2018		-	Dry		n/a	n/a	=	2,400.0	701.1	=	20.0	14.7	>	2419.2	2,419.2
SCRE-R005	8/19/2018		-	Dry		n/a	n/a	=	2,400.0	808.0	=	20.0	14.5	>	2419.2	2,419.2
SCRE-R005	8/20/2018		-	Dry		n/a	n/a	=	2,400.0	931.1	=	20.0	14.2	>	2419.2	2,419.2
SCRE-R005	8/21/2018	♦	10:17	Dry		n/a	n/a	=	2,400.0	1,073.1	=	20.0	14.0	>	2419.2	2,419.2
SCRE-R005	8/22/2018		-	Dry		n/a	n/a	=	2,400.0	1,236.7	=	20.0	13.7	>	2419.2	2,419.2
SCRE-R005	8/23/2018		-	Dry		n/a	n/a	=	2,400.0	1,359.5	=	20.0	14.5	>	2419.2	2,419.2
SCRE-R005	8/24/2018		-	Dry		n/a	n/a	=	2,400.0	1,494.6	=	20.0	15.3	>	2419.2	2,419.2
SCRE-R005	8/25/2018		-	Dry		n/a	n/a	=	2,400.0	1,643.1	=	20.0	16.1	>	2419.2	2,419.2
SCRE-R005	8/26/2018		-	Dry		n/a	n/a	=	2,400.0	1,806.4	=	20.0	17.0	>	2419.2	2,419.2
SCRE-R005	8/27/2018		-	Dry		n/a	n/a	=	2,400.0	1,985.8	=	20.0	18.0	>	2419.2	2,419.2
SCRE-R005	8/28/2018	♦	9:23	Dry		n/a	n/a	=	2,400.0	2,183.1	=	20.0	19.0	>	2419.2	2,419.2
SCRE-R005	8/29/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	8/30/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	8/31/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	9/1/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	9/2/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	9/3/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	9/4/2018		-	Dry		n/a	n/a	=	2,400.0	2,400.0	=	20.0	20.0	>	2419.2	2,419.2
SCRE-R005	9/5/2018	♦	10:17	Dry		n/a	n/a	=	5,000.0	2,459.4	=	1,100.0	22.9	=	27.2	2,083.1
SCRE-R005	9/6/2018		-	Dry		n/a	n/a	=	5,000.0	2,520.4	=	1,100.0	26.1	=	27.2	1,793.6
SCRE-R005	9/7/2018		-	Dry		n/a	n/a	=	5,000.0	2,582.8	=	1,100.0	29.9	=	27.2	1,544.4
SCRE-R005	9/8/2018		-	Dry		n/a	n/a	=	5,000.0	2,646.7	=	1,100.0	34.1	=	27.2	1,329.8

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample E.coli (MPN/100mL) (235 MPN)	30-Day Geomean E.coli (MPN/100mL) (126 MPN)		Single Sample Total Coliform (MPN/100mL) (10,000 MPN)	30-Day Geomean Total Coliform (MPN/100mL) (1,000 MPN)		Single Sample Fecal Coliform (MPN/100mL) (400 MPN)	30-Day Geomean Fecal Coliform (MPN/100mL) (200 MPN)		Single Sample Enterococcus (MPN/100mL) (104 MPN)	30-Day Geomean Enterococcus (MPN/100mL) (35 MPN)
SCRE-R005	9/9/2018		-	Dry		n/a	n/a	=	5,000.0	2,712.3	=	1,100.0	39.0	=	27.2	1,145.0
SCRE-R005	9/10/2018		-	Dry		n/a	n/a	=	5,000.0	2,779.5	=	1,100.0	44.6	=	27.2	985.9
SCRE-R005	9/11/2018	♦	7:52	Dry		n/a	n/a	=	1,300.0	2,723.2	=	1,300.0	51.2	=	35.4	856.4
SCRE-R005	9/12/2018		-	Dry		n/a	n/a	=	1,300.0	2,668.2	=	1,300.0	58.9	=	35.4	743.9
SCRE-R005	9/13/2018		-	Dry		n/a	n/a	=	1,300.0	2,614.2	=	1,300.0	67.7	=	35.4	646.2
SCRE-R005	9/14/2018		-	Dry		n/a	n/a	=	1,300.0	2,561.3	=	1,300.0	77.8	=	35.4	561.3
SCRE-R005	9/15/2018		-	Dry		n/a	n/a	=	1,300.0	2,509.5	=	1,300.0	89.4	=	35.4	487.6
SCRE-R005	9/16/2018		-	Dry		n/a	n/a	=	1,300.0	2,458.7	=	1,300.0	102.7	=	35.4	423.6
SCRE-R005	9/17/2018		-	Dry		n/a	n/a	=	1,300.0	2,409.0	=	1,300.0	118.1	=	35.4	367.9
SCRE-R005	9/18/2018	♦	9:35	Dry		n/a	n/a	=	280.0	2,242.5	=	2.0	109.3	=	3	294.4
SCRE-R005	9/19/2018		-	Dry		n/a	n/a	=	280.0	2,087.5	=	2.0	101.3	=	3	235.5
SCRE-R005	9/20/2018		-	Dry		n/a	n/a	=	280.0	1,943.2	=	2.0	93.8	=	3	188.4
SCRE-R005	9/21/2018		-	Dry		n/a	n/a	=	280.0	1,809.0	=	2.0	86.9	=	3	150.7
SCRE-R005	9/22/2018		-	Dry		n/a	n/a	=	280.0	1,683.9	=	2.0	80.4	=	3	120.6
SCRE-R005	9/23/2018		-	Dry		n/a	n/a	=	280.0	1,567.6	=	2.0	74.5	=	3	96.5
SCRE-R005	9/24/2018		-	Dry		n/a	n/a	=	280.0	1,459.2	=	2.0	69.0	=	3	77.2
SCRE-R005	9/25/2018	♦	9:30	Dry		n/a	n/a	=	9,000.0	1,525.0	=	13.0	68.0	=	24.2	66.2
SCRE-R005	9/27/2018		-	Dry		n/a	n/a	=	9,000.0	1,571.3	=	13.0	69.9	=	32.8	49.7
SCRE-R005	9/28/2018		-	Dry		n/a	n/a	=	9,000.0	1,644.6	=	13.0	68.9	=	32.8	43.1
SCRE-R005	9/29/2018		-	Dry		n/a	n/a	=	9,000.0	1,721.3	=	13.0	67.8	=	32.8	37.3
SCRE-R005	9/30/2018		-	Dry		n/a	n/a	=	9,000.0	1,801.5	=	13.0	66.8	=	32.8	32.3
SCRE-R005	10/1/2018		-	Dry		n/a	n/a	=	9,000.0	1,885.5	=	13.0	65.9	=	32.8	28.0
SCRE-R005	10/2/2018	♦	10:03	Dry		n/a	n/a	>	16,000.0	2,013.0	=	13.0	64.9	=	4.1	22.6
SCRE-R005	10/3/2018		-	Dry		n/a	n/a	>	16,000.0	2,149.1	=	13.0	63.9	=	4.1	18.3
SCRE-R005	10/4/2018		-	Dry		n/a	n/a	>	16,000.0	2,294.4	=	13.0	63.0	=	4.1	14.8
SCRE-R005	10/5/2018		-	Dry		n/a	n/a	>	16,000.0	2,388.3	=	13.0	54.1	=	4.1	13.9
SCRE-R005	10/6/2018		-	Dry		n/a	n/a	>	16,000.0	2,486.0	=	13.0	46.4	=	4.1	13.0
SCRE-R005	10/7/2018		-	Dry		n/a	n/a	>	16,000.0	2,587.8	=	13.0	39.8	=	4.1	12.2
SCRE-R005	10/8/2018		-	Dry		n/a	n/a	>	16,000.0	2,693.7	=	13.0	34.2	=	4.1	11.5
SCRE-R005	10/9/2018	♦	8:55	Dry		n/a	n/a	=	9,000.0	2,748.8	=	50.0	30.7	=	17.1	11.3
SCRE-R005	10/10/2018		-	Dry		n/a	n/a	=	9,000.0	2,805.1	=	50.0	27.6	=	17.1	11.1
SCRE-R005	10/11/2018		-	Dry		n/a	n/a	=	9,000.0	2,998.6	=	50.0	24.7	=	17.1	10.9
SCRE-R005	10/12/2018		-	Dry		n/a	n/a	=	9,000.0	3,205.5	=	50.0	22.0	=	17.1	10.6
SCRE-R005	10/13/2018		-	Dry		n/a	n/a	=	9,000.0	3,426.7	=	50.0	19.7	=	17.1	10.4
SCRE-R005	10/14/2018		-	Dry		n/a	n/a	=	9,000.0	3,663.1	=	50.0	17.6	=	17.1	10.1

Table 2.
Geomean Data for Weekly Sampling Results for Santa Clara River Reach 3 (SCRR3-RW1) and Estuary (SCRE-R005)

Location	Date		Time	Rain		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean		Single Sample	30-Day Geomean
						E.coli (MPN/100mL)			Total Coliform (MPN/100mL)			Fecal Coliform (MPN/100mL)			Enterococcus (MPN/100mL)	
						(235 MPN)	(126 MPN)		(10,000 MPN)	(1,000 MPN)		(400 MPN)	(200 MPN)		(104 MPN)	(35 MPN)
SCRE-R005	10/15/2018		-	Dry		n/a	n/a	=	9,000.0	3,915.9	=	50.0	15.7	=	17.1	9.9
SCRE-R005	10/16/2018	♦	8:48	Dry		n/a	n/a	=	5,000.0	4,102.0	=	4.0	12.9	=	9.1	9.4
SCRE-R005	10/17/2018		-	Dry		n/a	n/a	=	5,000.0	4,297.1	=	4.0	10.6	=	9.1	9.0
SCRE-R005	10/18/2018		-	Dry		n/a	n/a	=	5,000.0	4,746.1	=	4.0	10.8	=	9.1	9.4
SCRE-R005	10/19/2018		-	Dry		n/a	n/a	=	5,000.0	5,242.1	=	4.0	11.1	=	9.1	9.7
SCRE-R005	10/20/2018		-	Dry		n/a	n/a	=	5,000.0	5,789.9	=	4.0	11.3	=	9.1	10.1
SCRE-R005	10/21/2018		-	Dry		n/a	n/a	=	5,000.0	6,395.0	=	4.0	11.6	=	9.1	10.5
SCRE-R005	10/22/2018		-	Dry		n/a	n/a	=	5,000.0	7,063.2	=	4.0	11.9	=	9.1	10.9
SCRE-R005	10/23/2018	♦	8:55	Dry		n/a	n/a	=	9,000.0	7,961.1	=	27.0	13.0	=	7.2	11.2
SCRE-R005	10/24/2018		-	Dry		n/a	n/a	=	9,000.0	8,973.1	=	27.0	14.2	=	7.2	11.5
SCRE-R005	10/25/2018		-	Dry		n/a	n/a	=	9,000.0	8,973.1	=	27.0	14.6	=	7.2	11.1
SCRE-R005	10/26/2018		-	Dry		n/a	n/a	=	9,000.0	8,974.0	=	27.0	14.9	=	7.2	10.5
SCRE-R005	10/27/2018		-	Dry		n/a	n/a	=	9,000.0	8,974.0	=	27.0	15.3	=	7.2	10.0
SCRE-R005	10/28/2018		-	Dry		n/a	n/a	=	9,000.0	8,974.0	=	27.0	15.6	=	7.2	9.5
SCRE-R005	10/29/2018		-	Dry		n/a	n/a	=	9,000.0	8,974.0	=	27.0	16.0	=	7.2	9.0
SCRE-R005	10/30/2018	♦	9:12	Dry		n/a	n/a	>	16,000.0	9,147.7	=	4.0	15.4	=	23.8	8.9

Notes:

♦ Date of Sampling

Weeks with alternating wet weather samples (collected 72 hours after a day with >0.1” rainfall) and dry weather samples, previous 30 days of either wet weather samples or dry weather samples were used to calculate daily geomean.

To meet the prescribed dry weather geometric mean frequency, statistics were calculated for dry events at SCRR3-RW1 by assigning a concentration value of 0.01 colony-forming unit (CFU) (rather than 0.0 CFU) when the site was not flowing. A zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.

MPN - most probably number

TMDL - Total Maximum Daily Load

E.coli - Escherichia coli

n/a - not applicable to site

> - greater than

< - less than

= - equal to