Ventura Countywide Stormwater Quality Management Program

2013-2014 Permit Year

Ventura Countywide Stormwater Quality Management Program Annual Report

Attachment D: Water Quality Monitoring Appendices C, D and E

December 12, 2014

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

Appendix C. NRCS Curve Number Methodology Discussion

Ventura County
Watershed Protection District
Planning & Regulatory
Hydrology Section
MEMORANDUM

DATE: September 4, 2009 Updated August 12, 2010

TO: Tommy Liddell

VIA: Bruce Rindahl

FROM: Mark Bandurraga

SUBJECT: **NPDES Monitoring Site Yield Evaluation**

Per your request, we have used the land use and watershed information you provided to prepare a spreadsheet that can be used to estimate the runoff quantities from storm forecasts. The runoff quantity is estimated using the NRCS Curve Number approach that is a common method in hydrology. The results show that the weighed Curve Numbers estimated from the evaluation range from a low of about 74 for the rural Fox Canyon Drain watershed in Ojai to a high of about 91 for the urbanized watershed in the City of Ventura. The methodology and files used to calculate the Curve Numbers are described in this memo for the watersheds shown in Figures 1-4.

In August 2010 you requested results for another 7 monitoring sites across the county. This memo describes the additional work done for that request.

Curve Number Calculation Methodology

Land Use Data

Land Use data used in the study were provided by the Water Quality Section already clipped to the monitoring site boundaries and in a geodatabase. The land use data were extracted from the Assessor's Parcel database which is considered to be current as of the date of extraction (Feb 12, 2009). The various classifications in the file based on the assessor's 4-digit site use codes were sorted and assigned hydrologic land use names associated with the various classifications contained in the Curve Number (CN) Table from the Hydrology Manual (2006) as shown in Table 1. The categories in the land use file corresponded well with the land uses in the VCWPD CN Table with the following exceptions:

1. Vacant undifferentiated land was assumed be open brush in fair condition in rural areas and open space with 50% grass cover in urban areas.
2. Mixed urban land uses were assumed to correspond to commercial properties with 50% effective impervious.
3. Fire stations, public buildings, and schools were assigned to the low industrial use category with an effective impervious value of 36% due to the potential for large landscaped areas.

Table 1 Land Uses In NPDES Database (Assessor's Land Uses)

KVM_CAT1	SHORT_	Name
Agriculture	Abandoned Orchards and Vineyards	Orchard
Agriculture	Horse Ranches	open
Agriculture	Nurseries	Orchard
Agriculture	Orchards and Vineyards	Orchard
Agriculture	Vacant With Limited Improvements	open
Com_Indus. Mix	Mixed Commercial and Industrial	Comm
Commer.	Commercial Recreation	Comm
Commer.	Commercial Storage	Comm
Commer.	Low- to Medium-Rise Major Office Use	comm
Commer.	Modern Strip Development	comm
Commer.	Retail Centers (Non-Strip with Contiguous Interconnected Off-Street Parking)	comm
Extraction	WHOLESALING AND WAREHOUSING	indhigh
Facilitiy	Fire Stations**	indlow
Facilitiy	Government Offices	indlow
Facilitiy	Major Medical Health Care Facilities	comm
Facilitiy	Other Public Facilities	indlow
Facilitiy	Other Special Use Facilities	indlow
Facilitiy	Police and Sheriff Stations**	indlow
Facilitiy	Religious Facilities	indlow
Facilitiy	Special Care Facilities	indlow
Industrial_1	Open Storage	indlow
Industrial_1	Packing Houses and Grain Elevators	indlow
Industrial_3	Manufacturing, Assembly, and Industrial Services	indhigh
No Info Given		open
Recreation	Other Open Space and Recreation	open
Res.1	Low Density Single Family Residential	reslow
Res.1	Trailer Parks and Mobile Home Courts, High Density	reshigh
Res.2	Low-Rise Apartments, Condominiums, and Townhouses	reshigh
Res.2	Rural Residential Low Density	resrural
Res.3	High Density Single Family Residential	reshigh
Res.4	Duplexes, Triplexes, and 2- or 3-Unit Condominiums and Townhouses	reshigh
Res.4	Medium-Rise Apartments and Condominiums	reshigh
Res.4	Mixed Urban	comm
Schools	Elementary Schools**	indlow
Schools	Junior High Schools**	indlow
Schools	Senior High Schools**	indlow
Transportation	Freeways and Major Roads	paved
Transportation	Mixed Transportation	paved
Transportation	Truck Terminals	paved
Under Constructi	Under Construction	indlow
Utilities	Electrical Power Facilities	indlow
Vacant Undiffere	Vacant Undifferentiated (rural)	brushfair
Vacant Undiffere	Vacant Undifferentiated (city)	open

Soils Information

The soils information was obtained from the District soils shapefile that groups the soil info into categories 1 through 7 corresponding to the NRCS soil categories D through A, respectively. The soils info was clipped to the watershed boundaries using the watershed shapefile. The areas

obtained from the soils files were checked against the total watershed areas to make sure they were identical.

Combined Soils and Land Use Information and Weighted Curve Numbers

The soils and land use shapefiles were then unioned in GIS to obtain the combinations of soil type and land uses in the watersheds. The resulting table was imported into excel and sorted to group the various land uses. The land uses were then assigned a name associated with the data in the District CN Table. Based on the name and soil number, excel functions "match" and "offset" were used to obtain a CN from the CN Table. The weighted soil number and Curve Number for each watershed were calculated using the areas, soil numbers, and CN's. The weighted soil types were checked against the data in the original watershed soil files and were found to be the same. The weighted Curve Numbers were linked to a summary worksheet to be used to calculate the yields by the Water Quality Section. This procedure was also applied to the 7 additional watersheds added to the study in August 2010.

The results are shown in Table 2.

Table 2: Storm Yield Results- Weighted Average Curve Numbers

Watershed Name	Size ac	Compo-site CN	Rain (in)	Initial Abs S (no units)	Rain cutoff (in)	Yield (in)	% Yield
Camarillo	2,779	85.12	5.00	1.75	0.35	3.38	68%
Happy Valley	1,026	77.29	5.00	2.94	0.59	2.65	53%
Fox	749	74.19	5.00	3.48	0.70	2.38	48%
Ventura	707	90.93	5.00	1.00	0.20	3.97	79%
Fillmore	762	74.77	5.00	3.37	0.67	2.43	49%
Port Hueneme	589	85.60	5.00	1.68	0.34	3.43	69%
Moorpark	1,816	63.34	5.00	5.79	1.16	1.53	31%
Oxnard	1,374	84.07	5.00	1.89	0.38	3.28	66%
Simi Valley	3,321	71.04	5.00	4.08	0.82	2.12	42%
Santa Paula	64	80.07	5.00	2.49	0.50	2.90	58%
Thousand Oaks	5,179	81.54	5.00	2.26	0.45	3.04	61%

Between the first request and present, the Hydrology Section has updated their Curve Number tables to make them more consistent with reported infiltration rates in the Hydrology Manual. The resultant CNs were used in the study to see the effect on the yields as shown in Table 3.

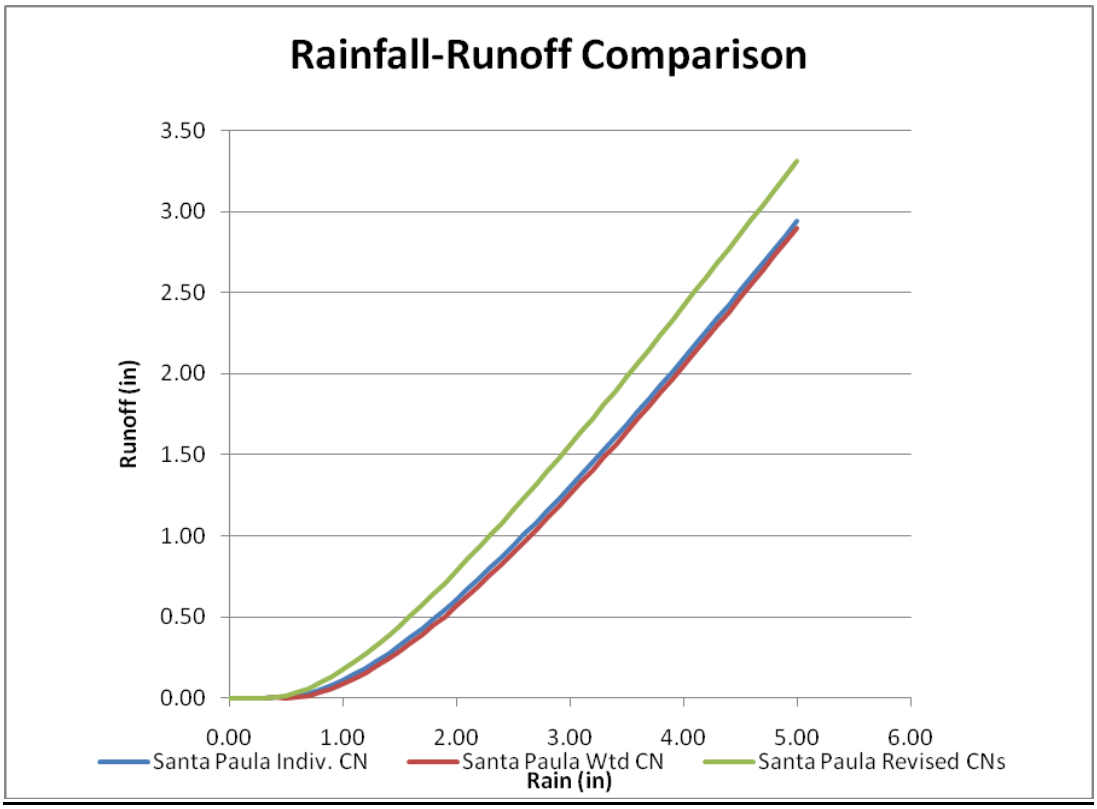
Table 3: Storm Yield Results- Weighted Average Curve Numbers with Updated CNs

Watershed Name	Size ac	Compo-site CN	Rain (in)	Initial Abs S (no units)	Rain Cutoff (in)	Yield (in)	% Yield
Camarillo	2,779	84.72	5.00	1.80	0.36	3.34	67%
Happy Valley	1,026	77.22	5.00	2.95	0.59	2.64	53%
Fox	749	73.48	5.00	3.61	0.72	2.32	46%
Ventura	707	91.24	5.00	0.96	0.19	4.01	80%
Fillmore	762	74.39	5.00	3.44	0.69	2.40	48%
Port Hueneme	589	86.14	5.00	1.61	0.32	3.48	70%
Moorpark	1,816	64.63	5.00	5.47	1.09	1.63	33%
Oxnard	1,374	84.01	5.00	1.90	0.38	3.27	65%
Simi Valley	3,321	71.11	5.00	4.06	0.81	2.13	43%
Santa Paula	64	84.22	5.00	1.87	0.37	3.29	66%
Thousand Oaks	5,179	81.27	5.00	2.30	0.46	3.01	60%

The results showed that the revised CNs provided yields that were 1 or 2% higher than the 2006 CN set except for the Santa Paula watershed. This watershed was soil type 6, which had CNs that were more affected by the updates than most of the CNs for the other soils.

While working on the 2nd request, it was realized that the Hydrology Section could provide more precise estimates of flow at lower rainfall levels by analyzing each soil/land use combination individually and summing the results rather than using a weighted average CN in the runoff equation. So the individual CN results were calculated and summed for both the 7 sites in this update and the previous 4 sites. The resultant spreadsheets provide tables of runoff vs rainfall data. Figure 1 shows a comparison of the rainfall and runoff from a highly developed watershed Camarillo using the weighted average CN, individual CNs, and revised individual CNs.

Figure 1



Conclusions and Limitations

The provided weighted CNs can be used to estimate runoff from low to moderately saturated watersheds. It has been our experience that it is necessary to use Antecedent Moisture Condition III CNs for highly saturated watersheds which only occurs after many days of heavy rainfall such as January 10, 2005. The provided CNs probably will overpredict the runoff coming from the first storms of the season due to the very dry antecedent moisture conditions present then. If necessary further work can be done to provide CNs representing AMC I conditions. Also, the CNs assigned to the various land uses can be calibrated after enough storms have occurred to evaluate the predictive accuracy of the current yield equations provided to the NPDES group. It should also be possible to provide forecasts of runoff from the HSPF forecast model of the Ventura River watershed that more accurate reflect saturated/unsaturated conditions.

List of Files in Work Directory K:\PR\hydrology\Watersheds\NPDES\Monitoring_Sites

Filename	Description
GIS	Contains GIS files used in evaluation
GIS2010	Contains 2010 GIS files used in updated evaluation
ClippedLandUse.mdb	Geodatabase with land uses clipped to watershed boundaries provided by WQ section
*_SelectedWatershed.shp	shapefiles showing boundaries of monitoring watersheds
*soils.shp	soils shapefiles clipped to watershed boundaries
*soilsunion.shp	Union of soils and land use data shapefile for watersheds
Allsoil.shp	VCWPD soils shapefile showing numbers for hydrology calcs
NPDES_MonitoringSitesRunoff9-09.xls	9-09 CN data
NPDES_MonitoringSitesRunoff8-10.xls	8-10 updated analysis for 11 sites total
NPDES_MonitoringSitesRunoff8-10RevCNs.xls	8-10 analysis using revised CNs
MonitoringSites9-09.mxd	ArcMap project file for analysis

Ventura Watershed

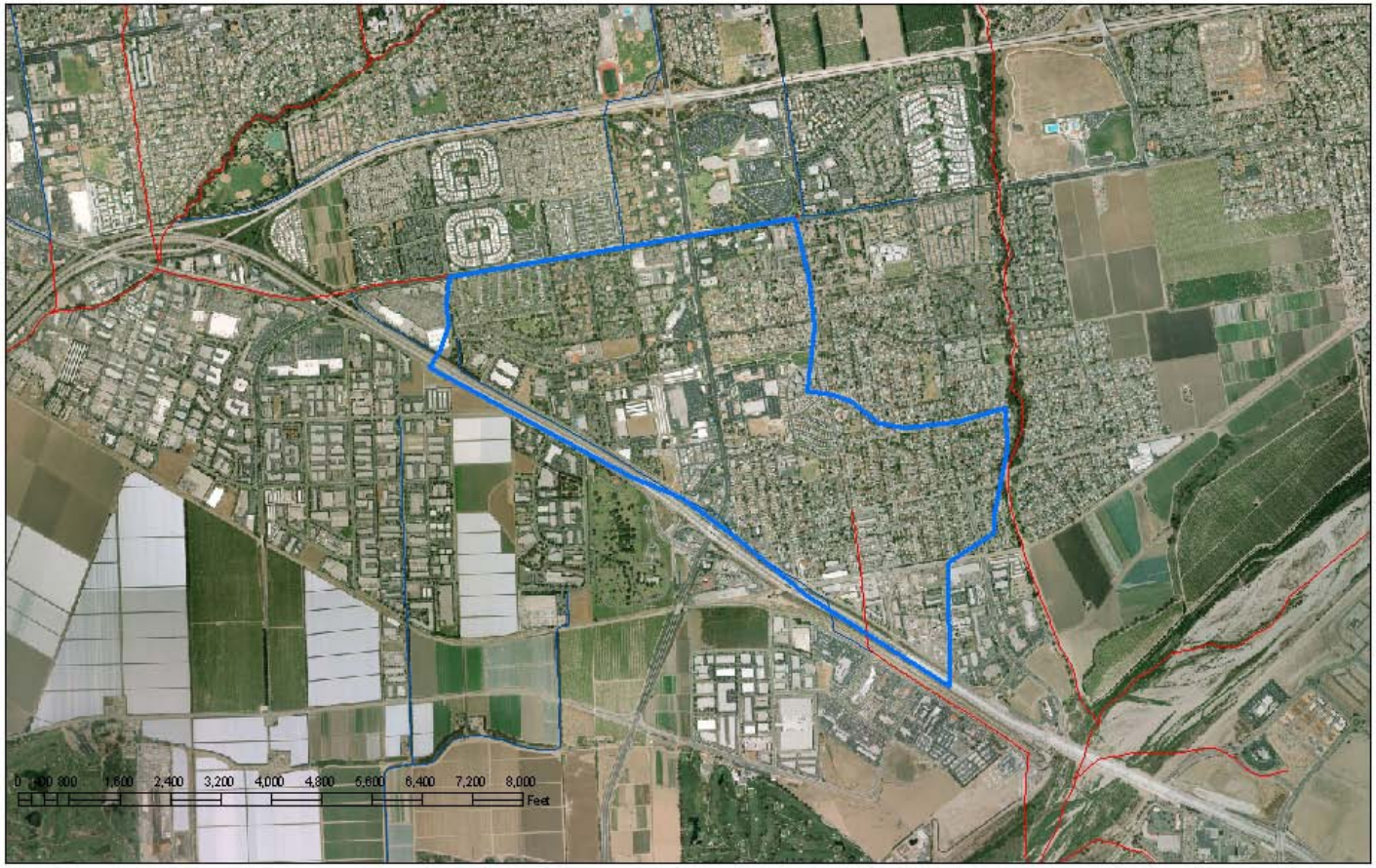


Figure 2

Meiners Oaks Happy Valley Watershed

Figure 3

Ojai Fox Watershed

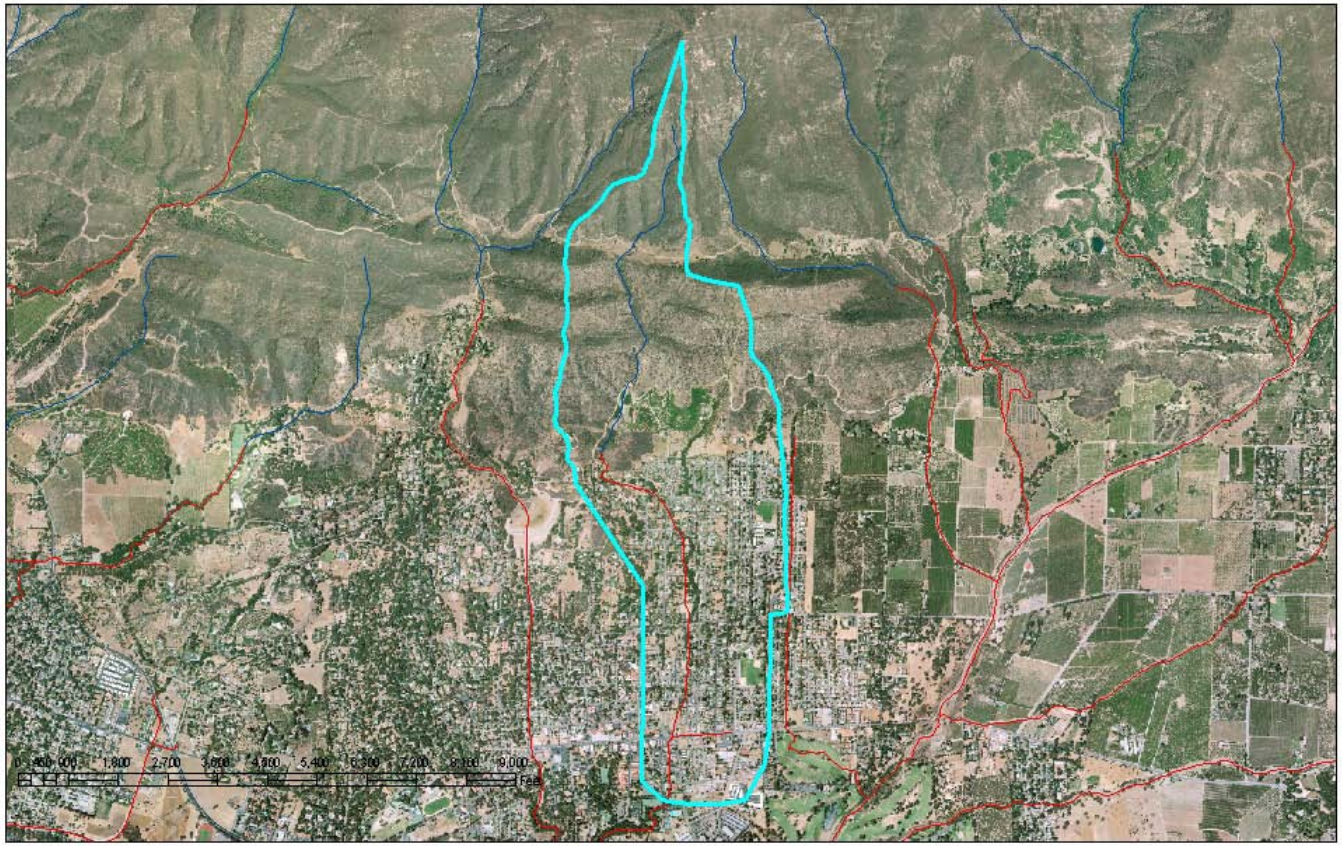


Figure 4

Camarillo Hills Drain Watershed

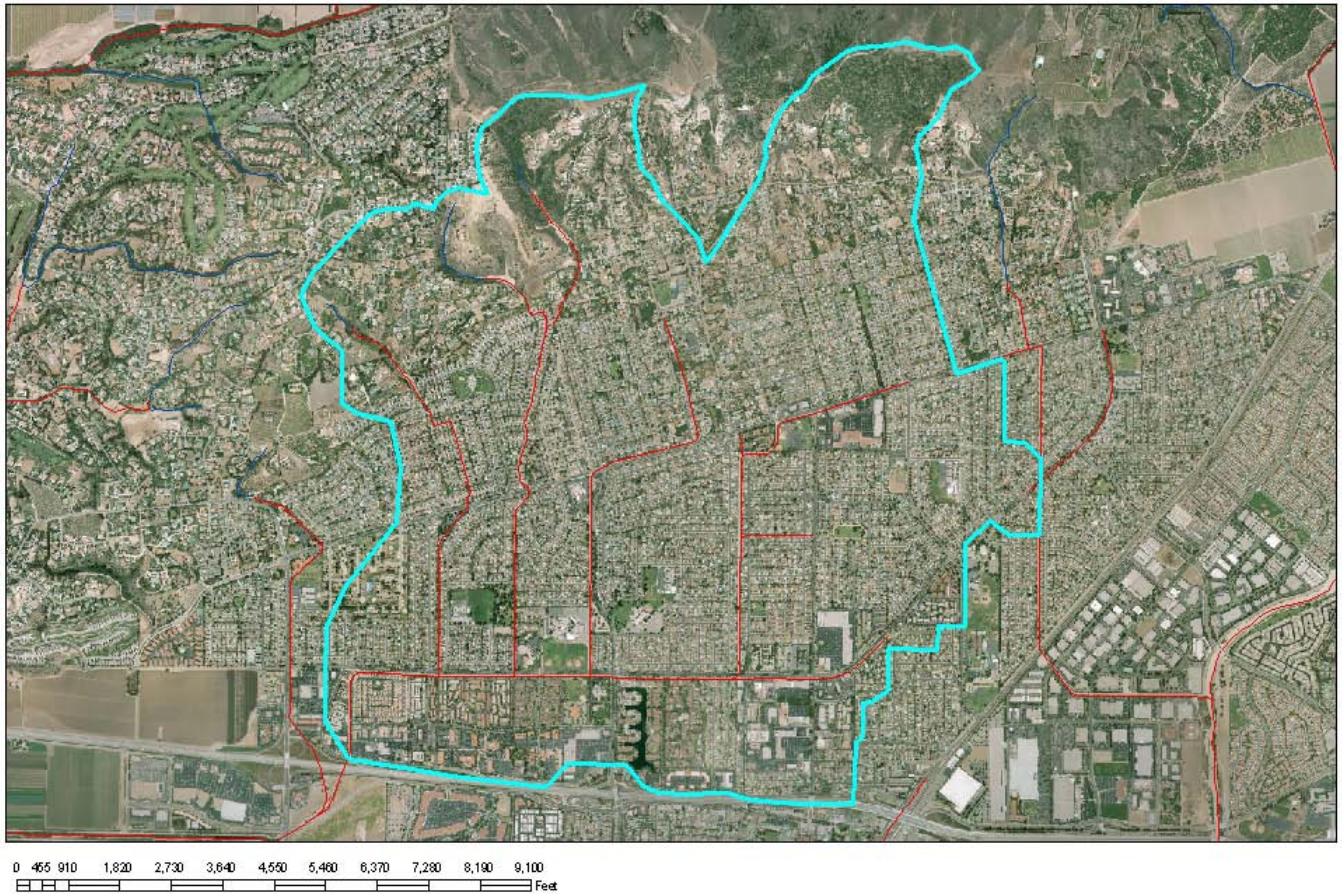


Figure 5

Simi Valley Watershed

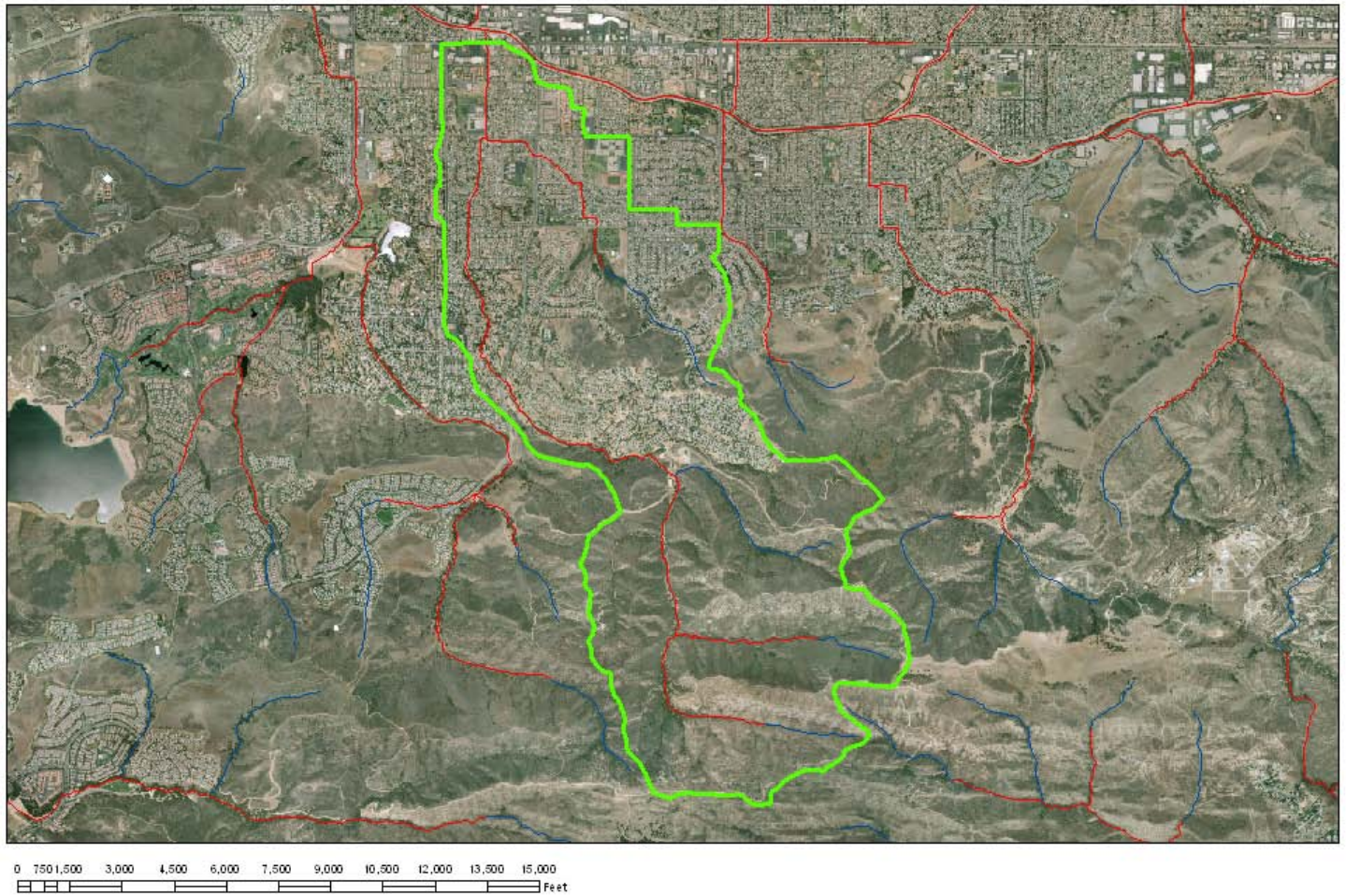


Figure 6

Oxnard Watershed

Figure 7

Moorpark Watershed

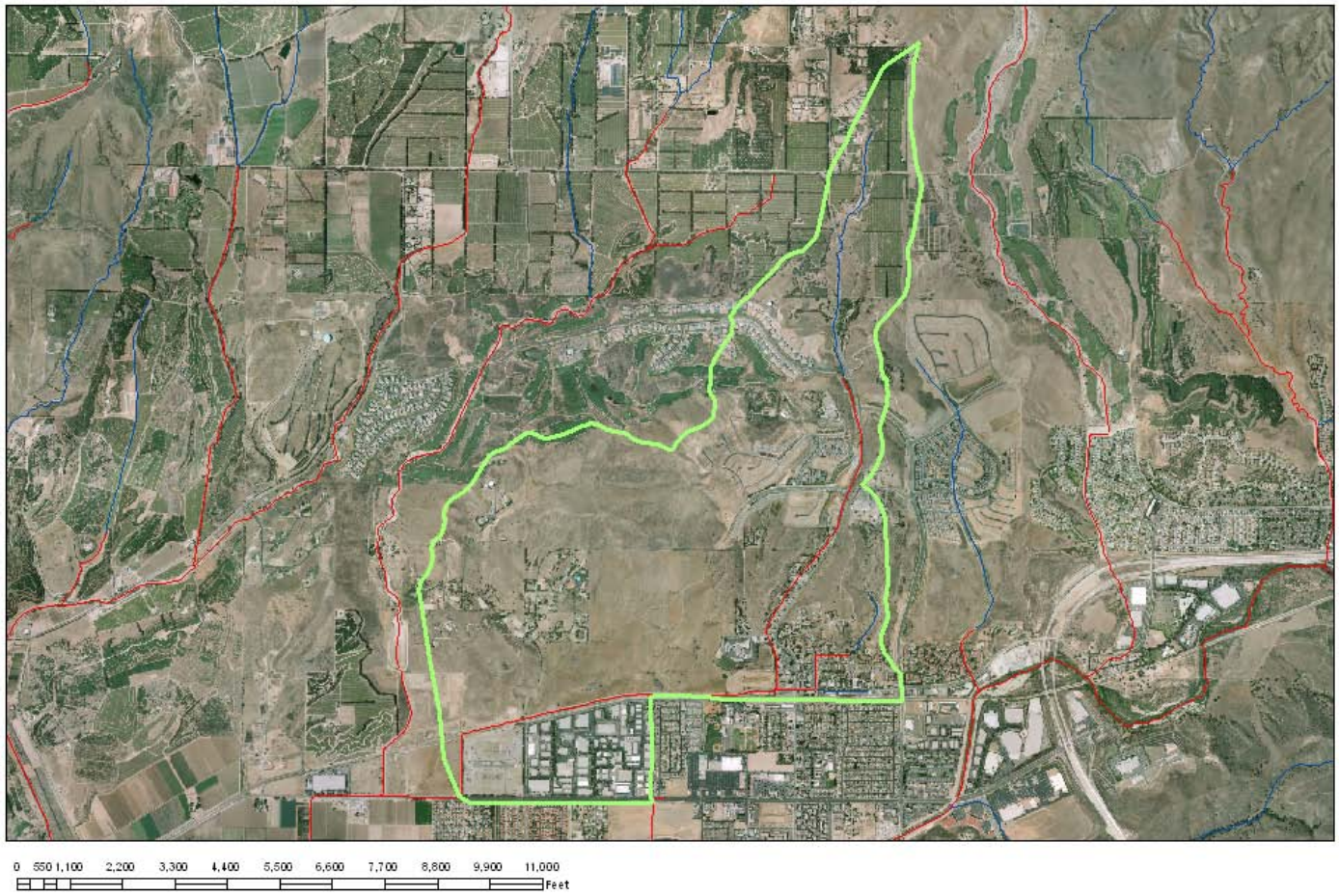


Figure 8

Port Hueneme Watershed

Figure 9

Fillmore Watershed

Figure 10

Thousand Oaks Watershed

Figure 11

Santa Paula Watershed

Figure 12

Appendix D. Event Summaries

NPDES 2013/14 Water Quality Monitoring
Event #1 (Wet), December 7, 2013 Summary

Notes: The forecasts for this storm were weak with the national weather service (NWS) predicting a fast moving storm would drop amounts of a third of an inch or less across the Los Angeles and Ventura County area but their quantitative precipitation forecasts (QPFs) showed less than a quarter inch for regions with sampling stations within Ventura County. Alan Fox predicted amounts less than 0.20 inch across the county, and below 0.10 inch in several areas. This storm followed a similar pattern to the storm of November 20, 2013 (first flush storm that was not predicted to deliver qualifying amounts of precipitation but did) so the Program set up for the storm anyway. Rainfall was similar to that predicted by the NWS.

Forecasted Rainfall Amounts: <0.33" rainfall

Actual Rainfall Amounts: ~ 0.16 0.33" across the county

Sampling Durations (to nearest 0.5 hours):

ME-CC = 7.0 hrs.	ME-SCR = 5.0 hrs.	ME-VR2 = 6.0 hrs.
MO-CAM = 1.0 hrs.	MO-FIL = 3.0 hrs.	MO-HUE = 8.5 hrs.
MO-MEI = <0.5 hrs.	MO-MPK = 1.5 hrs.	MO-OJA = <0.5 hrs.
MO-OXN = 2.5 hrs.	MO-SIM = 1.5 hrs.	MO-SPA = 5.5 hrs.
MO-THO = 16.0 hrs.	MO-VEN = 0.5 hrs.	

Storm Control: Understaffed due to staff illness. Kelly Hahs and Tommy Liddell until needed for sampling.

Sampling Crew (during storm):
VR2/OJA/MEI/VEN/HUE: Bram Sercu & J.R. DiCesar (JRE)
CC/SCR/CAM/OXN: Kelly Hahs & Tommy Liddell (JRE)
FIL/SPA/SIM/MPK/THO: Arne Anselm & Jim McRory (GCE)

Sampling Crew (post-storm sample pickup):
12/8/2013 (SPA/FIL/OJA/MEI/VR2/HUE/OXN): Kelly Hahs & Dean Wilkinson (GCE)
12/8/2013 (SCR/MPK/SIM/THO/CC/CAM/VEN): Arne Anselm & Bram Sercu

NPDES ~ MASS EMISSION

ME-CC Calleguas Creek (CSUCI Bridge)

- **11/19/2013 @ 13:15 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

- **12/6/2013 @ 13:13 PST [KH]**

2105ci: Pacing = 1,000 cf
4230: 1.029', 1 cfs.
6712: Fridge at 4°C, turned 1 notch colder. Flushed line with 2 liters of distilled water. Pump count 26,375. Program flow paced; pacing every 75 pulses, 96 hour max run time. Run program: "Program disabled 13:18:24 FR 6-DEC". Removed lid from composite bottle.

- **12/7/2013 @ 11:23 PST [KH,TL]**

4230: 1.078', 6 cfs

6712: "Program Disabled." Bottle empty. Flow too low to trigger program. Unplugged 2105ci and reprogrammed to collect samples every 12 minutes (~7 hour program). Sample 1 volume good.

Grab samples: Bacteriological, chemistry, and toxicity grabs taken at check structure @ 11:30 PST.

Field Measurements:	Temperature = 12.2°C	pH = 7.87
DO (%) = 87.6	Conductivity = 1201 uS	Salinity = 0.8 ppt
DO(mg/L) = 9.34	Specific Conductance = 1558 uS	

❖ **12/8/2013 @ 08:05 PST [AA,BS]**

4230: 1.265', 37 cfs, OSS=1.27'

6712: "Program done." Composite overflowed. Fridge at -0.5°C. Flushed line with 2 L distilled water. Pump tubing count 365,912.

Composite samples: Pulled at 10:36 PST.

❖ **Follow Up**

Download sample data, reconnect 2105ci, check calibration of pump (may need to program future events with fewer sample punches).

NOTE: Hydrograph takes a long time to respond. Response began ~ 5 hours after the rain began and main response began ~14 hours after rain began. Peak flow was ~20 hours after rain began. Return to base was ~ 40 hours after rain began. For future events, leave program disabled and monitor remotely. Remotely enable if needed but allow for long response time.

❖ **12/11/2013 [KH,WBC]**

6712: Data was downloaded from 6712. Data file was empty but text report was able to be converted and uploaded into Flowlink. Checked calibration. Varies in volume. May be due to air pockets in sample line that is not completely taut.

ME-SCR Santa Clara River (Freeman Diversion)

❖ **11/19/2013 @ 10:30 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 15:14 PST [KH]**

All lines out of contact with water. Main roller gate has been opened and ponded water has all been flushed downstream. Small channels of streams in sediment remain but are not near sampler intake. Swing arm intake (designed to keep the intake strainer submerged regardless of whether the diversion is open or closed) was stuck in sediment. Freed the line and dislodged the sediment clogging the line. Shoveled sediment to redirect water towards sampler but insufficient daylight to make much difference. Will only be sampleable if get enough flow to flush out sediment.

4210: 2.864'

6712: Flushed line with 2L distilled water. Line clogged. Dislodged clog. Flushed line with 8L distilled water. Program time paced 9 hours, sample every 15 minutes. Run program: "Program disabled 17:09 FR 6-DEC." Removed lid from composite bottle.

❖ **12/7/2013 @ 12:15 PST [KH,TL]**

UWCD closed the roller gate to try to collect water buy turbidity was too high so they reopened the roller gate. While the gate was closed, water ponded behind the gate in

sufficient quantities to be sampleable for the intake. After the gate was opened, the water drained quickly leaving the intake in sediment and out of the flow.
4210: 2.864'
6712: Pumping sample 19 when arrived. Volume looks good. Bottle ~12L. "Sample 20 in 00:09. Errors have occurred during program." Fridge at 2°C. Stopped program after sample 22 because intake is back in sediment and cannot pull sample.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken from rip rap below roller gate @ 12:20 PST.

Field Measurements:	Temperature = 10.4°C	pH = 7.88
DO (%) = 102.2	Conductivity = 1379 uS	Salinity = 1.0 ppt
DO(mg/L) = 11.47	Specific Conductance = 1916 uS	

❖ **12/8/2013 @ 08:11 PST [AA,BS]**

4210: 2.906'
6712: Bottle ~ 12L. Fridge temp 2°C. Flushed line with 2L distilled water. Pump tubing count 223,176.
Composite samples: Pulled at 08:11 PST.

ME-VR2 Ventura River (Ojai Valley Sanitary District)

❖ **11/19/2013 14:18 PST [WBC]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 13:39 PST [KH]**

2105ci: Pacing = 1,000 cf
4230: 2.487', 21 cfs
6712: Fridge at 0°C. Flushed line with 2L distilled water. Pump count = 336,210. Program flow paced; pacing every 9 pulses. Run program: Sampler started. Stopped sampler. Did not run program. Will revisit site to run program after remotely changing settings in 2105ci. Oss = 1.78. Bubbler in contact with water, communication channel has water, intake strainer submerged in main channel of river. Removed lid from composite bottle.

❖ **12/6/2013 @ [KH-remote]**

2105ci: Changed sample enable trigger to 2.53'.

❖ **12/6/2013 @ 20:15 PST [AA]**

4230: 20 cfs
6712: Resume program. Fridge at 2°C.

❖ **12/7/2013 @ 07:40 PST [KH-remote]**

2105ci: Changed pacing in 2105ci to 2,000 CF (18,000 CF pacing).

❖ **12/7/2013 @ 12:40 PST [BS,JR]**

4230: 2.573', 26 cfs
6712: "Sample 32 after 7 pulses." Bottle almost full. Fridge at 3°C.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken from main channel @ 12:50 PST.

Field Measurements:	Temperature = 8.6°C	pH = 7.75

DO (%) = 83.8 Conductivity = 934 uS Salinity = 0.7 ppt
DO(mg/L) = 9.74 Specific Conductance = 1361 uS

❖ **12/8/2013 @ 10:40 PST [KH,DW]**

4230: 2.632', 31 cfs
6712: "Program is done." Bottle overflowed ~ 200 ml. Fridge at 2°C. Flushed line 2L distilled water. Pump count = 669,070. Wiped out fridge and turned 6712 off.
Composite samples: Pulled at 10:40 PST.

❖ **Follow Up**

Program for 33 samples at next event to avoid overflow. Suspect that bubbler orifice is under sediment due to steadily rising flow level and discrepancy with actual measured oss. Clear out sediment and replace data with data from USGS foster park site.

❖ **12/11/2013 [KH,WBC]**

Cleaned area around orifice (removed sediment from vicinity) and scoured out orifice tip (with wire). Issue with oss discrepancy fixed. Reset level in 4230.

NPDES ~ MAJOR OUTFALLS

MO-CAM Camarillo (Camarillo Hills Drain)

❖ **11/19/2013 @ 12:40 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 13:42 PST [KH]**

2105ci: Pacing = 1000 cf
4230: 0.033', 10 cfs (flow level too low to register at bubbler)
6712: Fridge at 4°C, turned one notch colder. Flushed line with 2L distilled water. Pump count 85,090. Program flow paced; pacing every 2 pulses. Run program: "Program disabled 13:55 FR 6-DEC". Removed composite bottle lid.

❖ **12/7/2013 @ 10:23 PST [KH,TL]**

4230: 0.207', 30 cfs
6712: "Program is done." Bottle ~18L. Fridge at 4°C.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 10:30 PST.
Field Measurements: Temperature = 10.8°C pH = 7.15
DO (%) = 101.0 Conductivity = 66.7 uS Salinity = 0.0 ppt
DO(mg/L) = 11.19 Specific Conductance = 91.6 uS

❖ **12/8/2013 @ 11:02 PST [AA,BS]**

4230: 0.031', 10 cfs (flow level too low to register at bubbler)
6712: "Program is done". Bottle full. Fridge at 1°C. Flushed line with 2 L distilled water. Pump tubing count 170,476.
Composite samples: Pulled 11:02 but bottle broke.

❖ **Notes**

Composite bottle broke. Total aluminum grab sample (special study) will be used for all needed total metals. EPA 524.2 40 ml glass VOAs (x3) will be used for dissolved metals.

NPDES 2013/2014 Event #1 (Wet)

MO-FIL Fillmore (North Fillmore Drain)

- **11/19/2013 [WBC]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

- **11/26/2013 @ 10:45 PST [WBC]**

Lowered AV sensor to bottom of channel and reset 4250 level. AV sensor needs replacement. Intake strainer is now ~0.15' above channel bottom.

- **12/6/2013 @ 11:11 PST [BS]**

4250: 0.187'
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count 33,923. Program ~9 hour time-paced program, sample every 15 minutes. Run program "Program disabled" Removed composite bottle lid.

- **12/6/2013 @ 15:00 PST [JR]**

4250: New AV sensor installed and offset set to zero.

- **12/7/2013 @ 10:39 PST [AA,JM]**

4250: 0.003'
6712: "Program disabled." Bottle empty. Fridge at 2°C. Unplugged 4250 and programmed for 5 minute intervals. Program started.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 10:40 PST.

Field Measurements:	Temperature = 11.1°C	pH = 8.10
DO (%) = 94.2	Conductivity = 140.5 uS	Salinity = 0.1 ppt
DO(mg/L) = 10.30	Specific Conductance = 176.5 uS	

- **12/8/2013 @ 08:30 PST [KH,DW]**

4250: -0.042'
6712: "Program is done. Errors have occurred." Bottle ~ 2L. Fridge at 1°C. Flushed line with 2 L distilled water. Pump counts 254,238. Turned 6712 off.
Composite samples: Pulled at 08:30 PST.
Notes: Activated priority list for composite sample: metals, (added) perchlorate, pesticides etc. Lab will run metals, perchlorate and EPA 625, and others if volume allows.

- **Follow Up**

Download data and reconnect 2105ci. May need to lower intake line for lower flows.

- **12/10/2013 @ 12:00 PST [WBC]**

4250: Set 4250 to 0.10'. No water over sensor.
6712: Downoaded 6712 and reconnected communication cable to 2105ci. Channel is clean. Data uploaded into Flowlink

MO-MEI Meiners Oaks (Happy Valley Drain)

- **11/19/2013 @ 12:55 PST [WBC]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

- **12/6/2013 @ 12:51 PST [BS]**

2105ci: Pacing = 500 cf
4230: 0.083', 1 cfs (channel dry)

6712: Fridge at 4°C. Turned fridge on. Flushed line with 2L distilled water. Program flow paced; pacing every 1 pulse. Run program: "Program disabled. Removed composite bottle lid.

❖ **12/7/2013 @ 11:45 PST [BS,JR]**

4230: 0.082', 1 cfs
6712: "Program disabled." Composite empty. Fridge at 2°C. Filled composite manually (pump forward) due to low flow conditions making a composite sample unobtainable for this qualifying rain event.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 11:55 PST.

Field Measurements:	Temperature = 10.7°C	pH = 7.82
DO (%) = 74.6	Conductivity = 100.6 uS	Salinity = 0.1 ppt
DO(mg/L) = 8.27	Specific Conductance = 138.5 uS	

❖ **12/8/2013 @ 09:55 PST [KH,DW]**

4230: 0.081', 1 cfs
6712: Bottle full. Fridge at 3°C. Flushed line with 2 L distilled water. Pump tubing count 79,176. Turned 6712 off.
Composite samples: Pulled 09:55 PST.

MO-MPK Moorpark (Walnut Canyon Drain)

❖ **11/19/2013 @ 11:05 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 11:09 PST [KH]**

2105ci: Pacing = 500 cf
4230: 0.083', 0.3 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count = 15,667. Program flow paced; pacing every 1 pulse. Run program: "Program disabled 11:20 FR 6-DEC". Removed composite bottle lid.

❖ **12/7/2013 @ 11:28 PST [AA,JM]**

4230: 0.122', 0.9 cfs
6712: Fridge at 4°C. "Program is done. Errors have occurred." Bottle full.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 11:30 PST.

Field Measurements:	Temperature = 10.8°C	pH = 8.33
DO (%) = 93.8	Conductivity = 14.4 uS	Salinity = 0.0 ppt
DO(mg/L) = 10.34	Specific Conductance = 19.3 uS	

❖ **12/8/2013 @ 08:53 PST [AA,BS]**

4230: 0.072', 0.2 cfs
6712: "Program is done". Bottle full. Fridge at 2°C. Flushed line with 2 L distilled water. Pump tubing count 169,592.
Composite samples: Pulled 08:53 PST.

MO-OJA Ojai (Fox Canyon Barranca)

❖ **11/19/2013 @ 13:30 PST [WBC]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 12:25 PST [BS]**

2105ci: Pacing = 500 cf
4230: -0.004', 0 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count = 40,977. Program flow paced; pacing every 1 pulse. Run program: "Program disabled." Removed lid from composite bottle. Chalk lines ok.

❖ **12/7/2013 @ 10:38 PST [BS,JR]**

4230: -0.002', 0 cfs
6712: Fridge at 3°C. Composite bottle empty. Filled composite manually (pump forward) due to low flow conditions making a composite sample unobtainable for this qualifying rain event.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 10:55 PST. Oss and chalk lines dry.

Field Measurements:	Temperature = 10.7°C	pH = 8.30
DO (%) = 89.7	Conductivity = 103.0 uS	Salinity = 0.1 ppt
DO(mg/L) = 9.96	Specific Conductance = 145.4 uS	

❖ **12/8/2013 @ 09:30 PST [KH,DW]**

4230: -0.003', 0 cfs
6712: Bottle full. Fridge at 2°C. Flushed line with 2 L distilled water. Pump tubing count 101,733.
Composite samples: Pulled 09:30 PST.

MO-OXN Oxnard (El Rio Drain)

❖ **11/19/2013 @ 14:25 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 14:53 PST [BS]**

2105ci: Pacing = 1,000 cf
4230: 0.108', 0.2 cfs
6712: Fridge at 0°C. Flushed line with 2L distilled water. Program flow paced; pacing every 2 pulses. Run program: "Program disabled". Removed lid from composite bottle.

❖ **12/7/2013 @ 09:38 PST [KH,TL]**

4230: 0.726' [oss ~0.7'], 12.9 cfs
6712: Fridge at 4°C. "Sample 24 after 1 pulse." Bottle ~12L.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 09:45 PST.

Field Measurements:	Temperature = 9.0°C	pH = 7.03
DO (%) = 96.6	Conductivity = 104.7 uS	Salinity = 0.1 ppt
DO(mg/L) = 11.13	Specific Conductance = 150.8 uS	

❖ **12/8/2013 @ 12:00 PST [KH,DW]**

4230: 0.108', 0.2 cfs
6712: Fridge @ 4°C. "Program: Flow paced is done." Bottle ~14L. Flushed line with 2 L distilled water. Pump tubing count 123,979.
Composite samples: Pulled at 12:00 PST.

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MO-HUE Port Hueneme (Hueneme Drain)

- **11/19/2013 @ 13:50 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

- **12/6/2013 @ 15:36 PST [BS]**

6712: Fridge at 0°C. Flushed line with 2L distilled water. Programmed time paced ~ 7 hour program, 15 min/sample. Run program "Program disabled". Removed lid from composite bottle.

- **12/7/2013 @ 13:56 PST [BS,JR]**

6712: Fridge at 4°C. "Sample 24 in 00:12". Bottle ~13L.

Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 14:10 PST

Field Measurements:	Temperature = 12.7°C	pH = 7.58
DO (%) = 42.5	Conductivity = 6450 uS	Salinity = 4.7 ppt
DO(mg/L) = 4.37	Specific Conductance = 8450 uS	

- **12/8/2013 @ 12:25 PST [KH,DW]**

6712: Fridge at 3°C. "Program time paced is done." Bottle full. Flushed line with 2 L distilled water. Pump tubing count 178,606. Turned 6712 off.

Composite samples: Pulled at 11:25 PST.

MO-SIM Simi Valley (Bus Canyon Drain)

- **11/19/2013 @ 13:50 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

- **12/6/2013 @ 11:45 PST [KH]**

2105ci: Pacing = 1,000 cf
4230: 0.141', 2 cfs
6712: Fridge at 4°C, turned 1 notch colder. Flushed line with 2L distilled water. Pump count = 23,079. Program flow paced; pacing every 2 pulses. Run program: "Program disabled 11:51 FR 6-DEC". Removed lid from composite bottle.

- **12/7/2013 @ 12:05 PST [AA,JM]**

4230: 0.160', 3 cfs,
6712: "Program disabled." Bottle ~ 9L. Fridge at -5°C.

Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 12:15 PST.

Field Measurements:	Temperature = 14.9°C	pH = 8.29
DO (%) = 123.9	Conductivity = 1522 uS	Salinity = 1.0 ppt
DO(mg/L) = 12.44	Specific Conductance = 1881 uS	

- **12/8/2013 @ 09:14 PST [AA,BS]**

4230: 0.141', 2 cfs
6712: "Program disabled." Fridge at 2°C. Bottle ~9L. Pump tubing count 66,154. Flushed line with 2 L distilled water.

Composite samples: Pulled at 09:14 PST.

MO-SPA Santa Paula (11th Street Drain)

- **11/19/2013 @ 11:37 PST [WBC]**

Dropped off labeled grab and composite bottles and toxicity buckets at site.

❖ **12/6/2013 @ 11:40 PST [BS]**

2105ci: Pacing = 1,000 cf
4250: -0.062', 0.00 cfs
6712: Fridge at 3°C. Flushed line with 2L distilled water. Pump count = 58,336. Program flow paced; pacing every 1 pulse. Run program: "Program disabled". Removed lid from composite bottle.

❖ **12/7/2013 @ 09:36 PST [AA,JM]**

4250: 0.020', 0.00 cfs
6712: "Program disabled." ~ 500 mL in composite bottle. Fridge at 1°C. Flowmeter was not working correctly. Approx 4" of flow (~0.25') in pipe but was not registering on flowmeter. Unplugged 4250 and programmed for time paced at 5 minute intervals. Program run.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 09:45 PST.

Field Measurements:	Temperature = 9.4°C	pH = 7.16
DO (%) = 122.7	Conductivity = 26.3 uS	Salinity = 0.0 ppt
DO(mg/L) = 12.71	Specific Conductance = 33.7 uS	

❖ **12/8/2013 @ 08:00 PST [KH,DW]**

4250: -0.327', 0.00 cfs, 0 ft/s
6712: "Program is done. Errors have occurred during program." Bottle full. Fridge at 2°C. Flushed line with 2 L distilled water. Pump tubing count 252,452. Turned 6712 off.
Composite samples: Pulled at 08:00 PST.

❖ **Follow Up**

Download data and reconnect 2105ci. Fix/replace AV sensor.

❖ **12/13/2013 [WBC]**

Downloaded data and reconnected 2105ci. Checked AV sensor function appears good. Switched out 4250 and new one appears good. Will continue observation.

MO-THO Thousand Oaks (Hill Canyon WWTP)

❖ **11/19/2013 @ 12:00 PST [KH]**

Dropped off labeled grab and composite bottles and toxicity buckets at site. Field blanks and blank water also left onsite.

❖ **12/6/2013 @ 12:20 PST [KH]**

2105ci: Pacing = 7,500 cf
4230: 2.124', 1 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count = 16,141. Program flow paced; pacing every 1 pulse. Run program: "Program disabled 12:37 FR 6-DEC". Removed lid from composite bottle.

❖ **12/7/2013 @ 12:56 PST [AA,JM]**

4230: 2.652', 14 cfs
6712: "Sample 10 after 1 pulse." Bottle ~4L. Fridge at 3°C.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 13:00 PST. Chemistry field blanks taken at 13:00 PST.

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Field Measurements:	Temperature = 7.7°C	pH = NR
DO (%) = 80.9	Conductivity = 1181 uS	Salinity = 0.9 ppt
DO(mg/L) = 9.73	Specific Conductance = 1752 uS	

❖ **12/8/2013 @ 09:51 PST [AA,BS]**

4230: 2.169', 1 cfs
6712: "Sample 27 after 1 pulse." Bottle full according to notes, ~15L from photo. Pump count = 135,403. Fridge at 4°C. Flushed line with 2 L distilled water.
Composite samples: Pulled at 09:51 PST.

❖ **Follow Up**

Ensure pH is recorded at future events.

MO-VEN Ventura (Moon Ditch)

❖ **12/6/2013 @ 14:27 PST [BS]**

2105ci: Pacing = 1000 cf
4230: 0.042', 1 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count 21,779. Program flow paced; pacing every 2 pulses. Run program: "Program disabled." Labeled grab and composite bottles and toxicity buckets left at site. Removed lid from composite bottle.

❖ **12/6/2013 @ 08:40 PST [KH,TL-remote]**

2105ci: Forced enable.

❖ **12/7/2013 @ 09:22 PST [BS,JR]**

4230: 0.599', 40 cfs
6712: "Program flow paced is done." Bottle full. Fridge at 4°C.
Grab samples: Bacteriological, chemistry, and toxicity grabs taken at 09:30 PST.

Field Measurements:	Temperature = 8.7°C	pH = 7.55
DO (%) = 86.6	Conductivity = 103.5 uS	Salinity = 0.1 ppt
DO(mg/L) = 10.07	Specific Conductance = 149.3 uS	

❖ **12/8/2013 @ 11:30 PST [AA,BS]**

4230: 0.043', 1 cfs
6712: Fridge @ 0°C. Bottle full. Flushed line with 2 L distilled water.
Composite samples: Pulled at 11:30 PST.

❖ **Follow Up**

Enable issue does not appear to be operator error. Look for other possible causes of why sampler would not enable as programmed.

Sample Tracking

❖ Bacteria samples to VCHCA (Nadia West):

12/7/13 @ 13:30 PST (CC/SCR/CAMOXN): Kelly Hahs
12/7/13 @ 15:00 PST (VR2/OJA/MEI/VEN/HUE): Bram Sercu
12/7/13 @ 15:00 PST (SPA/FIL/SIM/MPK/THO): Arne Anselm

❖ Toxicity samples to Aquatic Bioassay & Consulting Laboratories, Inc. (Arnel Ramos):

12/7/13 @ 14:00 PST (CC/SCR/CAMOXN): Kelly Hahs

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12/7/13 @ 15:35 PST (VR2/OJA/MEI/VEN/HUE & SPA/FIL/SIM/MPK/THO): Bram Sercu

- Grab and composite samples to Weck Laboratories, Inc. by Weck-provided courier (David Levy with Reliable Messenger Service):

12/8/13 @ 15:15 PST: All grabs and composites (except CAM composite which broke) relinquished at Ventura County Government Center (VCGC) by Kelly Hahs.

Staff

- Ventura County Watershed Protection District (VCWPD)

[AA] Arne Anselm
[KH] Kelly Hahs
[BS] Bram Sercu
[WBC] Bill Carey

- JR's Environmental Services (JRE)

[JR] J.R. (Richard P. Di Cesare, Jr.)
[TL] Tommy Liddell

- Gold Coast Environmental Services (GCE)

[JM] Jim McRory
[DW] Dean Wilkinson

NPDES 2013/14 Water Quality Monitoring
Event #2 (Wet), February 6, 2014 Summary

Notes: All forecasts on 4th said little rain, showers. Weather forecasts on 5th showed rain to begin on 6th. NWS amounts south of Point Conception < 0.25" and probably less than 0.10". Alan Fox amounts ≤0.25" but low confidence (prob 24h 0.25" less than ≤50%). Samplers programmed based on 0.15" rainfall.
Forecasted Rainfall Amounts: <0.25" rainfall
Actual Rainfall Amounts: <0.25" across the county
Sampling Durations (to nearest 0.5 hours):

ME-CC = 7.0 hrs.	ME-SCR = 6.5 hrs.	ME-VR2 = 5.0 hrs.
MO-CAM = 0.5 hrs.	MO-FIL = 9.0 hrs.	MO-HUE = 8.5 hrs.
MO-MEI = 1.0 hrs.	MO-MPK = 2.0 hrs.	MO-OJA = 1.5 hrs.
MO-OXN = 1.5 hrs.	MO-SIM = 1.0 hrs.	MO-SPA = 4.0 hrs.
MO-THO = 3.5 hrs.	MO-VEN = 1.0 hrs.	

Storm Control: Bill Carey
Sampling Crew (during storm):
VEN: Kelly Hahs & Chelsey Ballot (SOY O&M)
VR2/OJA/MEI: Kelly Hahs & Tommy Liddell (JRE)
CC/SCR/CAM/OXN(+MD-1)/HUE: Bram Sercu & Dean Wilkinson (GCE)
FIL/SPA/SIM/MPK/THO: Arne Anselm & Cleopatra Tuday (SOY O&M)

Sampling Crew (post-storm sample pickup):
2/7/2014 (SPA/FIL/OJA/MEI/VR2/OXN/VEN): Bram Sercu & Dean Wilkinson (GCE)
2/7/2014 (CC/SCR/CA/MPK/SIM/THO/HUE): Kelly Hahs & Jonathon Evangelista

NPDES ~ MASS EMISSION
ME-CC Calleguas Creek (CSUCI Bridge)

- **2/5/2014 @ 14:55 PST [KH]**

2105ci: Pacing = 1,000 cf
4230: 1.127', 7 cfs.
6712: Fridge at -2°C, turned warmer. Flushed line with 2 liters of distilled water. Pump count 408,073. Program flow paced; pacing every 75 pulses, 96 hour max run time. Run program: "Program disabled 14:55 WE 5-FEB". Removed lid from composite bottle. Grab bottles left onsite.

- **2/6/2014 @ 15:55 PST [BS,DW]**

4230: 1.2', 19 cfs (outside staff ~1.2')
6712: "Program Disabled." Bottle empty. Flow too low to trigger program. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at check structure @ 16:00 PST.

Field Measurements:	Temperature = 15.5°C	pH = 7.83
DO (%) = 74.2	Conductivity = 1296 uS	Salinity = 0.8 ppt
DO(mg/L) = 7.38	Specific Conductance = 1584 uS	

- **2/7/2014 @ 11:00 PST [KH,JE]**

4230: 1.444', 246 cfs
6712: "Program done. Errors have occurred." Composite overflowed, estimated 1L. Fridge at -1°C. Samples 1-4 "No more liquid." Flushed line with 2 L distilled water. Pump tubing count 730,170. Turned 6712 off and fridge warmer.
Composite samples: Pulled at 11:00 PST.

ME-SCR Santa Clara River (Freeman Diversion)

- **2/5/2014 @ 12:10 PST [KH]**

4210: 3.146'
6712: Fridge at 2°C. Flushed line with 2L distilled water. Installed labeled composite bottle, lid off. Pump count 234,075. Program time paced 9 hours, sample every 15 minutes. Run program: "Program disabled 12:21 WE 5-FEB." Grab bottles left onsite.

- **2/6/2014 @ 17:50 PST [BS,DW]**

4210: 0.036'
6712: "Sample 12 in 00:09". Bottle empty but with some splashes. Fridge at 2°C. Checked if liquid detection off → yes. Grab sample program yielded no sample. Turned liquid detector on, grab sample ~ 1200 ml. Reprogrammed for 14 samples. Run program. Sample 1 produced liquid → volume ok.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken from river upstream of intake @ 18:00 PST.

Field Measurements:	Temperature = 12.8°C	pH = 7.99
DO (%) = 102.1	Conductivity = 1552 uS	Salinity = 1.0 ppt
DO(mg/L) = 10.75	Specific Conductance = 2024 uS	

- **2/7/2014 @ 08:10 PST [KH,JE]**

4210: 1.462'
6712: "Program done." Bottle full. Fridge temp 2°C. Flushed line with 2L distilled water. Pump tubing count 439,362. Turned 6712 off.
Composite samples: Pulled at 08:10 PST.

ME-VR2 Ventura River (Ojai Valley Sanitary District)

- **2/5/2014 @ 14:31 PST [BS]**

2105ci: Pacing = 200 cf
4230: 1.79', 0 cfs, [oss 1.8']
6712: Fridge at 0°C. Flushed line with 2L distilled water. Pump count = 673,473. Program flow paced; pacing every 9 pulses. Run program. "Program disabled 14:43." Installed composite bottle, lid off. Grab bottles left onsite.

- **2/6/2014 @ 18:15 PST [KH,TL]**

4230: 1.816', 1 cfs
6712: "Sample 8 after 1 pulse." Bottle volume good. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken from main channel @ 18:15 PST.

Field Measurements:	Temperature = 11.3°C	pH = NR
DO (%) = 97.2	Conductivity = 991 uS	Salinity = 0.7 ppt
DO(mg/L) = 10.61	Specific Conductance = 1344 uS	

NPDES 2013/2014 Event #2 (Wet)

❖ **2/7/2014 @ 10:15 PST [BS,DW]**

4230: 1.807', 1 cfs, [oss 1.8']
6712: "Program disabled." Bottle ~ 2/3 full. Fridge at 3°C. Flushed line 2L distilled water. Pump count = 802,373.
Composite samples: Pulled at 10:15 PST.

NPDES ~ MAJOR OUTFALLS

MO-CAM Camarillo (Camarillo Hills Drain)

❖ **2/5/2014 @ 14:35 PST [KH]**

2105ci: Pacing = 1,000
4230: 0.034', 10 cfs (flow level too low to register at bubbler)
6712: Fridge at 4°C. Flushed line with 2L distilled water. Pump count 177,199. Installed labeled composite bottle, lid off. Program flow paced; pacing every 2 pulses. Run program: "Program disabled 14:38 WE 5-FEB".

❖ **2/6/2014 @ 15:20 PST [BS,DW]**

4230: 0.292', 41cfs
6712: "Sample 6 after 1 pulse." Bottle ~ 1/8 full. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 15:30 PST.

Field Measurements:	Temperature = 15.4°C	pH = 7.85
DO (%) = 92.5	Conductivity = 96.5 uS	Salinity = 0.1 ppt
DO(mg/L) = 9.26	Specific Conductance = 117.9 uS	

❖ **2/7/2014 @ 10:40 PST [KH,JE]**

4230: 0.031', 10 cfs (flow level too low to register at bubbler)
6712: "Program is done". Bottle ~ 18L. Fridge at 0°C. Flushed line with 2 L distilled water. Pump tubing count 266,074. Turned 6712 off.
Composite samples: Pulled 10:40 PST.

MO-FIL Fillmore (North Fillmore Drain)

❖ **2/5/2014 @ 12:22 PST [BS]**

4230: 0.040'
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count 258,846. Program ~6 hour time-paced program, sample every 10 minutes. Run program "Program disabled". Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/6/2014 @ 15:10 PST [AA,CT]**

4230: 0.165'
6712: "Sample 5 in 00:06." Bottle ~ 2000ml. Fridge at 4°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 15:10 PST.

Field Measurements:	Temperature = 15.5°C	pH = 7.81
DO (%) = 86.6	Conductivity = 411 uS	Salinity = 0.2 ppt
DO(mg/L) = 8.65	Specific Conductance = 503 uS	

❖ **2/7/2014 @ 08:40 PST [BS,DW]**

4230: 0.042'
6712: "Program disabled. Errors have occurred." Composite bottle overflowed ~ 1.5" water in bottom of fridge. Fridge at 4°C. Flushed line with 2 L distilled water. Pump count 598,326.
Composite samples: Pulled at 08:40 PST.

❖ **2/11-12/2014 [WBC]**

6712: Program report - samples 20-22 "No more liquid." Changed program in 2015 for sampler to 0.00' hysteresis and 5 minute duration.

MO-MEI Meiners Oaks (Happy Valley Drain)

❖ **2/5/2014 @ 13:57 PST [BS]**

2105ci: Pacing = 500 cf
4230: 0.08', 1 cfs (channel dry)
6712: Fridge at 10°C. Turned fridge on. Flushed line with 2L distilled water. Program flow paced; pacing every 1 pulse. Run program: "Program disabled." Installed labeled composite bottle, lid off. Grab bottles left onsite. Raked leaves from channel.

❖ **2/6/2014 @ 16:40 PST [KH,TL]**

4230: 0.094', 1 cfs
6712: "Program disabled." Flow in channel but not enough to enable sampler. Composite empty. Fridge at 4°C. Unplugged 2105ci from 6712, switched to time paced every 3 minutes for 3 samples, then decreased to every 2 minutes for 31 samples. Sample punch data will need to be downloaded after the event.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 16:40 PST.

Field Measurements:	Temperature = 13.1°C	pH = 7.88
DO (%) = 98.7	Conductivity = 152.6 uS	Salinity = 0.1 ppt
DO(mg/L) = 10.36	Specific Conductance = 196.8 uS	

❖ **2/7/2014 @ 09:47 PST [BS,DW]**

4230: 0.084', 1 cfs
6712: Bottle full. Fridge at 0°C. Flushed line with 2 L distilled water. Pump tubing count 165,519.
Composite samples: Pulled 09:47 PST.

❖ **2/12/2014 [WBC]**

6712: Downloaded sample punch data.

MO-MPK Moorpark (Walnut Canyon Drain)

❖ **2/5/2014 @ 12:55 PST [KH]**

2105ci: Pacing = 500 cf
4230: 0.077', 0.2 cfs
6712: Fridge at 1°C. Flushed line with 2L distilled water. Pump count = 176,151. Program flow paced; pacing every 1 pulse. Run program: "Program disabled 12:57 WE 5-FEB". Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/6/2014 @ 16:00 PST [AA,CT]**

4230: 0.2 cfs
6712: Fridge at 4°C. "Program disabled." Bottle empty. Slow moving debris flow of tumbleweeds moved passed while onsite. Water level behind tumbleweed obstruction was higher. Sampler enabled and collected samples.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 16:00 PST. No flow from Edison drains for pentachlorophenol tests.

Field Measurements:	Temperature = 13.9°C	pH = 8.2
DO (%) = 84.9	Conductivity = 219.9 uS	Salinity = 0.1 ppt
DO(mg/L) = 9.01	Specific Conductance = 279.4 uS	

❖ **2/7/2014 @ 09:00 PST [KH,JE]**

4230: 0.072', 0.2 cfs
6712: "Program disabled. Errors have occurred". Bottle ~16L. Fridge at 2°C. Flushed line with 2 L distilled water. Pump tubing count 313,721. Turned 6712 off.
Composite samples: Pulled 09:00 PST.

MO-OJA Ojai (Fox Canyon Barranca)

❖ **2/5/2014 @ 13:15 PST [BS]**

2105ci: Pacing = 500 cf
4230: -0.004', 0 cfs
6712: Fridge at 3°C. Flushed line with 2L distilled water. Pump count = 106,168. Program flow paced; pacing every 1 pulse. Run program: "Program disabled." Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/6/2014 @ 17:15 PST [KH,TL]**

4230: -0.002', 0 cfs
6712: Fridge at 2°C. "Program disabled." Composite bottle empty. Unplugged 2015ci from 6712 and programmed for time paced, every 2 min, 35 samples. Sample 1 air entrained but volume ~ 500ml.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 17:20 PST.

Field Measurements:	Temperature = 12.4°C	pH = 8.06
DO (%) = 78.9	Conductivity = 239.0 uS	Salinity = 0.2 ppt
DO(mg/L) = 8.42	Specific Conductance = 314.5 uS	

❖ **2/7/2014 @ 09:30 PST [BS,DW]**

4230: -0.001', 0 cfs
6712: "Program done. Errors have occurred." Bottle full. Fridge at 3°C. Flushed line with 2 L distilled water. Pump tubing count 202,299.
Composite samples: Pulled 09:30 PST.

❖ **2/12/2014 [WBC]**

6712: Downloaded 6712 sample punch data

MO-OXN Oxnard (El Rio Drain)

❖ **2/5/2014 @ 15:10 PST [BS]**

2105ci: Pacing = 1,000 cf

4230: 0.108', 0.2 cfs
6712: Fridge at -2°C. Flushed line with 2L distilled water. Pump count = 127,592. Program flow paced; pacing every 2 pulses. Run program: "Program disabled". Installed labeled composite bottle, lid off. Grabs and lab blank grab (MB-1) bottles and water left on site. Prepared chalk line for high water mark.

❖ **2/6/2014 @ 14:12 PST [BS,DW]**

4230: 0.11', 0.3 cfs [Flow below oss]
6712: Fridge at 0°C. "Program disabled." Bottle empty.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 14:25 PST. Water has a green color.

Field Measurements:	Temperature = 15.7°C	pH = 9.38
DO (%) = 103.8	Conductivity = 289.5 uS	Salinity = 0.2 ppt
DO(mg/L) = 10.23	Specific Conductance = 368.0 uS	

❖ **2/7/2014 @ 11:06 PST [BS,DW]**

4230: 0.108', 0.2 cfs
6712: Fridge @ 2°C. "Program: Flow paced is done." Bottle full. Flushed line with 2 L distilled water. Pump tubing count 217,268.
Composite samples: Pulled at 11:06 PST.

MO-HUE Port Hueneme (Hueneme Drain)

❖ **2/5/2014 @ 15:30 PST [KH]**

6712: Fridge at 0°C. Flushed line with 2L distilled water. Pump count = 182,870. Programmed time paced ~ 9 hour program, 15 min/sample. Run program "Program disabled". Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/6/2014 @ 16:41 PST [BS,DW]**

6712: Fridge at 3°C. "Sample 10 in 00:13". Bottle ~ ¼ full.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 16:45 PST.

Field Measurements:	Temperature = 14.9°C	pH = 7.47
DO (%) = 50.8	Conductivity = 3327 uS	Salinity = 2.2 ppt
DO(mg/L) = 5.05	Specific Conductance = 4113 uS	

❖ **2/7/2014 @ 11:30 PST [KH,JE]**

6712: Fridge at 2°C. "Program time paced is done." Bottle ~ 18L. Flushed line with 2 L distilled water. Pump tubing count 337,599. Turned 6712 off.
Composite samples: Pulled at 11:30 PST.

MO-SIM Simi Valley (Bus Canyon Drain)

❖ **2/5/2014 @ 13:25 PST [KH]**

2105ci: Pacing = 1,000 cf
4230: 0.142', 2 cfs
6712: Fridge at -1°C, turned 1 notch warmer. Flushed line with 2L distilled water. Pump count = 72,589. Program flow paced; pacing every 2 pulses. Run program: "Program disabled". Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/6/2014 @ 16:51 PST [AA,CT]**

4230: 7 cfs,
6712: "Sample 28 after 1 pulse." Bottle ~ ¾ full. Fridge at 3°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 16:51 PST.

Field Measurements:	Temperature = 15.0°C	pH = 6.89
DO (%) = 90.4	Conductivity = 653 uS	Salinity = 0.4 ppt
DO(mg/L) = 9.11	Specific Conductance = 820 uS	

❖ **2/7/2014 @ 09:30 PST [KH,JE]**

4230: 7 cfs
6712: "Program disabled." Fridge at 3°C. Bottle ~14L. Flushed line with 2 L distilled water. Pump tubing count 135,414. Turned 6712 off.
Composite samples: Pulled at 09:30 PST.

MO-SPA Santa Paula (11th Street Drain)

❖ **2/5/2014 [BS]**

2105ci: Pacing = 500 cf
4250: 0.000', 0.00 cfs
6712: Fridge at 0°C. Flushed line with 2L distilled water. Pump count = 257,702. Program flow paced; pacing every 1 pulse. Run program: "Program disabled". Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/6/2014 @ 14:35 PST [AA,CT]**

4250: 3.69 ft/sec, 1.12 cfs
6712: "Sample 2 after 1 pulse." ~ 500 mL in composite bottle. Fridge at 2°C. Visible sheen and hydrocarbon smell at outfall.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 14:35 PST.

Field Measurements:	Temperature = 15.5°C	pH = 7.81
DO (%) = 97.0	Conductivity = 3.0 uS	Salinity = 0.0 ppt
DO(mg/L) = 9.69	Specific Conductance = 3.6 uS	

❖ **2/7/2014 @ 08:15 PST [BS,DW]**

4250: 0.009', 0.00 cfs, 0 ft/s
6712: "Program disabled. Errors have occurred during program." Bottle ~2/3 full. Fridge at 3°C. Flushed line with 2 L distilled water. Pump tubing count 346,630.
Composite samples: Pulled at 08:15 PST.

MO-THO Thousand Oaks (Hill Canyon WWTP)

❖ **2/5/2014 @ 13:55 PST [KH]**

2105ci: Pacing = 7,500 cf
4230: 2.099', 1 cfs
6712: Fridge at 3°C. Flushed line with 2L distilled water. Pump count = 144,550. Program flow paced; pacing every 1 pulse. Run program: "Program". Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/6/2014 @ 17:45 PST [AA,CT]**

4230: 40 cfs
6712: "Sample 15 after 1 pulse." Bottle ~25% full. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 17:45 PST.

Field Measurements:	Temperature = 11.2°C	pH = 7.18
DO (%) = 95.4	Conductivity = 1301 uS	Salinity = 0.9 ppt
DO(mg/L) = 10.45	Specific Conductance = 1771 uS	

❖ **2/7/2014 @ 10:00 PST [KH,JE]**

4230: 2.151', 1 cfs
6712: "Program is done." Bottle ~18L. Fridge at 4°C. Flushed line with 2 L distilled water. Pump count = 307,043.
Composite samples: Pulled at 10:00 PST.

MO-VEN Ventura (Moon Ditch)

❖ **2/5/2014 @ 17:31 PST [WBC]**

2105ci: Pacing = 1,000 cf
4230: 0.039, 1 cfs
6712: Fridge at 4°C. Flushed line with 2L distilled water. Program flow paced; pacing every 2 pulses. Run program: "Program disabled." Installed composite bottle, removed lid. Grab bottles left onsite.

❖ **2/6/2014 @ 14:40 PST [KH,CB]**

4230: 0.038', 0 cfs
6712: "Program disabled." Bottle empty. Fridge at 4°C. Sampler enabled while onsite. Sample 1 volume ~ 500ml.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 15:00 PST.

Field Measurements:	Temperature = 15.4°C	pH = 7.84
DO (%) = 92.3	Conductivity = 161.3 uS	Salinity = 0.1 ppt
DO(mg/L) = 9.14	Specific Conductance = 196.0 uS	

❖ **2/7/2014 @ 10:45 PST [BS,DW]**

4230: 0.042', 1 cfs
6712: "Program is done." Fridge @ 3°C. Bottle full. Flushed line with 2 L distilled water. Pump count = 212,851.
Composite samples: Pulled at 10:45 PST.

Sample Tracking

❖ Bacteria samples to VCHCA (Nadia West):

2/6/2014 @ 18:45 PST (SPA/FIL/SIM/MPK/THO): Arne Anselm
2/6/2014 @ 19:00 PST (VR2/OJA/MEI/VEN): Kelly Hahs
2/6/2014 @ 19:10 PST (CC/SCR/CAM/OXN&MB-1/HUE): Bram Sercu

❖ Grab and composite samples to Weck Laboratories, Inc. by Weck-provided courier (Vincent Duran):

NPDES 2013/2014 Event #2 (Wet)

2/7/2014 @ 14:00 PST: All grabs and composites relinquished at Ventura County Government Center (VCGC) by Arne Anselm.

Staff

- Ventura County Watershed Protection District (VCWPD)

[AA] Arne Anselm
[KH] Kelly Hahs
[BS] Bram Sercu
[WBC] Bill Carey
[CT] Cleopatra Tuday
[CB] Chelsey Ballot
[JE] Jonathon Evangelista

- JR's Environmental Services (JRE)

[TL] Tommy Liddell

- Gold Coast Environmental Services (GCE)

[DW] Dean Wilkinson

NPDES 2013/14 Water Quality Monitoring
Event #3 (Wet), February 27, 2014 Summary

Notes: Weather forecasts showed 0.50" to 1.00" in all areas starting on evening of 26th. Confidence in amounts was good.
Forecasted Rainfall Amounts: 0.50" to 1.00"
Actual Rainfall Amounts: ≥ forecasted amounts
Sampling Durations (to nearest 0.5 hours):

ME-CC = 28.0 hrs.	ME-SCR = 12.0 hrs.	ME-VR2 = 12.0 hrs.
MO-CAM = 6.0 hrs.	MO-FIL = 6.5 hrs.	MO-HUE = 8.5 hrs.
MO-MEI = 5.0 hrs.	MO-MPK = 5.0 hrs.	MO-OJA = 4.0 hrs.
MO-OXN = 6.0 hrs.	MO-SIM = 6.5 hrs.	MO-SPA = 5.5 hrs.
MO-THO = 6.5 hrs.	MO-VEN = 5.5 hrs.	

Storm Control: Bill Carey
Sampling Crew (during storm):
VR2/OJA/MEI/VEN: Kelly Hahs & Tommy Liddell (JRE)
CC/SCR/CAM/OXN/HUE: Bram Sercu & Dean Wilkinson (GCE)
FIL/SPA/SIM(+bacterial source ID field blank)/MPK/THO: Arne Anselm & Jim McRory (GCE)

Sampling Crew (post-storm sample pickup):
2/28/2014 (SPA/FIL/VEN): Arne Anselm & Dean Wilkinson (GCE)
2/28/2014 (SCR/CAM/OXN): Bram Sercu & Robert Keen (SOY O&M)
2/28/2014 (MPK/SIM): Kelly Hahs & Jonathon Evangelista
2/28/2014 (CC/THO/HUE): Kelly Hahs & Jonathon Evangelista
2/28/2014 (VR2/OJA/MEI): Jim McRory (GCE) & Steven Greer

NPDES ~ MASS EMISSION
ME-CC Calleguas Creek (CSUCI Bridge)

- **2/25/2014 @ 11:28 PST [BS]**

2105ci: Pacing = 500 cf
4230: 1.116', 8 cfs
6712: Fridge at 4°C. Replaced pump tubing and cleaned pump rollers. Grab sample 500 ml acceptable volume. Flushed line with 2 liters of distilled water. Reset pump count to zero. Program flow paced; pacing every 1,000 pulses, 96 hour max run time. Run program: "Program disabled". Removed lid from composite bottle. Grab bottles left onsite.

- **2/27/2014 @ 02:10 PST [BS,DW]**

4230: 1.375', 59 cfs (outside staff ~1.2')
6712: "Sample 2 after 762 pulses." Volume <1L. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at check structure @ 02:20 PST.

Field Measurements:	Temperature = 16.2°C	pH = 7.65
DO (%) = 60.8	Conductivity = 725 uS	Salinity = 0.4 ppt
DO(mg/L) = 5.94	Specific Conductance = 868 uS	

❖ **2/28/2014 @ 09:02 PST [WBC]**

4230: 3.326', 1867 cfs [oss ~3.3']
6712: "Program disabled." Composite 2/3 full. Fridge at 4°C. Flushed line with 2 L distilled water. Pump tubing count 280,501.
Composite samples: Pulled at 09:05 PST.
Grab samples: Special study samples - bacteriological source ID and aluminum source grabs taken at check structure @ 09:15 PST.

ME-SCR Santa Clara River (Freeman Diversion)

❖ **2/26/2014 @ 10:53 PST [WBC]**

4210: 0.557'
6712: Fridge at 4°C. Disabled liquid detector. Flushed line with 2L distilled water. Program time paced 12 hours, 35 samples, sample every 21 minutes, 60' suction line and 23' suction head. Grab sample gave 500 ml. Run program: "Program disabled." Installed narrow neck composite bottle, removed lid. Grab bottles left onsite.

❖ **2/27/2014 @ 03:50 PST [BS,DW]**

4210: 0.716'
6712: "Sample 25 in 00:04. Errors have occurred." Bottle ~ 2/3 full. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken from river upstream of intake @ 04:00 PST.

Field Measurements:	Temperature = 13.8°C	pH = 7.65
DO (%) = 58.1	Conductivity = 1471 uS	Salinity = 1.0 ppt
DO(mg/L) = 6.1	Specific Conductance = 1874 uS	

❖ **2/28/2014 @ 08:50 PST [BS,RK]**

4210: 3.103'
6712: "Program done." Bottle overflowed. Fridge temp 2°C. Flushed line with 2L distilled water. Pump tubing count 700,663.
Composite samples: Pulled at 09:10 PST.
Grab samples: Special study samples - bacteriological source ID and aluminum source grabs taken from river upstream of intake @ 09:10 PST.

ME-VR2 Ventura River (Ojai Valley Sanitary District)

❖ **2/26/2014 @ 12:36 PST [WBC]**

2105ci: Pacing = 100 cf
4230: 1.799', 1 cfs
6712: Fridge at 4°C. Replaced both pump tubes. Reset pump count to zero. Line length 95', suction head 20'. Liquid detector off. Pre-purge counts 1500, post-purge counts 500. Sample volume 400 ml. Flushed line with 2L distilled water. Program flow paced; pacing every 50 pulses. Run program. "Program disabled." Installed labeled narrow neck composite bottle, lid off. Grab bottles left onsite.

❖ **2/27/2014 @ 02:45 PST [KH,TL]**

4230: 2.137', 7 cfs
6712: "Sample 5 after 23 pulses." Bottle ~ 3L. Fridge at 3°C.

NPDES 2013/2014 Event #3 (Wet)

Grab samples: Bacteriological (including source ID study) and chemistry grabs taken from main channel @ 02:45 PST.

Field Measurements:	Temperature = 13.9°C	pH = 7.08
DO (%) = 76.6	Conductivity = 878 uS	Salinity = 0.6 ppt
DO(mg/L) = 7.85	Specific Conductance = 1136 uS	

❖ **2/28/2014 @ 10:10 PST [JM,SG]**

4230: 2.183', 8 cfs

6712: "Program disabled." Fridge at 1°C. Flushed line 2L distilled water. Pump count = 216,624.

Composite samples: Pulled at 10:10 PST.

Grab samples: Special study samples - bacteriological source ID and aluminum source grabs taken from main channel @ 10:10 PST.

❖ **3/3/2014 @ 14:37 PST [WBC]**

4230: 2.111', 6 cfs [oss ~ 2.11, high water mark ~7.25']

Note: Teflon lid was not installed prior to bottle transport and was left in refrigerator. Bottle was shipped with intake cap installed, which has a 3/8" hole.

NPDES ~ MAJOR OUTFALLS

MO-CAM Camarillo (Camarillo Hills Drain)

❖ **2/25/2014 @ 12:50 PST [BS]**

2105ci: Pacing = 1000 cf

4230: 0.034', 10 cfs (flow level too low to register at bubbler)

6712: Fridge at 3°C. Flushed line with 2L distilled water. Pump count 270,158. Program flow paced; pacing every 50 pulses. Run program: "Program disabled" Installed labeled composite bottle and removed lid. Grab bottles left onsite.

❖ **2/27/2014 @ 01:36 PST [BS,DW]**

4230: 1.088', 233 cfs [oss~1']

6712: "Program done." Bottle full. Fridge at 4°C.

Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 01:50 PST.

Field Measurements:	Temperature = 14.6°C	pH = 7.37
DO (%) = 93.9	Conductivity = 58 uS	Salinity = 0.0 ppt
DO(mg/L) = 9.57	Specific Conductance = 69.5 uS	

❖ **2/28/2014 @ 08:23 PST [BS,RK]**

4230: 0.093', 16 cfs

6712: "Program is done". Bottle full. Fridge at 2°C. Flushed line with 2 L distilled water. Pump tubing count 355,403.

Composite samples: Pulled 08:30 but bottle broke.

Grab samples: Special study samples - bacteriological source ID grabs taken @ 08:30 PST.

MO-FIL Fillmore (North Fillmore Drain)

❖ **2/25/2014 @ 09:10 PST [BS]**

4230: 0.043'
6712: Fridge at 6°C, turned colder. Flushed line with 2L distilled water. Pump count 606,441. Program ~6 hour time-paced program, sample every 10 minutes. Run program "Program disabled." Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/27/2014 @ 01:23 PST [AA,JM]**

4250: 0.435'
6712: "Sample 32." Bottle overfilled. Fridge at 3°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 01:30 PST.

Field Measurements:	Temperature = 14.5°C	pH = 7.70
DO (%) = 68.3	Conductivity = 152.2 uS	Salinity = 0.1 ppt
DO(mg/L) = 6.80	Specific Conductance = 187.3 uS	

❖ **2/28/2014 @ 08:00 PST [AA,DW]**

4230: 2.974'
6712: "Program is done." Bottle full. Fridge at 4°C. Flushed line with 2 L distilled water. Pump counts 765,926.
Composite samples: Pulled at 08:06 PST.
Grab samples: Special study samples - bacteriological source ID @ 08:06 PST.

MO-MEI Meiners Oaks (Happy Valley Drain)

❖ **2/25/2014 @ 14:40 PST [JM]**

2105ci: Pacing = 1,000 cf
4230: 0.082', 1 cfs (channel dry)
6712: Fridge at 4°C. Flushed line with 2L distilled water. Program flow paced; pacing every 4 pulses. Run program: "Program disabled 14:53 25-FEB." Removed composite bottle lid. Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/27/2014 @ 01:58 PST [KH,TL]**

4230: 0.374', 26 cfs
6712: "Program done." Composite bottle ~ 18L. Fridge at 4°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 02:00 PST.

Field Measurements:	Temperature = 13.3°C	pH = 7.36
DO (%) = 99.7	Conductivity = 38.0 uS	Salinity = 0.0 ppt
DO(mg/L) = 10.44	Specific Conductance = 48.9 uS	

❖ **2/28/2014 @ 09:20 PST [JM,SG]**

4230: 0.233', 10 cfs
6712: "Program done." Bottle full. Fridge at 2°C. Flushed line with 2 L distilled water.
Composite samples: Pulled 09:20 PST.
Grab samples: Special study samples - bacteriological source ID grabs taken @ 09:20 PST.

MO-MPK Moorpark (Walnut Canyon Drain)

❖ **2/25/2014 @ 09:45 PST [BS]**

2105ci: Pacing = 1,000 cf
4230: 0.047', 0.2 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count = 317,337. Program flow paced; pacing every 2 pulses. Run program: "Program disabled." Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/27/2014 @ 02:15 PST [AA,JM]**

4230: 0.315', 8.2 cfs
6712: Fridge at 4°C. "Program is done. Errors have occurred." Bottle full.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 02:15 PST.

Field Measurements:	Temperature = 14.0°C	pH = 7.83
DO (%) = 91.1	Conductivity = 217.4 uS	Salinity = 0.1 ppt
DO(mg/L) = 9.36	Specific Conductance = 275.8 uS	

❖ **2/28/2014 @ 09:15 PST [KH,JE]**

4230: 0.195', 3.1 cfs
6712: "Program is done. Errors have occurred". Samples 3-9 "No liquid detected." Bottle ~ 17L. Fridge at 3°C. Flushed line with 2 L distilled water. Pump tubing count 477,842. Turned 6712 off.
Composite samples: Pulled 09:15 PST.
Grab samples: Special study samples - bacteriological source ID grabs taken @ 09:15 PST.

MO-OJA Ojai (Fox Canyon Barranca)

❖ **2/25/2014 @ 13:47 PST [JM]**

2105ci: Pacing = 1,000 cf
4230: -0.000', 0 cfs
6712: Fridge at 0°C. Flushed line with 2L distilled water. Program flow paced; pacing every 4 pulses. Run program: "Program disabled." Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/27/2014 @ 01:30 PST [KH,TL]**

4230: 0.094', 5 cfs [More flow in channel than showing on 4230.]
6712: "Sample 27 after 1 pulse." Fridge at 3°C. Composite bottle ~11L.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 01:30 PST.

Field Measurements:	Temperature = 13.4°C	pH = 7.15
DO (%) = 99.5	Conductivity = 36.4 uS	Salinity = 0.0 ppt
DO(mg/L) = 10.39	Specific Conductance = 46.8 uS	

❖ **2/28/2014 @ 08:45 PST [JM,SG]**

4230: 0.009', 0 cfs
6712: "Program done." Fridge at 4°C. Flushed line with 2 L distilled water. Pump tubing count 101,733.
Composite samples: Pulled 08:45 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 08:45 PST.

❖ **Follow up [WBC]**

Notes: High water mark was ~1.4' from debris line. Chalk readings gave peaks that were too high. Determined that rating table in 4230 had not been updated when bubbler was moved upstream of RCP on (August 1, 2012). Rating table fine but stage reading 0.1' too low. Updated flow in Flowlink for time period August 1, 2012 to present during week of March 10, 2014.

MO-OXN Oxnard (El Rio Drain)

❖ **2/25/2014 @ 16:43 PST [JM]**

2105ci: Pacing = 1,000 cf
4230: 0.110', 0.3 cfs
6712: Fridge at 4°C. Flushed line with 2L distilled water. Program flow paced; pacing every 20 pulses. Run program: "Program disabled". Installed composite bottle, removed lid. Grab bottles left onsite.

❖ **2/27/2014 @ 00:45 PST [BS,DW]**

4230: 1.973' [oss ~2'], 79.1 cfs
6712: Fridge at 5°C, turned colder. "Sample 29 after 13 pulses." Bottle ~2/3 full.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 00:50 PST.

Field Measurements:	Temperature = 14.8°C	pH = 7.10
DO (%) = 93.1	Conductivity = 47.6 uS	Salinity = 0.0 ppt
DO(mg/L) = 9.40	Specific Conductance = 59.3 uS	

❖ **2/28/2014 @ 07:32 PST [BS,RK]**

4230: 0.858', 17.3 cfs
6712: Fridge @ 0°C. "Program: Flow paced is done." Bottle full. Flushed line with 2 L distilled water. Pump tubing count 311,954.
Composite samples: Pulled at 07:40 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 07:40 PST.

MO-HUE Port Hueneme (Hueneme Drain)

❖ **2/25/2014 @ 15:58 PST [JM]**

6712: Fridge at 2°C. Flushed line with 2L distilled water. Programmed time paced ~ 7 hour program, 15 min/sample. Run program "Program disabled". Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/27/2014 @ 02:50 PST [BS,DW]**

6712: Fridge at 2°C. "Sample 33 in 00:09". Bottle almost full.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 03:00 PST. Pumps on while sampling.

Field Measurements:	Temperature = 15.5°C	pH = 7.65
DO (%) = 63.3	Conductivity = 438 uS	Salinity = 0.3 ppt
DO(mg/L) = 6.34	Specific Conductance = 537 uS	

❖ **2/28/2014 @ 10:06 PST [WBC]**

6712: Fridge at 4°C. "Program time paced is done." Bottle full. Flushed line with 2 L distilled water. Pump tubing count 490,959.
Composite samples: Pulled at 10:15 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 10:15 PST.

MO-SIM Simi Valley (Bus Canyon Drain)

❖ **2/25/2014 @ 10:10 PST [BS]**

2105ci: Pacing = 1,000 cf
4230: 0.141', 2 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count = 139,691. Program flow paced; pacing every 12 pulses. Run program: "Program disabled." Installed labeled composite bottle, removed lid. Grab bottles and blanks (bacteriological source ID study bottle and blank water) left onsite.

❖ **2/27/2014 @ 03:15 PST [AA,JM]**

4230: 0.429', 25 cfs,
6712: "Program is done." Bottle full. Fridge at 4°C.
Grab samples: Bacteriological (including source ID study sample and field blank) and chemistry grabs taken at 03:15 PST.

Field Measurements:	Temperature = NR	pH = not functioning
DO (%) = 91.5	Conductivity = 300 uS	Salinity = 0.2 ppt
DO(mg/L) = 9.42	Specific Conductance = 400 uS	

❖ **2/28/2014 @ 08:10 PST [KH,JE]**

4230: 0.551', 38 cfs
6712: "Program is done." Fridge at 1°C. Bottle ~18L. Flushed line with 2 L distilled water. Pump tubing count 214,864. Turned 6712 off.
Composite samples: Pulled at 08:10 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 08:10 PST.

MO-SPA Santa Paula (11th Street Drain)

❖ **2/25/2014 @ 08:41 PST [BS]**

2105ci: Pacing = 1,000 cf
4250: 0.02', 0.00 cfs
6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count = 353,613. Program flow paced; pacing every 4 pulses. Run program: "Program disabled". Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/27/2014 @ 00:47 PST [AA,JM]**

4250: 8.45 f/s, 27.22 cfs
6712: "Sample 35 after 2 pulses." Bottle ~ 80% full. Fridge at 2°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 00:50 PST.

Field Measurements:	Temperature = 14.3°C	pH = 7.13
DO (%) = 69.8	Conductivity = 3.5 uS	Salinity = 0.0 ppt
DO(mg/L) = 7.13	Specific Conductance = 5.6 uS	

❖ **2/28/2014 @ 08:31 PST [AA,JM]**

4250: 2.07 cfs, 5.71 ft/s
6712: "Program is done." Bottle ~80% full. Fridge at 3°C. Flushed line with 2 L distilled water. Pump tubing count 506,071.
Composite samples: Pulled at 08:40 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 08:40 PST.

MO-THO Thousand Oaks (Hill Canyon WWTP)

❖ **2/25/2014 @ 10:48 PST [BS]**

2105ci: Pacing = 1,000 cf
4230: 2.147' [oss 2.12'], 1 cfs
6712: Fridge at 4°C. Flushed line with 2L distilled water. Pump count = 311,472. Program flow paced; pacing every 45 pulses. Run program: "Program disabled." Installed labeled composite bottle, removed lid. Grab bottles left onsite.

❖ **2/26/2014 @ 23:45 PST [WBC-remote]**

2105ci: Pacing = 500 cf

❖ **2/27/2014 @ 04:00 [AA,JM]**

4230: 3.033', 43 cfs
6712: "Sample 34 after 14 pulses." Bottle full. Fridge at 3°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 04:00 PST.

Field Measurements:	Temperature = 14.5°C	pH = meter not working
DO (%) = 90.7	Conductivity = 216 uS	Salinity = 0.1 ppt
DO(mg/L) = 9.26	Specific Conductance = 281 uS	

❖ **2/28/2014 @ 08:11 PST [WBC]**

4230: 3.989', 95 cfs
6712: "Program is done." Bottle full. Fridge at 4°C. Flushed line with 2 L distilled water. Pump count = 420,195. Peak high water mark ~ 6.5'.
Composite samples: Pulled at 08:20 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 08:20 PST.

MO-VEN Ventura (Moon Ditch)

❖ **2/25/2014 @ 17:12 PST [JM]**

2105ci: Pacing = 1000 cf
4230: 0.039', 1 cfs
6712: Fridge at 4°C. Flushed line with 2L distilled water. Program flow paced; pacing every 30 pulses. Run program: "Program disabled." Installed labeled composite bottle, lid off. Grab bottles left onsite.

❖ **2/27/2014 @ 00:18 PST [KH,TL]**

4230: 0.662', 47 cfs [oss ~0.67 but fluctuating with time]
6712: "Sample 22 after 1 pulse." Bottle ~ 12L. Fridge at 4°C.
Grab samples: Bacteriological (including source ID study) and chemistry grabs taken at 00:30 PST.

Field Measurements:	Temperature = 14.6°C	pH = 6.74

DO (%) = 97.6 Conductivity = 64.4 uS Salinity = 0.0 ppt
DO(mg/L) = 9.94 Specific Conductance = 80.4 uS

❖ **2/28/2014 @ 09:12 PST [AA,DW]**

4230: 0.157', 4 cfs
6712: "Program is done." Fridge @ 2°C. Bottle full. Flushed line with 2 L distilled water. Pump count 215,410.
Composite samples: Pulled at 09:22 PST.
Grab samples: Special study samples - bacteriological source ID taken @ 09:22 PST.

Sample Tracking

❖ Bacteria samples to VCHCA (Nadia West):
2/27/2014 @ 05:45 PST (CC/SCR/CAM/OXN/VR2/OJA/MEI/VEN/HUE SPA/FIL/SIM&MB-1/MPK/THO): Kelly Hahs

❖ Grab and composite samples to Weck Laboratories, Inc. by Weck-provided courier (John Paul Enriquez):
2/28/2014 @ 13:40 PST: All grabs and composites relinquished at Ventura County Government Center (VCGC) by Kelly Hahs.

Staff

❖ Ventura County Watershed Protection District (VCWPD)
[AA] Arne Anselm
[KH] Kelly Hahs
[BS] Bram Sercu
[WBC] Bill Carey
[JE] Jonathon Evangelista
[SG] Steven Greer
[RK] Robert Keen (SOY O&M)

❖ JR's Environmental Services (JRE)
[TL] Tommy Liddell

❖ Gold Coast Environmental Services (GCE)
[JM] Jim McRory
[DW] Dean Wilkinson

NPDES 2013/14 Water Quality Monitoring
Event #4 (Dry) Summary: April 15-16, 22-23, 24-25, 29-30, 2014

Sampling Durations (to nearest 0.5 hours):

ME-CC = 23.0 hrs.	ME-SCR = 23.0 hrs.	ME-VR2 = 23.0 hrs.
MO-CAM = 23.0 hrs.	MO-FIL = 23.0 hrs.	MO-HUE = 23.0 hrs.
MO-MEI = DRY.	MO-MPK = DRY.	MO-OJA = 23.0 hrs.
MO-OXN = DRY.	MO-SIM = 23.0 hrs.	MO-SPA = 3.0.
MO-THO = 23.0 hrs.	MO-VEN = 23.0 hrs.	

Last rainfall > 0.1" occurred on March 1st, March 31st, or April 1st, 2014 (depending on site).

EVENT 4.1 Ventura River Watershed, April 15-16, 2014

NPDES ~ MASS EMISSION

ME-VR2 Ventura River (Ojai Valley Sanitary District)

- **04/15/2014 @ 12:25 pm PDT [WBC]**

4230: 1.793, 1 cfs
6712: Fridge at 2°C. Flushed line with 2 L distilled water. Installed labeled composite bottle, lid off. Program time-paced for 35 x 500ml samples, taken every 41 minutes (24 hour program). Run program. Sample 1 volume good. "Sample 2 in 00:36".

- **04/16/2014 @ 12:50 pm PDT [KH,WBC]**

4230: 1.799, 1 cfs
6712: "Program: Flow paced is done" (note: program was time paced but name of program was not changed). Bottle ~ 18 L. Fridge at 4°C. Flushed line with 2L distilled water. Pump count 474,703. Turned 6712 off.

Grab samples: Taken in river at 12:50 pm PDT.

Field Measurements:	Temperature = 19.3°C	pH = 7.77
DO (%) = 116.5	Conductivity = 1271 uS	Salinity = 0.7 ppt
DO(mg/L) = 10.73	Specific Conductance = 1427 uS	

Composite samples: Pulled at 12:50 pm PDT.

NPDES ~ MAJOR OUTFALLS

MO-MEI Meiners Oaks (Happy Valley Drain)

- **04/15/2014 @ 11:30 am PDT [WBC]**

Notes: Site has been completely dry with no evidence of flow for weeks and during most of the winter wet season.

- **04/16/2014 [KH,WBC]**

Notes: Site remained completely dry with no evidence of flow overnight. Samples could not be collected for the dry event.

MO-OJA Ojai (Fox Canyon Barranca)

- **04/15/2014 @ 11:12 am PDT [WBC]**

NPDES 2013/14 Event # 4 (Dry)

Notes: Fox Canyon Drain is scheduled to be scraped by WPD operations and maintenance crews in ~ 1 week as part of routine, scheduled maintenance.
4230: 0.100', 5 cfs (no contact)
6712: Fridge at 2°C. Flushed line with 2L distilled water. Placed sand filled silicone line dam across channel and secured in place with sand bags. Water level pooled in channel but insufficient to be in contact with bubbler flow meter. Installed one labeled 18.5 L bottle, lid off. Program time-paced for 35 x 500ml samples, taken every 41 minutes (24 hour program). Run program. Sample 1 volume good. "Sample 2 in 00:36."

❖ **04/16/2014 @ 11:30 am PDT [KH,WBC]**

4230: 0.101', 5 cfs
6712: "Program: Time Paced is done. Errors have occurred." Bottle ~ 16L. Fridge @ 1°C. No more liquid at (PST) 10:50, 12:12, 12:53, 14:56. Flushed line with 2L distilled water. Pump count 390,722. Turned 6712 off. Removed sand bags, dam, and low flow strainer (in preparation for O+M maintenance) from channel.
Grab and Composite samples: Taken at 11:30 am PDT.

Field Measurements:	Temperature = 20.2°C	pH = 10.16 (10.10, 10.22)
DO (%) = 178.0	Conductivity = 1447 uS	Salinity = 0.8 ppt
DO(mg/L) = 16.3	Specific Conductance = 1599 uS	

EVENT 4.2 Santa Clara River Watershed, April 22-23, 2014

NPDES ~ MASS EMISSION

ME-SCR Santa Clara River (Freeman Diversion)

❖ **04/22/2014 @ 10:00 am PDT [KH]**

Note: Roller gate closed and water backed up
4210: 3.664'
6712: Fridge at 2°C. Pump reverse causes bubbles from intake. Flushed line with 2L distilled water. Installed one 18.5 L labeled bottle, lid off. Program time-paced for 35 x 500ml samples, taken every 41 minutes, once enabled stay enabled, sample at enable, no delay to start. Run program. Sample 1 volume good. "Sample 2 in 00:38".

❖ **04/23/2014 @ 10:25 am PDT [KH,BS]**

4210: 3.465'
6712: "Program time-paced is done". Fridge at 2°C. Bottle full. Flushed line with 2L distilled water. Pump counts 928,267. Turned 6712 off.
Grab samples: Taken in diversion canal at @ 10:30 am PDT.

Field Measurements:	Temperature = 18.0° C	pH = 7.94
DO (%) = 102.2	Conductivity = 1721 uS	Salinity = 1.0 ppt
DO(mg/L) = 9.41	Specific Conductance = 1941 uS	

Composite samples: Pulled at 10:30 am PDT.

NPDES ~ MAJOR OUTFALLS

MO-FIL Fillmore (North Fillmore Drain)

❖ **04/22/2014 @ 08:33 am PDT [WBC]**

4250: 0.099'
6712: Fridge at 0°C. Flushed line with 2L distilled water. Installed one 18.5 L labeled bottle, lid off. Built dirt dam in channel. Program time-paced for 35 x 500ml samples, taken every 41 minutes. Run program. Sample 1 volume good. "Sample 2 in 00:39."

❖ **04/23/2014 @ 09:29 am PDT [KH,BS]**

4250: 0.074'
6712: "Program: time paced is done. Errors have occurred." Fridge at 0°C. Bottle ~16L. Flushed line with 2 L distilled water. Pump counts 984,419. Turned 6712 off.

Grab and Composite samples: Taken at 09:30 am PDT.

Field Measurements:	Temperature = 17.6°C	pH = 8.30
DO (%) = 137.5	Conductivity = 1378 uS	Salinity = 0.8 ppt
DO(mg/L) = 13.08	Specific Conductance = 1601 uS	

MO-OXN Oxnard (El Rio Drain)

❖ **04/22/2014 [WBC]**

Notes: Operations and Maintenance department is cleaning El Rio Drain upstream of MO-OXN. Sampling postponed for this site (sampler was not set up).

MO-SPA Santa Paula (11th Street Drain)

❖ **04/22/2014 @ 09:25 am PDT [WBC]**

4250: 0.03', 0.00 cfs
6712: Refrigerator at 2°C. Flushed line with 2L distilled water. Installed one labeled 18.5 L bottle, lid off. Installed silicone dam and sand bags in pipe. Flow data was reviewed prior to programming to see if there was a pattern in flow. This site had been mostly dry for several weeks, including the previous five days, so it was programmed to enable at 0.1" depth and sample every 5 minutes in case flow started. Run program. Flow started while WBC still onsite.
4250: 0.412', 2.17 cfs, 3.01 ft/sec
6712: "Sample 3 in 00:02."

❖ **04/23/2014 @ 09:03 am PDT [KH,BS]**

Notes: No flow in pipe. Silicone dam flushed out. Removed sand bags. No grabs due to lack of flow.
4250: 0.015', 0 cfs
6712: Program flow-paced is done. Refrigerator at 3°C. Bottle ~ 15L. Flushed line with 2L distilled water. Pump count 663,452. Turned 6712 off.

Grab samples: Not taken – no flow.
Field Measurements: Not taken – no flow.
Composite samples: Collected at 09:00 PDT.

MO-VEN Ventura (Moon Ditch)

❖ **04/22/2014 @ 10:56 am PDT [WBC]**

4230: 0.041', 1 cfs
6712: Refrigerator at 2°C. Connected calibration line for sampling. Flushed line with 2L distilled water. Placed silicone dam in channel. Installed one labeled 18.5 L bottle, lid

off. Programmed time paced sampling 500 ml every 41 minutes for 35 samples. Run program. Sample 1 volume good. “Sample 2 in 00:38”.

❖ **04/23/2014 @ 11:10 am PDT [KH,BS]**

4230: 0.125’, 3 cfs
6712: Refrigerator at 3°C. “Program done. Errors have occurred.” Bottle full. Flushed line 2L distilled water. Removed sand bags and dam from channel. Disconnected calibration line and reconnected intake line. Pump count 417,412. Turned 6712 off.
Grab and Composite samples: Taken at 11:15 am PDT.

Field Measurements:	Temperature = 27.6° C	pH = 8.76
DO (%) = 182.3	Conductivity = 5500 uS	Salinity = 2.8 ppt
DO(mg/L) = 14.10	Specific Conductance = 5240 uS	

EVENT 4.3 Calleguas Creek Watersheds, April 24-25, 2014

NPDES ~ MASS EMISSION

ME-CC Calleguas Creek (CSUCI Bridge)

❖ **04/24/2014 @ 09:06 am PDT [KH,BS]**

4230: 1.132’, 7 cfs [oss 1.1’]
6712: Refrigerator at 0°C. Flushed line with 2L distilled water. Installed one 18.5 L labeled bottle, lid off. Program time-paced for 35 x 500ml samples, taken every 41 minutes. Run program.

❖ **04/25/2014 @ 10:15 am PDT [KH,SG]**

4230: 1.122’, 8 cfs
6712: Refrigerator at 2°C. “Program is done.” Bottle ~16L. Flushed line with 2L distilled water. Pump count 608,435. Turned 6712 off.
Grab and Composite samples: Taken at 10:15 am PDT.

Field Measurements:	Temperature = 20.1°C	pH = 7.89
DO (%) = 60.9	Conductivity = 1532 uS	Salinity = 0.9 ppt
DO(mg/L) = 5.49	Specific Conductance = 1692 uS	

NPDES ~ MAJOR OUTFALLS

MO-CAM Camarillo (Camarillo Hills Drain)

❖ **04/24/2014 @ 08:40 am PDT [KH,BS]**

4230: 0.031’, 10 cfs (no contact)
6712: Refrigerator at 3°C. Connected calibration line and flushed line with 2L distilled water. Lay weighted silicone line in channel to dam flow and secured with sand bags. Installed one 18.5 L labeled bottle, lid off. Program time-paced for 35 x 500ml samples, taken every 41 minutes. Run program. Sample 1 volume ~ 500 ml.

❖ **04/25/2014 @ 09:15 am PDT [KH,SG]**

4230: 0.033’, 10 cfs
6712: “Program is done.” Bottle ~ 17L. Refrigerator at 2°C. Flushed line with 2 L distilled water. Pump count 450,118. Disconnected sample line, reconnected intake line, and removed dam and sand bags from channel. Turned 6712 off.

NPDES 2013/14 Event # 4 (Dry)

Grab and Composite samples: Taken at 09:40 am PDT.
Field Measurements: Temperature = 18.5° C pH = 8.77 (avg 8.82, 8.74, 8.74)
DO (%) = 99.5 Conductivity = 941 uS Salinity = 0.5ppt
DO(mg/L) = 9.22 Specific Conductance = 1074 uS

MO-MPK Moorpark (Walnut Canyon Drain)

- **04/24/2014 @ 11:00 am PDT [KH,BS]**

Notes: Channel upstream of site completely dry. Low flow intake buried in sediment. Shoveled intake area clear and installed silicone dam and sand bags in channel. Refrigerator at 2°C. Programmed for 18 hour program starting at +400 minutes (~17:00 PST) due to dry channel conditions, sampling every 30 minutes. Run program. Installed labeled composite bottle, lid off. "Start at 17:03 (PST) Th 24-Apr."

- **04/25/2014 @ 12:30 pm PDT [KH,SG]**

Notes: Channel completely dry. No flow during sampling period. "Program is done. Errors have occurred." All samples "No liquid detected." Pump count 701,888. Recapped and removed bottle. Turned 6712 off. Removed sand bags and dam from channel.

MO-SIM Simi Valley (Bus Canyon Drain)

- **04/24/2014 @ 10:30 am PDT [KH,BS]**

4230: 0.137', 2 cfs
6712: Refrigerator at 0°C, turned colder. Connected calibration line. Flushed line with 2 L distilled water. Installed one labeled 18.5 L bottle, lid off. Installed silicone dam with sand bags in channel. Program time-paced, 41 mins, 35 samples, 500ml samples. Run program. Sample 1 ~ 500 ml.

- **04/25/2014 @ 11:55 am PDT [KH,SG]**

4230: 0.139', 2 cfs
6712: Dam moved but does not appear to have affected sample volume. "Program is done." Refrigerator at 2°C. Composite bottle ~18.5L. Flushed line 2 L distilled water. Pump count 291,693. Removed calibration line and reconnected intake line. Removed dam and sand bags from channel. Turned 6712 off.
Grab and Composite samples: Taken at 11:55 am PDT.
Field Measurements: Temperature = 21.5°C pH = 7.86
DO (%) = 72.1 Conductivity = 2555 uS Salinity = 1.4 ppt
DO(mg/L) = 6.31 Specific Conductance = 2742 uS

MO-THO Thousand Oaks (Hill Canyon WWTP)

- **04/24/2014 @ 09:47 am PDT [KH,BS]**

4230: 2.112', 1 cfs [oss 2.1']
6712: Refrigerator at 2°C. Flushed line 2 L distilled water. Installed one labeled 18.5 L bottle, lid off. Program time-paced, 35 samples, 41 min/sample, 500 ml. Run program. Sample 1 volume ~ 500 ml.

- **04/25/2014 @ 11:00 am PDT [KH,SG]**

4230: 2.124', 1 cfs

6712: Refrigerator at 4°C. "Program is done." Bottle ~18L. Flushed line 2 L distilled water. Pump count 641,231. Turned 6712 off.

Grab and Composite samples: Taken at 11:00 am PDT.

Field Measurements:	Temperature = 15.3°C	pH = 8.32
DO (%) = 77.8	Conductivity = 1581 uS	Salinity = 1.0 ppt
DO(mg/L) = 7.66	Specific Conductance = 1941 uS	

EVENT 4.4 Coastal Watershed and MO-OXN, April 29-30, 2014

NPDES ~ MAJOR OUTFALLS

MO-HUE Port Hueneme (Hueneme Drain)

❖ **04/29/2014 @ 09:25 am PDT [KH]**

6712: Fridge at 2°C. Flushed line with 2L distilled water. Pump count 497,953. Installed one labeled 18.5 L bottle, lid off. Program time-paced for 35 x 500ml samples, taken every 41 minutes. Run program. Sample 1 volume ~500ml.

❖ **04/30/2014 @ 09:48 am PDT [KH,BS]**

6712: Fridge at 2° C. "Program: Time paced is done". Bottle full. Flushed line 2L distilled water. Pump count 653,466. Turned 6712 off.

Grab and Composite samples: Taken at 09:55 am PDT.

Field Measurements:	Temperature = 18.0° C	pH = 7.37
DO (%) = 27.7	Conductivity = 9630 uS	Salinity = 6.4 ppt
DO(mg/L) = 2.52	Specific Conductance = 11140 uS	

MO-OXN Oxnard (El Rio Drain)

❖ **04/29/2014 @ 10:00 am PDT [KH]**

Notes: Most of El Rio Drain was completely dry, including the area near MO-OXN. Wet pavement and very shallow pools were intermittently present well upstream of MO-OXN, but water was not flowing or present in sampleable quantities.
4230: 0.113', 0.3 cfs
6712: Flushed line with 2L distilled water. Pump count 318,338. Placed silicone dam in channel and secured it with sand bags. Channel dry so programmed for 18 hour program starting at 15:00 PST, 16:00 PDT, sampling every 31 minutes. Installed one labeled 18.5 L bottle, lid off. Run program. "Start @ 15:00 Tu 29-Apr."

❖ **04/30/2014 @ 09:15 am PDT [KH,BS]**

Notes: Channel still dry, including the area near MO-OXN.
4230: 0.115', 0.3 cfs
6712: All samples "No liquid detected." Bottle empty. Recapped and removed bottle. Removed sand bags and dam from channel. Turned 6712 off.

Sample Tracking

Dry Sites (unsampleable)

❖ MO-MEI (4/16/14), MO-SPA grabs (4/23/14), MO-MPK (4/25/14), MO-OXN (4/30/14)

Event 4.1 (ME-VR2, MO-OJA)

- Bacteria samples to VCHCA (Nadia West): 4/16/14 @ 13:50 PDT by KH
- Bacteria samples to Pat-Chem (Daniel Diaz): 4/16/14 @ 14:25 PDT by KH
- Grab and composite samples to Weck Laboratories, Inc. courier (Allan Goldberg): 4/16/14 @ 14:35 PDT by WBC

Event 4.2 (ME-SCR, MO-FIL, MO-SPA (composite only), MO-VEN)

- Bacteria samples to VCHCA (Salvadore Barragan): 4/23/14 @ 13:40 PDT by SG
- Bacteria samples to Pat-Chem (Theresa Trevizo): 4/23/14 @ 14:10 PDT by SG
- Grab and composite samples to Weck Laboratories, Inc. provided courier (Luis Lopez, Reliable Messenger Service): 4/23/14 @ 13:15 PDT by KH

Event 4.3 (ME-CC, MO-CAM, MO-SIM, MO-THO)

- Bacteria samples (DNA filters only) to VCHCA (Salvadore Barragan): 4/25/14 by SG for KH
- Bacteria samples to Pat-Chem (Theresa Trevizo): 4/25/14 @ 12:55 PDT by SG for KH
- Grab and composite samples to Weck Laboratories, Inc. provided courier (Luis Lopez, Reliable Messenger Service): 4/25/14 @ 14:20 PDT by KH

Event 4.4 (MO-HUE)

- Bacteria samples to VCHCA (Nadia West): 4/30/14 by KH
- Grab and composite samples to Weck Laboratories, Inc. courier (Allan Goldberg): 4/30/14 @ 14:30 PDT by BS

Staff

- Ventura County Watershed Protection District (VCWPD)

[KH] Kelly Hahs
[BS] Bram Sercu
[WBC] Bill Carey
[SG] Steven Greer

Appendix E. Chain-of Custody Forms

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Pre-season - Weck Laboratories

Sampling Date: 9-5-13 Project Number: 2013/14-Pre Season

Sampling Team: WBC

SAMPLE ID	DATE/TIME COLLECTED		625-CTR*	NO3+NO2 (353.2)	Metals, total	No action required	Clean with detergent and HNO3			Quantity	NOTES
											Metals by200.8, Total: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg
EB composite	9-5-13/1300		X	X	X					1	carboy Blank (HNO_3+mellonol)
18.5 L carboy and lid							X			1	Please place tape or plastic bag over top
Blue cube cooler						X				1	
Black bag						X				1	

Relinquished

Printed Name W.B. CAREY

Signature W.B. Carey

Affiliation VCWPD Date/Time 1530 9/6/13

Received

Printed Name ALLAN GOLDBERG

Signature

Affiliation WECK LABS Date/Time 1530 9/6/13

Other Notes: Please use for MS/MSD analysis when sample volume permits.

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Pre-season - Weck Laboratories

Sampling Date: 9/5/2013 Project Number: 2013/14-Pre Season

Sampling Team: K. Hahs, W.B. Carey

SAMPLE ID	DATE/TIME COLLECTED		625-CTR*	NO3+NO2 (353.2)	Metals, total								Number of Bottles	NOTES
EB lines	9/5/2013 09:25 PDT		X	X	X								5	Tubing Blank MO-CAM
~~EB composite~~			~~X~~	~~X~~	~~X~~								~~1~~	

Metals by200.8, Total:
Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Relinquished Printed Name BRAM SERCU

Signature

Affiliation VCWPD Date/Time 9/5/2013 / 1500

Received Printed Name Alan Goldberg

Signature

Affiliation Weck Labs Date/Time 9/5/2013 / 1505

Other Notes: Please use for MS/MSD analysis when sample volume permits.

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 12/7/13

Project Number: ~~2012/13~~ 2013/14-1 (Wet)

Sampling Team: K.H, T.L

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA FILTER		Number of Bottles	NOTES
	ME-CC	12/7/13 1130	X	X	X	X	X	X		2	3 DNA FILTERS
	ME-SCR	12/7/13 1220	X	X	X	X	X	X		2	
	~~ME-VR2~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~2~~	
	MO-CAM	12/7/13 1030	X	X		X	X	X		2	2 DNA FILTERS
	~~MO-OJA~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	
	~~MO-MEI~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	
	~~MO-VEN~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	
	~~MD-1 MB-1~~		~~X~~	~~X~~		~~X~~	~~X~~			1	
	MO-OXN	12/7/13 0945	X	X		X	X			2	2 DNA Filters

Relinquished — Printed Name: KELLY HAHS

Signature: Kelly Hahs

Affiliation: VCWPD — Date/Time: 12/7/13 / 1330

Received — Printed Name: Nadia West

Signature: Nadia West

Affiliation: VCPHL — Date/Time: 12/7/13 / 1330

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 12/7/13 Project Number: ~~2012/13-5~~ 2013/14-1 (Wet)

Sampling Team: BS, JR

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA FILTER		Number of Bottles	NOTES
	~~ME-CC~~		X	X	X	X	X	X		2	3 DNA FILTERS
	~~ME-SCR~~		~~X~~	~~X~~	X	X	X	X		2	
	ME-VR2	12/7/13 1250	X	X	X	X	X	X		2	
	~~MO-CAM~~		~~X~~	~~X~~		~~X~~	~~X~~	X		2	2 DNA FILTERS
	MO-OJA	12/7/13 1055	X	X		X	X	X		2	
	MO-MEI	12/7/13 1155	X	X		X	X	X		2	
	MO-VEN	12/7/13 0930	X	X		X	X	X		2	
	~~MD1 MB-1~~		~~X~~	~~X~~		~~X~~	~~X~~			1	

Relinquished — Printed Name: BRAM SBCWD

Signature:

Affiliation: UCLPD Date/Time: 12/7/13 1500

Received — Printed Name: Nadia West

Signature:

Affiliation: PH-Lab Date/Time: 120713 1500

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 2 of 2)

Sampling Date: 12/2/13 Project Number: ~~2012/13-5~~ 2013/14-1 (Wet)

Sampling Team: BS, JR

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA FILTER		Number of Bottles	NOTES
	~~MO-SPA~~		X	X		X	X	X		2	2 DNA FILTERS
	~~MO-FIL~~		X	X		X	X	X		2	
	MO-SIM		X	X		X	X	X		2	
	MO-MPK		X	X		X	X	X		2	
	MO-THO		X	X		X	X	X		2	
	~~MO-OXN~~		X	X		X	X	X		2	
	MO-HUE	12/2/13 14:10	X	X		X	X	X		2	

Relinquished Printed Name: BRAM SERCU

Signature:

Affiliation: VCWPD Date/Time: 12/3/13 1500

Received Printed Name: Nadia Lasky

Signature:

Affiliation: PH Lab Date/Time: 12/3/13 @ 1500

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 12/7/13 Project Number: ~~2012/13-5~~ 2013/14-1 (Wet)

Sampling Team: AA, JM

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA FILTER		Number of Bottles	NOTES
	ME-CC		X	X	X	X	X	X		2	3 DNA FILTERS
	ME-SCR		X	X	X	X	X	X		2	↓
	ME-VR2		X	X	X	X	X	X		2	↓
	MO-CAM		X	X		X	X	X		2	2 DNA FILTERS
	MO-OJA		X	X		X	X	X		2	↓
	MO-MEI		X	X		X	X	X		2	↓
	MO-VEN		X	X		X	X	X		2	↓
	~~MD-1~~ MB-1	12-7-13 13:00	X	X		X	X			1	

Relinquished — Printed Name: ARNE ANSELM

Signature: [signature]

Affiliation: VCWPD Date/Time: 12-7-13 15:00

Received — Printed Name: Nadia West

Signature: [signature]

Affiliation: PH Lab Date/Time: 120713 @ 1500

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 2 of 2)

2013/H-1

Sampling Date: 12/7/13 Project Number: ~~2012/13-5~~ (Wet)

Sampling Team: AA, JM

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA FILTER		Number of Bottles	NOTES
	MO-SPA	12-7-13 9:45	X	X		X	X	X		2	2 DNA FILTERS
	MO-FIL	12-7-13 10:40	X	X		X	X	X		2	
	MO-SIM	12:15	X	X		X	X	X		2	
	MO-MPK	12-7-13 11:30	X	X		X	X	X		2	
	MO-THO	12-7-13 13:00	X	X		X	X	X		2	
	MO-OXN		X	X		X	X	X		2	
	MO-HUE		X	X		X	X	X		2	

Relinquished Printed Name ARNE ANSELM

Signature

Affiliation VCWPD Date/Time 12-7-13 15:00

Received Printed Name Nadia West

Signature

Affiliation PA Lab Date/Time 12/7/13 1500

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Toxicity - ABC Laboratories

Sampling Date: 12-7-13 Project Number: 2013/14-1 (Wet)

Sampling Team: AA TLA

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - topsmelt (*Atherinops affinis*)	Chronic toxicity - inland silverside (*Menidia beryllina*)	Chronic toxicity - giant kelp (*Macrocystis pyrifera*)	Chronic toxicity - purple sea urchin (*Strongylocentrotus purpuratus*)	Chronic toxicity - fathead minnow (*Pimephales promelas*)	Chronic toxicity - daphnid (*Ceriodaphnia dubia*)	Chronic toxicity - green alga (*Raphidocelis subcapitata*)	Number of 5-Gallon Buckets	NOTES
MO-OXN						X			2	Note 1, Note 2, Note 3
MO-HUE							X		3	Note 1, Note 2, Note 3, Note 4
MO-THO	12-7-13 13:00						X		2	Note 1, Note 2, Note 3
MO-MPK	12-7-13 11:30							X	2	Note 1, Note 2, Note 3
MO-SIM	12-7-13 12:15						X		2	Note 1, Note 2, Note 3
MO-FIL	12-7-13 10:40						X		2	Note 1, Note 2, Note 3
MO-SPA	12-7-13 9:45					X			2	Note 1, Note 2, Note 3

Relinquished

Printed Name ANNE ANSELM

Signature 

Affiliation VCWPD Date/Tim 12-7-13 15:00

Received

Printed Name

Signature

Affiliation Date/Tim

Other Notes:

Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100% Note 2: Please execute TIE if mortality > 50%

Note 3: Notify District within 24 hours if significant toxicity is observed.

Note 4: If salinity >2 ppt then also run topsmelt for comparison. If topsmelt unavailable, use *Hyalella*

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Toxicity - ABC Laboratories

Sampling Date: 12/7/13 Project Number: 2013/14-1 (Wet)

Sampling Team: BS, SR

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - topsmelt (*Atherinops affinis*)	Chronic toxicity - inland silverside (*Menidia beryllina*)	Chronic toxicity - giant kelp (*Macrocystis pyrifera*)	Chronic toxicity - purple sea urchin (*Strongylocentrotus purpuratus*)	Chronic toxicity - fathead minnow (*Pimephales promelas*)	Chronic toxicity - daphnid (*Ceriodaphnia dubia*)	Chronic toxicity - green alga (*Raphidocelis subcapitata*)	Number of 5-Gallon Buckets	NOTES
~~ME-CC~~		X							2	Note 1, Note 2, Note 3
~~ME-SCR~~					X				1	Note 1, Note 2, Note 3
ME-VR2	12/7/13 1250	X							2	Note 1, Note 2, Note 3
~~MO-CAM~~						X			2	Note 1, Note 2, Note 3
MO-OJA	1055					X			2	Note 1, Note 2, Note 3
MO-MEI	1155					X			2	Note 1, Note 2, Note 3
MO-VEN	0930						X		2	Note 1, Note 2, Note 3

Relinquished Printed Name BRIAN STORC

Signature

Affiliation VCWPD Date/Tim 12/7/13 1535

Received Printed Name Ariel Reimus

Signature

Affiliation Aquatic Bioassay Date/Tim 12/7/13 1535

Other Notes: Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100% Note 2: Please execute TIE if mortality > 50%

Note 3: Notify District within 24 hours if significant toxicity is observed.

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Toxicity - ABC Laboratories

Sampling Date: 12/7/13 Project Number: 2013/14-1 (Wet)

Sampling Team: BS, JR

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - topsmelt (*Atherinops affinis*)	Chronic toxicity - inland silverside (*Menidia beryllina*)	Chronic toxicity - giant kelp (*Macrocystis pyrifera*)	Chronic toxicity - purple sea urchin (*Strongylocentrotus purpuratus*)	Chronic toxicity - fathead minnow (*Pimephales promelas*)	Chronic toxicity - daphnid (*Ceriodaphnia dubia*)	Chronic toxicity - green alga (*Raphidocelis subcapitata*)	Number of 5-Gallon Buckets	NOTES
MO-OXN						X			2	Note 1, Note 2, Note 3
MO-HUE	12/7/13 1410						X		3	Note 1, Note 2, Note 3, Note 4
MO-THO							X		2	Note 1, Note 2, Note 3
MO-MPK								X	2	Note 1, Note 2, Note 3
MO-SIM							X		2	Note 1, Note 2, Note 3
MO-FIL							X		2	Note 1, Note 2, Note 3
MO-SPA						X			2	Note 1, Note 2, Note 3

Relinquished
Printed Name: BRAD SERR
Signature:
Affiliation: VCWPD Date/Tim: 12/7/13 15 35

Received
Printed Name: Abel Ramos
Signature:
Affiliation: Agua Bureau Date/Tim: 12/7/13 1535

Other Notes:
Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100% Note 2: Please execute TIE if mortality > 50%
Note 3: Notify District within 24 hours if significant toxicity is observed.
Note 4: If salinity >2 ppt then also run topsmelt for comparison. If topsmelt unavailable, use *Hyalella*

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season Toxicity - ABC Laboratories

Sampling Date: 12/7/13 Project Number: 2013/14-1 (Wet)

Sampling Team: K.H, T.L

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - topsmelt (*Atherinops affinis*)	Chronic toxicity - inland silverside (*Menidia beryllina*)	Chronic toxicity - giant kelp (*Macrocystis pyrifera*)	Chronic toxicity - purple sea urchin (*Strongylocentrotus purpuratus*)	Chronic toxicity - fathead minnow (*Pimephales promelas*)	Chronic toxicity - daphnid (*Ceriodaphnia dubia*)	Chronic toxicity - green alga (*Raphidocelis subcapitata*)	Number of 5-Gallon Buckets	NOTES
ME-CC	12/7/13 1130	X							2	Note 1, Note 2, Note 3
ME-SCR	12/7/13 1220				X				1	Note 1, Note 2, Note 3
ME-VR2		X							2	Note 1, Note 2, Note 3
MO-CAM	12/7/13 1030					X			2	Note 1, Note 2, Note 3
MO-OJA						X			2	Note 1, Note 2, Note 3
MO-MEI						X			2	Note 1, Note 2, Note 3
MO-VEN							X		2	Note 1, Note 2, Note 3
MO-OXN	12/7/13 0945					X				" " "

Relinquished Printed Name KELLY HAHS

Signature

Affiliation VCWPD Date/Time: 12/7/13 / 14:00

Received Printed Name Ariel Ramos 12/7/13 1400

Signature

Affiliation Aquatic Biossay Date/Time 12/7/13 / 1400

Other Notes: Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100% Note 2: Please execute TIE if mortality > 50%

Note 3: Notify District within 24 hours if significant toxicity is observed.

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Grabs - Weck Laboratories (SIDE 1 of 2)

Sampling Date: 12/7/13

Project Number: ~~2012/13-5~~ 2013/14-1 (Wet) Grabs

Sampling Team: KH, TL, AA, JM, BS, JR

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease; ~~Conc~~ (EPA 1664A)	Cyanide (ASTM D 7511)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits	GRO (EPA 8015B)	Total Aluminum (EPA 200.8)	EPA 200.8 *						Number of Bottles	NOTES
ME-CC	12/7/13 1130	3	1	3	1	2	1							8	KH, TL
ME-SCR	1220	2	1	3	1	2	1							7	KH, TL
ME-VR2	1250	2	1	3	1	2	1							7	BS, JR
MO-CAM	1030	2	1	3	1	2	3	1						7	KH, TL
MO-OJA	1055	2	1	3	1	2	1							7	BS, JR
MO-MEI	1155	2	1	3	1	2	1							7	BS, JR
MO-VEN	0930	2	1	3	1	2	1							7	BS, JR
MO-OXN	0945	2	1	3	1	2	1							7	KH, TL
~~MB-1~~ MB-1	1300	2	1	3	1	2	1							7	AA, JM

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

* Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Relinquished

Printed Name: Kelly Habs

Signature: Kelly Habs

Affiliation: VCWPD Date/Time: 12/8/13 1500 15

Received

Printed Name:

Signature:

Affiliation: Date/Time: 12/8/13 1500 15

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season Grabs - Weck Laboratories (SIDE 2 of 2)

Sampling Date: 12/7/13

Project Number: ~~2012/13-5~~ 2013/14-1 (Wet) Grabs

Sampling Team: KH, TL, AA, JM, BS, JR

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease; ~~Conc~~ (EPA 1664A)	Cyanide (ASTM D 7511)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits	EPA 515.3	GRO (EPA 8015B)	Total Aluminum (EPA 200.8)	Number of Bottles	NOTES
										Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.
MO-SPA	12/7/13 0945	2	1	3	1		2	1	10	AA, JM
MO-FIL	1040	2	1	3	1		2	1	10	AA, JM
MO-SIM	12:15	2	1	3	1		2	1	10	AA, JM
MO-HUE	14:10	2	1	3	1		2	1	10	BS, JR
MO-THO	13:00	2	1	3	1		2	1	10	AA, JM
MO-MPK	11:30	2	1	3	1		2	1	10	AA, JM
~~MO-MPK Upstream at~~ RR						~~2~~			~~2~~	
~~Edison RC Pipe at MPK - Lower~~						~~2~~			~~2~~	
~~Edison RC Pipe at MPK - Upper~~						~~2~~			~~2~~	

Relinquished — Printed Name: Kelly Hahs

Signature: [signature]

Affiliation: VCWPD — Date/Time: 12/8/13 | 15~~00~~15

Received — Printed Name: Dana Wehrmeister

Signature:

Affiliation: — Date/Time: 12/8/13 | 15~~00~~15

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 2)

Sampling Date: 12/8/13 Project Number: ~~2012/13-5 (Wet)~~ 2013/14-1 Composites

Sampling Team: K.H., DW, AA, BS

Metals by200.8, Total & Dissolved:
Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only):
Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

	SAMPLE ID	DATE/TIME COLLECTED	Barium, total	Chlorine Residual	NO3-N	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR 680/608 (EPA 8015B)	525.2 Reg+507, 525-OPP-LL	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
2@505	ME-CC	12/8/13 1036	X	X	X	X	X	X	X	X	X	X	X	X	1	AA, BS
.24	ME-SCR	0811	X			X	X	X	X	X	X	X	X	X	1	AA, BS
.31	ME-VR2	1040				X	X	X	X	X	X	X	X	X	1	KH, DW
.16	~~MO-CAM~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~1~~	~~AA, BS.~~ bottle broke
29@030 33@105	MO-OJA	0930				X	X	X	X	X	X	X	X	X	1	KH, DW
.31	MO-MEI	0955				X	X	X	X	X	X	X	X	X	1	KH, DW
.29	MO-VEN	1130				X	X	X	X	X	X	X	X	X	1	AA, BS

Relinquished Printed Name Kelly Hahs
Signature Kelly Hahs
Affiliation VCWPD Date/Time 12/8/13 / 1515

Received Printed Name David Williams
Signature
Affiliation Date/Time 12/8/13 / 1515

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 2 of 2)

Sampling Date: 12/8/13 Project Number: ~~2012/13-5~~ 2013/14-1 (Wet) Composites

Sampling Team: KH, DW, AA, BS

Precip (")	SAMPLE ID	DATE/TIME COLLECTED			DRO/ORO (EPA 8015B)	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
.22	MO-SPA	12/8/2013 0800			X	X	X	X	X	X	X	X	X	X	1	KH, DW
.22	MO-FIL	0830			X	X	X	X	X	X	X	X	X	X	1	KH, DW
.30	MO-SIM	0914			X	X	X	X	X	X	X	X	X	X	1	AA, BS
.29	MO-MPK	0853			X	X	X	X	X	X	X	X	X	X	1	AA, BS
.14	MO-THO	0951			X	X	X	X	X	X	X	X	X	X	1	AA, BS
.29	MO-OXN	1200			X	X	X	X	X	X	X	X	X	X	1	KH, DW
.18	MO-HUE	1125			X	X	X	X	X	X	X	X	X	X	1	KH, DW

Metals by200.8, Total & Dissolved:
Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only):
Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

Relinquished
Printed Name: Kelly Hais
Signature: Kelly Hais
Affiliation: VCWPD Date/Time: 12/8/13 1500

Received
Printed Name: David Weeks
Signature: DAVID LEWIS
Affiliation: Date/Time: 12/8/13 1500

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Equipment - Weck Laboratories

Sampling Date: 12/8/13

Project Number: ~~2012/13-5~~ 2013/14-1 (Wet)

Sampling Team: K.H

EQUIPMENT	Clean with detergent and HNO3	Clean with detergent, HNO3, and methanol*	No action required		NOTES
18.5 L carboy and lid		13			Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.
Blue cube cooler			13		
Black bags			13		

Relinquished

Printed Name: KELLY HAHS

Signature: [signature]

Affiliation: VCWPD

Date/Time: 12/8/13

Received

Printed Name:

Signature:

Affiliation:

Date/Time:

Other Notes: * Please clean with detergent, nitric, and methanol and **do not** rinse after methanol step (allow to air dry after methanol cleaning to avoid organics contamination). ~~Record which bottles were cleaned with methanol.~~

1:10
1:1000

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 2/6/14 Project Number: 2013/14-2 (Wet)

Sampling Team: K. HAHS, T. LIDDELL, C. BALLOT

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	~~ME-CC~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~3~~	~~3 DNA Filters~~
	~~ME-SCR~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~3~~	~~3 DNA Filters~~
	ME-VR2	2/6/14 18:15	X	X	X	X	X	X		2	3 DNA Filters KH, TL
	~~MO-CAM~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~
	MO-OJA	2/6/14 17:20	X	X		X	X	X		2	2 DNA Filters KH, TL
	MO-MEI	2/6/14 16:40	X	X		X	X	X		2	2 DNA Filters KH, TL
	MO-VEN	2/6/14 15:00	X	X		X	X	X		2	2 DNA Filters KH, CB
	~~MD-1~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~

Relinquished Printed Name KELLY HAHS

Signature

Affiliation VCWPD Date/Time ~~2/6~~ 2/6/14 / 1900

Received Printed Name NADIA WEST

Signature

Affiliation VCPHL Date/Time 2/6/14 / 1900

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 2 of 2)

Sampling Date: 2/6/14 Project Number: 2013/14-2 (Wet)

Sampling Team: A. ANSELM, C. TUDAY

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	MO-SPA	2-6-14 14:35	X	X		X	X	X		2	2 DNA Filters
	MO-FIL	2-6-14 15:10	X	X		X	X	X		2	2 DNA Filters
	MO-SIM	2-6-14 16:51	X	X		X	X	X		2	2 DNA Filters
	MO-MPK	2-6-14 16:00	X	X		X	X	X		2	2 DNA Filters
	MO-THO	2-6-14 17:45	X	X		X	X	X		2	2 DNA Filters
	~~MO-OXN~~		X	X		X	X	X		2	2 DNA Filters
	~~MO-HUE~~		X	X		X	X	X		2	2 DNA Filters

Relinquished Printed Name ARNE ANSELM

Signature

Affiliation VCWPD Date/Time 2-6-14 18:45

Received Printed Name Nadia West

Signature

Affiliation PH Lab Date/Time 02/6/14 1848

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for ~~Enterococcus~~ and ~~E.~~ coli

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 2/6/14 Project Number: 2013/14-2 (Wet)

Sampling Team: BS, DW

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	ME-CC	2-6-14/1555	X	X	X	X	X	X		3	3 DNA Filters
	ME-SCR	2-6-14/1800	X	X	X	X	X	X		3	3 DNA Filters
	ME-VR2		X	X	X	X	X	X		2	3 DNA Filters
	MO-CAM	2-6-14/1530	X	X		X	X	X		2	2 DNA Filters
	MO-OJA		X	X		X	X	X		2	2 DNA Filters
	MO-MEI		X	X		X	X	X		2	2 DNA Filters
	MO-VEN		X	X		X	X	X		2	2 DNA Filters
	MD-1	2-6-14/1425	X	X		X	X	X		2	2 DNA Filters (@ MO-OXN)

Relinquished Printed Name BRAM SERCU

Signature

Affiliation VC WPD Date/Time 2/6/14 1910

Received Printed Name Denise Von Bargen

Signature Denise Von Bargen

Affiliation P.H. LAB Date/Time 2/6/14 1910

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Bacteriological - VCHCA Lab (SIDE 2 of 2)

Sampling Date: 2/6/14 Project Number: 2013/14-2 (Wet)

Sampling Team: BS, DW

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	MO-SPA		X	X		X	X	X		2	2 DNA Filters
	MO-FIL		X	X		X	X	X		2	2 DNA Filters
	MO-SIM		X	X		X	X	X		2	2 DNA Filters
	MO-MPK		X	X		X	X	X		2	2 DNA Filters
	MO-THO		X	X		X	X	X		2	2 DNA Filters
	MO-OXN	2-6-14/1425	X	X		X	X	X		2	2 DNA Filters
	MO-HUE	2-6-14/1645	X	X		X	X	X		2	2 DNA Filters

Relinquished Printed Name BRAM SERCU

Signature

Affiliation VCWPD Date/Time 2/6/14 1910

Received Printed Name Jessica Von Borgan

Signature Jessica Von Borgan

Affiliation PH. LAB Date/Time 1910

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

Chain of Custody Record

4B07079

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Grabs - Weck Laboratories (SIDE 1 of 2)

Sampling Date: 2/6/2014

Project Number: 2013/14-2 (Wet) Grabs

Sampling Team: K.HAHS, T.LIDDELL, C.BALLOT, D.WILKINSON, B.SERCU, A.ANSELM, C.TUDAY

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits							Number of Bottles	NOTES
ME-CC	2/6/14 15:55	3	1	3	3	1							11	BS, DW
ME-SCR	18:00	2	1	3	3	1							10	BS, DW
ME-VR2	18:15	2	1	3	3	1							10	KH, TL
MO-CAM	15:30	2	1	3	3	1							10	BS, DW
MO-OJA	17:20	2	1	3	3	1							10	KH, TL
MO-MEI	16:40	2	1	3	3	1							10	KH, TL
MO-VEN	15:00	2	1	3	3	1							10	KH, CB
MO-OXN	14:25	2	1	3	3	1							10	BS, DW
MD-1	14:25	2	1	3	3	1							10	BS, DW (MO-OXN)

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

Relinquished
Printed Name
Signature
Affiliation
Date/Time

Received
Printed Name
Signature
Affiliation
Date/Time

SEE SIDE TWO

COURIER PICK UP

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

* Travel Blank were not received for any location JG 2/17/14

Jamalmer 2/17/14 1615 1.7°C

Chain of Custody Record

4B07079

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Grabs - Weck Laboratories (SIDE 2 of 2)

Sampling Date: 2/6/14 Project Number: 2013/14-2 (Wet) Grabs

Sampling Team: (see side 1)

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits	EPA 515.3		Number of Bottles	NOTES
										Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.
MO-SPA	2/6/14 14:35	2	1	3	3	1			10	AA, CT
MO-FIL	15:10	2	1	3	3	1			10	AA, CT
MO-SIM	16:51	2	1	3	3	1			10	AA, CT
MO-HUE	16:45	2	1	3	3	1			10	BS, DW
MO-THO	17:45	2	1	3	3	1			10	AA, CT
MO-MPK	16:00	2	1	3	3	1			10	AA, CT
~~MO-MPK Upstream at RR~~							2		2	
~~Edison RC Pipe at MPK - Lower~~							2		2	
~~Edison RC Pipe at MPK - Upper~~							2		2	

Relinquished Printed Name ARNE ANSELM

Signature

Affiliation VCWPD Date/Time 2/7/2014 14:00

Received Printed Name Vincent Duran

Signature

Affiliation Date/Time 2-7-2014 14:00

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

James Jones 2/7/14 1015 1:7c

COURIER PICK UP

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 2)

4B07063

Sampling Date: 2/7/2014 Project Number: 2013/14-2 (Wet) Composites

Sampling Team: K. HAHS, J. EVANGELISTA, B. SERCU, D. WILKINSON

SAMPLE ID	DATE/TIME COLLECTED	Barium, total	Chlorine Residual	NO3-N	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
ME-CC	2/7/14 11:00	X	X	X	X	X	X	X	X	X	X	X	X	X	1	KH, JE
ME-SCR	08:10	X			X	X	X	X	X	X	X	X	X	X	1	KH, JE
ME-VR2	10:15				X	X	X	X	X	X	X	X	X	X	1	BS, DW
MO-CAM	10:40				X	X	X	X	X	X	X	X	X	X	1	KH, JE
MO-OJA	09:30				X	X	X	X	X	X	X	X	X	X	1	BS, DW
MO-MEI	09:47				X	X	X	X	X	X	X	X	X	X	1	BS, DW
MO-VEN	10:45				X	X	X	X	X	X	X	X	X	X	1	NO LABEL ON BOTTLE BS, DW

Metals by200.8, Total & Dissolved: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

Relinquished Printed Name _____

Signature _____

Affiliation _____ Date/Time _____

Received Printed Name _____

Signature _____

Affiliation _____ Date/Time _____

SEE SIDE TWO

COURIER PICK UP

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.

DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

James Amer 2/7/14 1615 1.7°C

Chain of Custody Record

Ventura County Watershed Protection District 4B07663

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Composites - Weck Laboratories (SIDE 2 of 2)

Sampling Date: 2/7/2014 Project Number: 2013/14-2 (Wet) Composites

Sampling Team: (see side one)

SAMPLE ID	DATE/TIME COLLECTED			Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
MO-SPA	2/7/14 08:15			X	X	X	X	X	X	X	X	X	X	1	BS, DW
MO-FIL	08:40			X	X	X	X	X	X	X	X	X	X	1	BS, DW
MO-SIM	09:30			X	X	X	X	X	X	X	X	X	X	1	KH, JE
MO-MPK	09:00			X	X	X	X	X	X	X	X	X	X	1	KH, JE
MO-THO	10:00			X	X	X	X	X	X	X	X	X	X	1	KH, JE
MO-OXN	11:06			X	X	X	X	X	X	X	X	X	X	1	BS, DW
MO-HUE	11:30			X	X	X	X	X	X	X	X	X	X	1	KH, JE

Metals by200.8, Total & Dissolved:
Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only):
Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

Relinquished Printed Name ARNE ANSELM

Signature

Affiliation VCWPD Date/Time 2/7/2014 14:00

Received Printed Name Vincent Duran

Signature

Affiliation COURIER Date/Time 2-7-2014 14:00

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately. 1.7°

DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

PICK UP

Jamestown 2/7/14 1600 JG 16:15

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Equipment - Weck Laboratories

Sampling Date: 2/7/2014 Project Number: 2013/14-2 (Wet) Cleaning

Sampling Team:

EQUIPMENT	Clean with detergent and HNO3	Clean with detergent, HNO3, and methanol*	No action required		NOTES
18.5 L carboy and lid ~~(Fastline~~ (Widemouth)		~~14~~ 13			Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.
Blue cube cooler			14		
Black bags			14		
narrow neck carboy + 2 lids		1			11

Relinquished Printed Name ARNE ANSELM

Signature

Affiliation VCWPD Date/Time 2/7/2014 / 14:00

Received Printed Name Vincent Duran

Signature 1.7°C

Affiliation Date/Time 2-7-2014 14:00

Other Notes: * Please clean with detergent, nitric, and methanol and **do not** rinse after methanol step (allow to air dry after methanol cleaning to avoid organics contamination). Record which bottles were cleaned with methanol.

Jaime Lomeli 2/7/14 1615

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 2/27/2014 Project Number: 2013/14-3 (Wet)

Sampling Team: K. HAHS, T. LIDDELL, B. SERCU, D. WILKINSON, A. ANSELM, J. McRORY

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	ME-CC	2/27/2014 02:20	X	X	X	X	X	X		3	3 DNA Filters BS, DW
	ME-SCR	04:00	X	X	X	X	X	X		3	3 DNA Filters BS, DW
	ME-VR2	02:45	X	X	X	X	X	X		2	3 DNA Filters KH, TL
	MO-CAM	01:50	X	X		X	X	X		2	2 DNA Filters BS, DW
	MO-OJA	01:30	X	X		X	X	X		2	2 DNA Filters KH, TL
	MO-MEI	02:00	X	X		X	X	X		2	2 DNA Filters KH, TL
	MO-VEN	00:30	X	X		X	X	X		2	2 DNA Filters KH, TL
	MB-1	03:15						X		2	2 DNA FILTERS (MO-SIM) AA JM

Relinquished Printed Name: KELLY HAHS

Signature: [signature]

Affiliation: VCWPD Date/Time: 2/27/2014 @ 545

Received Printed Name: NADIA WEST

Signature: [signature]

Affiliation: VCPHL Date/Time: 2/27/2014 @ 0545

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 2 of 2)

Sampling Date: 2/27/2014 Project Number: 2013/14-3 (Wet)

Sampling Team: see side 1 of 2

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	MO-SPA	2/27/2014 00:50	X	X		X	X	X		2	2 DNA Filters AA, JM
	MO-FIL	01:30	X	X		X	X	X		2	2 DNA Filters AA, JM
	MO-SIM	03:15	X	X		X	X	X		2	2 DNA Filters AA, JM
	MO-MPK	02:15	X	X		X	X	X		2	2 DNA Filters AA, JM
	MO-THO	04:06	X	X		X	X	X		2	2 DNA Filters AA, JM
	MO-OXN	00:50	X	X		X	X	X		2	2 DNA Filters BS, DW
	MO-HUE	03:00	X	X		X	X	X		2	2 DNA Filters BS, DW

Relinquished Printed Name

Signature

Affiliation Date/Time

Received Printed Name

Signature see side 1 of 2

Affiliation Date/Time

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Grabs - Weck Laboratories (SIDE 1 of 2)

4B28111

Sampling Date: ~~2/20~~ 2/27/2014 Project Number: 2013/14-3 (Wet) Grabs

Sampling Team: KHAHS, T. LIDDELL, B. SERU, D. WILKINSON, A. ANSELM, J. MCRORY

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits							Number of Bottles	NOTES
ME-CC	2/27/2014 02:20	3	1	2	3	1							10	BS, DW
ME-SCR	04:00	2	1	2	3	1							9	BS, DW
ME-VR2	02:45	2	1	2	3	1							9	KH, TL
MO-CAM	01:50	2	1	2	3	1							9	BS, DW
MO-OJA	01:30	2	1	2	3	1							9	KH, TL
MO-MEI	02:00	2	1	2	3	1							9	KH, TL
MO-VEN	00:30	2	1	2	3	1							9	KH, TL
MO-OXN	00:50	2	1	2	3	1							9	BS, DW

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

3.4°C

Relinquished

Printed Name: Kelly Hahs

Signature:

Affiliation: VCWPD Date/Time: 2/28/14 / 13:40

Received

Printed Name: John Paul Tennyson

Signature:

Affiliation: Date/Time:

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

COURIER PICK UP

Joe Cu 2/28/14 17:30 2.8°C

Weck labs

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Grabs - Weck Laboratories (SIDE 2 of 2)

4B28011

Sampling Date: 2/27/2014 Project Number: 2013/14-3 (Wet) Grabs

Sampling Team: see side 1 of 2

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits	EPA 515.3		Number of Bottles	NOTES
										Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.
MO-SPA	2/27/2014 00:50	2	1	2	3	1			9	AA, JM
MO-FIL	01:30	2	1	2	3	1			9	AA, JM
MO-SIM	03:15	2	1	2	3	1			9	AA, JM
MO-HUE	03:00	2	1	2	3	1			9	BS, DW
MO-THO	04:00	2	1	2	3	1			9	AA, JM
MO-MPK	02:15	2	1	2	3	1			9	AA, JM
MO-MPK Upstream at RR	02:30						1/2		1/2	AA, JM
Edison RC Pipe at MPK - Lower	02:15						1/2		1/2	AA, JM
Edison RC Pipe at MPK - Upper	02:30						1/2		1/2	AA, JM

Relinquished Printed Name

Signature

Affiliation Date/Time

Received Printed Name

Signature

Affiliation Date/Time

SEE SIDE 1 OF 2

COURIER PICK UP

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

Chain of Custody Record

4B2800de

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 2)

Sampling Date: 2/28/14 Project Number: 2013/14-3 (Wet) Composites

Sampling Team: Kelly Hahs, John Evangelista, Arne Anselm, Dean Wilkinson, Jim McKay, Scott Greer, Bill Gray, Brian Sewell, Robert Koen

SAMPLE ID	DATE/TIME COLLECTED	Barium, total	Chlorine Residual	NO3-N	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
ME-CC	~~2/28/14~~ 2/28/14 0915	X	X	X	X	X	X	X	X	X	X	X	X	X	1	WBC
ME-SCR	0910	X			X	X	X	X	X	X	X	X	X	X	1	BS, RK
ME-VR2	10:10				X	X	X	X	X	X	X	X	X	X	1	JM, SG
MO-CAM	08:30				X	X	X	X	X	X	X	X	X	X	1	BS, RK
MO-OJA	08:45				X	X	X	X	X	X	X	X	X	X	1	JM, SG
MO-MEI	09:20				X	X	X	X	X	X	X	X	X	X	1	JM, SG
MO-VEN	09:22				X	X	X	X	X	X	X	X	X	X	1	AA, DW

Metals by200.8, Total & Dissolved: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

Relinquished Printed Name Kelly Hahs 3.4°C

Signature

Affiliation VCWPD Date/Time 2/28/14 / 13:40

Received Printed Name John Paul Enriquez

Signature

Affiliation Date/Time Joe Qu 2/28/14 17:30

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.

DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

COURIER PICK UP

Chain of Custody Record

4B28066

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 2 of 2)

Sampling Date: 2/28/14 Project Number: 2013/14-3 (Wet) Composites

Sampling Team: Seek side 1 of 2

SAMPLE ID	DATE/TIME COLLECTED			Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
MO-SPA	2/28/14 08:40			X	X	X	X	X	X	X	X	X	X	1	AA, DW
MO-FIL	08:06			X	X	X	X	X	X	X	X	X	X	1	AA, DW
MO-SIM	08:10			X	X	X	X	X	X	X	X	X	X	1	KH, JE
MO-MPK	09:15			X	X	X	X	X	X	X	X	X	X	1	KH, JE
MO-THO	08:20			X	X	X	X	X	X	X	X	X	X	1	WBC
MO-OXN	07:40			X	X	X	X	X	X	X	X	X	X	1	BS, BK
MO-HUE	10:15			X	X	X	X	X	X	X	X	X	X	1	WBC

Metals by200.8, Total & Dissolved:
Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only):
Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

Relinquished Printed Name

Signature

Affiliation Date/Time

Received Printed Name

Signature

Affiliation Date/Time

see side 1 of 2

COURIER PICK UP

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.

DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Equipment - Weck Laboratories

Sampling Date: 2/28/14 Project Number: 2013/14-3 (Wet) Cleaning

Sampling Team: K. Hahs

EQUIPMENT	Clean with detergent and HNO3	Clean with detergent, HNO3, and methanol*	No action required		NOTES
18.5 L wide neck carboy and lid	~~12~~	12			Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.
Blue cube cooler			14		
Black bags			14		
20 L narrow neck carboy, 2 lids, attachment assembly	~~2~~	2			Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.

Relinquished Printed Name KELLY HAHS

Signature

Affiliation VCWPD Date/Time 2/28/14 / 13:40

Received Printed Name John PAUL Enriquez

Signature

Affiliation Date/Time

Other Notes: * Please clean with detergent, nitric, and methanol and **do not** rinse after methanol step (allow to air dry after methanol cleaning to avoid organics contamination). Record the bottles cleaned with methanol.

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 2)

Sampling Date: 4/16/14

Project Number: 2013/14-~~3 (WET)~~ 4 (DRY) VRW

Sampling Team: K. HAHS, WB. CAREY

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	~~ME-CC~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~3~~	~~3 DNA Filters~~
	~~ME-SCR~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~3~~	~~3 DNA Filters~~
	ME-VR2	4/16/14 12:50	X	X	X	X	X	X	1	~~2~~ 3	~~3 DNA Filters~~
	~~MO-CAM~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~
	MO-OJA	4/16/14 11:30	X	X		X	X	X	1	~~2~~ 3	~~2 DNA Filters~~
	~~MO-MEI~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~
	~~MO-VEN~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~

Relinquished
Printed Name: KELLY HAHS
Signature: [signature]
Affiliation: VCWPD
Date/Time: 4/16/14 13:50

Received
Printed Name: Nadia West
Signature: [signature]
Affiliation: PH Lab
Date/Time: 041614 1350

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time
1:10 and 1:1000 dilutions for Enterococcus and E. coli
All times in PDT

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Dry Season: 2013/14-4 (Dry) VRW

Pat-Chem Laboratories

Sampling Date 4/16/14 Sampling Team K. HAHS, WB. CAREY

SAMPLE ID	DATE/TIME COLLECTED	Total Coliforms IDEXX Quantitray	E. coli IDEXX Quantitray	Enterococcus IDEXX Quantitray	Total Coliform MTF	Fecal Coliform MTF				Number of Bottles	NOTES
ME-VR2	4/16/14 12:50	x	x	x	x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX
MO-OJA	↓ 11:30	x	x		x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX

Relinquished Printed Name KELLY HAHS

Signature [signature]

Affiliation VCWPD 4/16/14 / 14:25

Received Printed Name DANIEL DIAZ

Signature [signature]

Affiliation PCL 4/16/14 1425

Other Notes: Please send results and invoice to Bram Sercu (bram.sercu@ventura.org)

Times are in PDT

4D160103

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Grabs - Weck Laboratories (SIDE 1 of 2)

Sampling Date: 4/16/14 Project Number: 2013/14-~~3 (Wet)~~ 4 (Dry) Grabs VRW

Sampling Team: K. HAHS, ~~[illegible]~~ WB. CAREY

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B) *	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits							Number of Bottles	NOTES
~~ME-CC~~		~~3~~	~~1~~	~~2~~	~~3~~	~~1~~							~~10~~	
~~ME-SCR~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	
ME-VR2	4/16/14 12:50	2	1	2	3	1							9	
~~MO-CAM~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	
MO-OJA	4/16/14 11:30	2	1	2	3	1							9	
~~MO-MEI~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	
~~MO-VEN~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	
~~MO-OXN~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

SAMPLE PICK-UP

Relinquished Printed Name BILL CAREY

Signature Bill Carey

Affiliation VCWPD Date/Time 4/16/14 1435

Received Printed Name ALLAN GOLDBERG

Signature Allan

Affiliation WECK LAB Date/Time 4/16/14 1435

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added. * Bottles were unavailable. Please run using other sample from other bottles if possible. Otherwise run on composite sample.

RELINQ X Allan Allan 4/16/14 1735

Received X [signature] 4/16/14 1735

1.0°C

Chain of Custody Record

4d17001

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 2)

Sampling Date: 4/16/14 Project Number: 2013/14 ~~& AWET~~ Composites (4 Day) VRW

Sampling Team: K. HAHS, ~~WB CAREY~~ WB. CAREY

SAMPLE ID	DATE/TIME COLLECTED	Barium, total	Chlorine Residual	NO3-N	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B) * GRO?	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
~~ME-CC~~		X	X	X	X	X	X	X	X	X	X	X	X	X	1	
~~ME-SCR~~		X			X	X	X	X	X	X	X	X	X	X	1	
ME-VR2	4/16/14 12:50				X	X	X	X	X	X	X	X	X	X	1	
~~MO-CAM~~					X	X	X	X	X	X	X	X	X	X	1	
MO-OJA	4/16/14 11:30				X	X	X	X	X	X	X	X	X	X	1	
~~MO-MEI~~					X	X	X	X	X	X	X	X	X	X	1	
~~MO-VEN~~					X	X	X	X	X	X	X	X	X	X	1	

Metals by200.8, Total & Dissolved: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test methods)

SAMPLE PICK-UP

Relinquished Printed Name BILL CAREY

Signature Bill Carey

Affiliation VCWPD Date/Time 4/16/14 / 1435

Received Printed Name ALAN GOLDBERG

Signature

Affiliation WECK LABS Date/Time 4/16/14 1435

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately. * Add GRO if sample cannot be salvaged from Grab bottle samples.

DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

RELINQ x Allen ALAN 4/16/14 1735

Jamal Omer 4/16/14 1735 1.3°C

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Bacteriological - VCHCA Lab (SIDE 1 of 1)

Sampling Date: 4/23/14 Project Number: 2013/14-4 (Dry) SCRW

Sampling Team: K. HAHS, B. SERCU

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	ME-SCR	4/23/14 1030	X	X	X	X	X	[redacted]		1	[redacted] 1:10 1:1000 dilutions
	MO-FIL	" 0930	X	X		X	X	X		2	2 DNA Filters
	~~MO-SPA~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~
	~~MO-OXN~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA Filters~~
	MO-VEN	4/23/14 1115	X	X		X	X	X		2	2 DNA Filters

Relinquished Printed Name: Steven Scott Greer

Signature: Steven S. Greer

Affiliation: VCWPD: WRSI Date/Time: 4/23/2014 1:40pm

Received Printed Name: Sal Y. Barragan

Signature: Sal Y. Barragan

Affiliation: PH LAB Date/Time: 4/23/14 13:42

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Dry Season: 2013/14-4 (Dry) SCRW

Pat-Chem Laboratories

Sampling Date 4/23/14 Sampling Team K. HAHS, B. SERCU

SAMPLE ID	DATE/TIME COLLECTED	Total Coliforms IDEXX Quantitray	E. coli IDEXX Quantitray	Enterococcus IDEXX Quantitray	Total Coliform MTF	Fecal Coliform MTF				Number of Bottles	NOTES
ME-SCR	4/23/14 1030	x	x	x	x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX
MO-FIL	4/23/14 0930	x	x		x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX
~~MO-SPA~~		~~x~~	~~x~~		~~x~~	~~x~~				~~1~~	~~Analyze dilutions 1:10 and 1:1,000 for IDEXX~~
~~MO-OXN~~		~~x~~	~~x~~		~~x~~	~~x~~				~~1~~	~~Analyze dilutions 1:10 and 1:1,000 for IDEXX~~
MO-VEN	4/23/14 1115	x	x		x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX

Relinquished Printed Name Steven Scott Greer

Signature Steven A. Greer

Affiliation VCAPD.URSI 4/23/2014 2:10pm

Received Printed Name

Signature

Affiliation 4/23/14 2:00pm

Other Notes: Please send results and invoice to Bram Sercu (bram.sercu@ventura.org)

4D23074

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Grabs - Weck Laboratories (SIDE 1 of 1) (Composite Release)

Sampling Date: 4/23/14 Project Number: 2013/14-4 (Dry) Grabs SCRW

Sampling Team: K. HAHS, B. SERCU

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits							Number of Bottles	NOTES
ME-SCR	4/23/14 1030	2	1	2	3	1							9	
MO-FIL	4/23/14 0930	2	1	2	3	1							9	
~~MO-SPA~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	DRY
~~MO-OXN~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~							~~9~~	MAINTENANCE
MO-VEN	4/23/14 1115	2	1	2	3	1							9	

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

COURIER PICK UP

Relinquished — Printed Name: KELLY HAHS
Signature: [signature]
Affiliation: VCWPD Date/Time: 4/23/14 / 1315

Received — Printed Name: Lois Lopez
Signature: [signature]
Affiliation: T2/15 Date/Time: 4/23/14 16:15

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis
Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

Jamestown 4/23/14 16:39 38°C

Chain of Custody Record

4123066

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 1) (Grabs on reverse)

Sampling Date: 4/23/14

Project Number: 2013/14-4 (Dry) Comp SCRW

Sampling Team: K. HAHS, B. SERCU

SAMPLE ID	DATE/TIME COLLECTED			Barium, total	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus, Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Perylene	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	
ME-SCR	4/23/14	1030		X	X	X	X	X	X	X	X	X	X	X	1	
MO-FIL	4/23/14	0930			X	X	X	X	X	X	X	X	X	X	1	
MO-SPA	4/23/14	0900			X	X	X	X	X	X	X	X	X	X	1	
~~MO-OXN~~					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~1~~	
MO-VEN	4/23/14	1115			X	X	X	X	X	X	X	X	X	X	1	

Metals by200.8, Total & Dissolved: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, &

COURIER

PICK UP

Relinquished
Printed Name: KELLY HAHS
Signature: [signature]
Affiliation: VCWPD
Date/Time: 4/23/14 / 1315

Received
Printed Name: Luis Lopez
Signature: [signature]
Affiliation: IEMS
Date/Time:

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.
DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

Jamalmer 4/23/14 16:39 3.8°C

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Equipment - Weck Laboratories

Sampling Date: 4/23/14 Project Number: 2013/14-4 (Dry) Cleaning SCRW

Sampling Team: K HAHS

EQUIPMENT	Clean with detergent and HNO3	Clean with detergent, HNO3, and methanol*	No action required		NOTES
18.5 L wide neck carboy and lid	4				Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.
Blue cube cooler	4		4		
Black bags	4		4		
20 L narrow neck carboy, 2 lids, attachment assembly					Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.

Relinquished Printed Name KELLY HAHS

Signature

Affiliation VCWPD Date/Time 4/23/14 / 1315

Received Printed Name Luis Lopez

Signature

Affiliation RMS Date/Time

Other Notes: * Please clean with detergent, nitric, and methanol and **do not** rinse after methanol step (allow to air dry after methanol cleaning to avoid organics contamination). Record the bottles cleaned with methanol.

701-1689 (phone)
Kelly

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 1)

Sampling Date: 4/25/14 Project Number: 2013/14-4 (Dry) CCW

Sampling Team: E.HAHS, S.GREER

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	~~ME-CC~~	4/25/14 1015	X	X	X	X	X	~~X~~		2	~~2 DNA Filters~~
	MO-CAM	4/25/14 0915	X	X		X	X	X		2	2 DNA Filters
	~~MO-MPK~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		2	~~2 DNA Filters~~
	MO-SIM	4/25/14 1155	X	X		X	X	X		2	2 DNA Filters
	MO-THO	4/25/14 1100	X	X		X	X	X		2	2 DNA Filters

Relinquished Printed Name KELLY HAHS.

Signature

Affiliation VCWPD Date/Time 4/25/14

Received Printed Name SALVADOR Y. BARRAGAN

Signature

Affiliation PH-LAB Date/Time 4/25/14

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli All Times PDT

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Dry Season: 2013/14-4 (Dry) CCW

Pat-Chem Laboratories

Sampling Date 4/25/14 Sampling Team K. HAHS, S. GREER

SAMPLE ID	DATE/TIME COLLECTED	Total Coliforms IDEXX Quantitray	E. coli IDEXX Quantitray	Enterococcus IDEXX Quantitray	Total Coliform MTF	Fecal Coliform MTF				Number of Bottles	NOTES
ME-CC	4/25/14 1015	x	x	x	x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX
MO-CAM	4/25/14 0915	x	x		x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX
~~MO-MPK~~		~~x~~	~~x~~		~~x~~	~~x~~				1	~~Analyze dilutions 1:10 and 1:1,000 for IDEXX~~ DRY
MO-SIM	4/25/14 1155	x	x		x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX
MO-THO	4/25/14 1100	x	x		x	x				1	Analyze dilutions 1:10 and 1:1,000 for IDEXX

Relinquished Printed Name KELLY HAHS

Signature [signature]

Affiliation VCWPD 4/25/14 1255

Received Printed Name

Signature [signature]

Affiliation 4/25/14 @ 1255

Other Notes: Please send results and invoice to Bram Sercu (bram.sercu@ventura.org)

All times PDT

4625036

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Grabs - Weck Laboratories (SIDE 1 of 1)

Sampling Date: 4/25/14 Project Number: 2013/14-4 (Dry) Grabs CCW

Sampling Team: K. HAHS, S. GREER

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits	EPA 515.3		Number of Bottles	NOTES
ME-CC	4/25/14 1015	3	1	2	3	1			10	
MO-CAM	4/25/14 0915	2	1	2	3	1			9	
~~MO-MPK~~		~~2~~	~~1~~	~~2~~	~~3~~	~~1~~			9	DRY
MO-SIM	4/25/14 1155	2	1	2	3	1			9	
MO-THO	4/25/14 1100	2	1	2	3	1			9	

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

Relinquished Printed Name KELLY HAHS

Signature Kelly Hahs

Affiliation VCWPD Date/Time 4/25/14 1420

Received Printed Name Luis Lopez

Signature Jamaltimer 4/25/14 17:23

Affiliation LMS Date/Time 3:50

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis

Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

COURIER

PICK UP

Chain of Custody Record

4d25036

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 1)

Sampling Date: 4/25/14 Project Number: 2013/14-4 (Dry) Comp CCW

Sampling Team: K. HAHS, S. GREER

SAMPLE ID	DATE/TIME COLLECTED	Barium, total	Chlorine Residual	NO3-N	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus-P Total & Dissolved	625-CTR, 8270SIM-PAH, 8270SIM-Phenols *	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	NOTES
ME-CC	4/25/14 1015	X	X	X	X	X	X	X	X	X	X	X	X	X	1	
MO-CAM	4/25/14 0915				X	X	X	X	X	X	X	X	X	X	1	
~~MO-MPK~~					X	X	X	X	X	X	X	X	X	X	1	DRY
MO-SIM	4/25/14 1155				X	X	X	X	X	X	X	X	X	X	1	
MO-THO	4/25/14 1100				X	X	X	X	X	X	X	X	X	X	1	

Metals by200.8, Total & Dissolved: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, & 8270SIM-PHENOLS

Lab to select samples for MS/MSD where extra volume permits (all test

Relinquished
Printed Name: KELLY HAHS
Signature: Kelly Hahs
Affiliation: VCWPD Date/Time: 4/25/14 1420

Received
Printed Name: Luis Lopez
Signature: Luis Lopez
Affiliation: IRMS Date/Time: Jamal Umer 4/25/14 17:23 3.5°C

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.
DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

COURIER PICK UP

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Equipment - Weck Laboratories

Sampling Date: 4/25/14 Project Number: 2013/14-4 (Dry) Cleaning

Sampling Team: K. HAHS

EQUIPMENT	Clean with detergent and HNO3	Clean with detergent, HNO3, and methanol*	No action required		NOTES
18.5 L wide neck carboy and lid		4			Please place tape or plastic bag over top and note on wrap if bottle was cleaned with methanol.
Blue cube cooler			4		
Black bags			4		
~~20 L narrow neck carboy, 2 lids, attachment assembly~~					~~Please place tape or plastic bag over top~~ and note on wrap if bottle was cleaned with methanol.

Relinquished Printed Name KELLY HAHS

Signature

Affiliation VCWPD Date/Time 4/25/14 / 1420

Received Printed Name Luis Lopez

Signature Jamalmen 4/25/14 17:23

Affiliation RMS Date/Time

Other Notes: * Please clean with detergent, nitric, and methanol and **do not** rinse after methanol step (allow to air dry after methanol cleaning to avoid organics contamination). Record the bottles cleaned with methanol.

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Bacteriological - VCHCA Lab (SIDE 1 of 1)

Sampling Date: 4/30/14 Project Number: 2013/14-4 (Dry)

Sampling Team: K. HAHS, B. SERCU

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (25 Tube Method - MPNX)	Fecal Coliform (25 Tube Method - MPNX)	Enterococcus (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)	Total Coliform (Tray Method - WQ IDEXX)	DNA Filter		Number of Bottles	NOTES
	MO-HUE	4/30/14 0955	X	X		X	X	X		2	2 DNA Filters
	~~MO-OXD~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~		~~2~~	~~2 DNA FILTERS~~ DRY

Relinquished Printed Name: KELLY HAHS

Signature:

Affiliation: VCWPD Date/Time: 4/30/14/ 1030

Received Printed Name: Nadia West

Signature:

Affiliation: PH Lab Date/Time: 043014@ 1030

Other Notes: Perform bacteriological analyses within 6 hours of sample collection time

1:10 and 1:1000 dilutions for Enterococcus and E. coli

All times PDT

4030075

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Grabs - Weck Laboratories (SIDE 1 of 1) (composite reverse side)

Sampling Date: 4/30/14
Project Number: 2013/14-4 (Dry) Grabs VRW/HUE
Sampling Team: K. HAHS, B. SERCU

SAMPLE ID	DATE/TIME COLLECTED	Oil & Grease (EPA 1664A)	Cyanide (ASTM D7511)	GRO (EPA 8015B)	MTBE & 2CLEVE (EPA 524.2)	Travel Blanks (EPA 524.2)-only analyze if hits							Number of Bottles	NOTES
ME-VR2		2	1	2	3	1							9	
MO-OJA		2	1	2	3	1							9	
MO-MEI		2	1	2	3	1							9	
MO-HUE	4/30/14 0955	3	1	2	3	1							10	
MO-OXN		2	1	2	3	1							9	

Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks.

SAMPLE PICK-UP

Relinquished
Printed Name: BRAM SERCU
Signature:
Affiliation: VCWPD
Date/Time: 4/30/14 1430

Received
Printed Name: ALAN GOLDBERG
Signature:
Affiliation: WECK LABS
Date/Time: 4/30/14 1430

Other Notes: Please run 524.2 on travel blanks only if constituents detected in orginal analysis
Non-polar Oil and Grease is no longer required. GRO (EPA 8015B) has been added.

RELINQX ALAN G 4/30/14 1800

Chain of Custody Record

4d30071

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season
Composites - Weck Laboratories (SIDE 1 of 1) (Grabs on Reverse Side)

Sampling Date: 4/30/14

Project Number: 2013/14-4 (Dry) Comp VRW/HUE

Sampling Team: K. HAHS, B. SERCU

SAMPLE ID	DATE/TIME COLLECTED			Barium, total	Metals, total & dissolved (+ Hardness)	Cr+6	BOD, COD, MBAS, TKN, Ammonia, TOC	NO3+NO2 (353.2), Cl, F (300.0), Phenolics	Phosphorus, P Total & Dissolved, 8270SIM-Phenols	* 625-CTR, 8270SIM-PAH, 8270SIM-Phenols	515.3-Herb 547-Glyphosate, 608-CTR	525.2 Reg+507, 525-OPP-LL	DRO/ORO (EPA 8015B)	ALK, CLO4, Turb, TDS, TSS, VSS, Cond	Number of Bottles	
~~ME-VR2~~				X	X	X	X	X	X	X	X	X	X	X	~~1~~	
~~MO-OJA~~					X	X	X	X	X	X	X	X	X	X	~~1~~	
~~MO-MEI~~					X	X	X	X	X	X	X	X	X	X	~~1~~	
MO-HUE	4/30/14 0955				X	X	X	X	X	X	X	X	X	X	1	
~~MO-OXN~~					X	X	X	X	X	X	X	X	X	X	~~1~~	DRY

Metals by200.8, Total & Dissolved: Sb, Ag, Al, As, Be, Cd, Cr, Cu, Fe, Ni, Pb, Se, Tl, Zn, Hg

Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)

608 include alpha- & gamma-chlordane

* Same extraction with low-level spike for 3 methods: 625CTR, 8270SIM-PAH, &

SAMPLE PICK-UP

Relinquished
Printed Name: BRIAN SERCU
Signature:
Affiliation: VCWPD
Date/Time: 4/30/14 1430

Received
Printed Name: ALLYN GADBERRY
Signature:
Affiliation: WECK LABS
Date/Time: 4/30/14 1430

Other Notes: Filter for dissolved metals and perform conductivity analyses immediately.
DRO/ORO by EPA 8015B is new for 2013/14 monitoring season.

RELINQ X 4/30/14 1800

Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program

Major Outfall Dry Weather Monitoring

Bacteriological - VCHCA Lab

Sampling Date: 8/5/14 Sample Event: DRY 2014

Sampling Team: BS, WBC

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)						Number of Bottles	NOTES
	Camarillo-1										MO-CAM
	Fillmore-1	8/5/14 1115	✓	✓						1	MO-FIL
	Moorpark-2	8/5/14 1220	✓	✓						1	MO-MPK
	Ojai-6	8/5/14 0940	✓	✓						1	MO-OJA
	Oxnard-1										MO-OXN
	Port Hueneme-3										DRY-HUE3
	Santa Paula-2	8/5/14 1095	✓	✓						1	DRY-SPA2
	Simi Valley-1										MO-SIM
	Thousand Oaks-1										MO-THO
	Unincorporated-2										DRY-UNI2
	Ventura-1										MO-VEN

Relinquished Printed Name BRIAN SERCU

Signature

Affiliation VC-WPD Date/Time 8/5/14 1302

Received Printed Name Nadia West

Signature

Affiliation PHLab Date/Time 08/05/14 @1302

Other Notes: 1:10 and 1:1000 dilutions

Chain of Custody Record

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Major Outfall Dry Weather Monitoring
Bacteriological - VCHCA Lab

Sampling Date: 8/6/14 Sample Event: DRY 2014

Sampling Team: BS, AH

LAB USE ONLY	SAMPLE ID	DATE/TIME COLLECTED	Total Coliform (Tray Method - WQ IDEXX)	*E. coli* (Tray Method - WQ IDEXX)						Number of Bottles	NOTES
	Camarillo-1	8/6/14 1050	X	X						1	MO-CAM
	Fillmore-1										MO-FIL
	Moorpark-1										MO-MPK
	Ojai-1										MO-OJA
	Oxnard-1	1220	X	X						1	MO-OXN
	Port Hueneme-3	1140	X	X						1	DRY-HUE3
	Santa Paula-2										DRY-SPA2
	Simi Valley-1	0835	X	X						1	MO-SIM
	Thousand Oaks-1	1010	X	X						1	MO-THO
	Unincorporated-4	0925	X	X						1	DRY-UNI4
	Ventura-1	1300	X	X						1	MO-VEN

Relinquished Printed Name: BRAM SOREN

Signature:

Affiliation: VC WPD Date/Time: 8/6/14 1355

Received Printed Name: Nadia West

Signature:

Affiliation: PH Lab Date/Time: 8/6/14 @ 1355

Other Notes: 1:10 and 1:1000 dilutions

Chain of Custody Record

4H06084

Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Major Outfall Dry Weather Monitoring
Grabs - Weck Laboratories

Sampling Date: 8/5/14 & 8/6/14 Sample Event: DRY 2014

Sampling Team: BS, WBX, KH

SAMPLE ID	DATE/TIME COLLECTED	Total Hardness	TOC	Dissolved Metals by 200.8 (Lead, Zinc, Copper)		Number of Bottles	NOTES
							Lab to select samples for MS/MSD where extra volume permits (all test methods) excluding travel blanks. Metals by 200.7, Total (only): Ca, Mg (for Hardness calc.)
Camarillo-1	8/6/14 1050					3	MO-CAM
Fillmore-1	8/5/14 1115	↓	↓	↓		3	MO-FIL
Moorpark-2	8/5/14 1220	↓	↓	↓		3	MO-MPK
Ojai-6	8/5/14 0940	↓	↓	↓		3	MO-OJA
Oxnard-1	8/6/14 1220					3	MO-OXN
Port Hueneme-3	8/6/14 1140					3	DRY-HUE3
Santa Paula-2	8/5/14 1045	↓	↓	↓		3	DRY-SPA2
Simi Valley-1	8/6/14 0835					3	MO-SIM
Thousand Oaks-1	1010					3	MO-THO
Unicorporated-5	0925					3	DRY-UNI2
Ventura-1	1300	↓	↓	↓		3	MO-VEN

SAMPLE PICK-UP

Relinquished Printed Name BRAM SORCU

Signature

Affiliation VC-WPD Date/Time 8/6/14 1505

1.6°C

Received Printed Name

Signature

Affiliation WECK Date/Time 8/6/14 1505

Other Notes: Relinq. 8/6/14 1820

Received 8/6/14 1820