

NPDES 2005/2006 Water Quality Monitoring
Event #1 (Wet), October 17 - 19, 2005 Summary
Sampling Duration = 48 Hours (Forecasted 0.25 inches rain)
Approximate Monitoring Duration = 10/17 00:01 AM to 10/19 00:01 PM

Actual Sampling Duration(s):

ME-CC = 18 Hrs. ME-SCR = 38.5 Hrs. ME-VR2 = 47 Hrs.,
A-1 = 32.25 Hrs. W-3 = 38 Hrs. W-4 = 36.5 Hrs.

(Ref. I-2 & R-1 = Toxicity grabs samples only)

Actual Precipitation:

1.14 inches (#110 County Government Center)
1.14 inches (#9 Las Posas Reservoir)
.98 inches (#2650 South Mountain West)
.79 inches (#623 Calleguas Creek @ CSUCI)
.83 inches (#2660 Fillmore Fish Hatchery)
1.08 inches (#2633 Stewart Canyon)

Sampling Crew: Darla Wise, David Thomas, Tommy Liddell.

Weather Conditions: Wet both days of monitoring.

ME-CC Calleguas Creek (CISU Bridge)

MS/MSD

- 10/16/05 09:00
4230: 1.310', 17 cfs, Program trigger = 50,000 cf,
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90 samples, Start time Monday 10/17/05 @ 00:01.
- 10/17/05 @ 07:30
4230: 1.283', 13 cfs, Interrogate, view hydrograph, adjust trigger = 40,000 cf.
6712: "Sample 11 after 1 pulse", "Errors have occurred during program".
- 10/17/05 @ 12:50
4230: 1.386', 30 cfs.
6712: "Sample 19 after 1 pulse", "Errors have occurred during program".
Grab Samples @ 13:00, water temp = 19.7 degrees C
- 10/18/05 @ 12:00
4230: 1.725', 129 cfs.
NOTE: 40,000 trigger was too low, 6712 sampled every 5 minutes.
6712: "Program extended 1 is done", bottle = 20 liters. Program ended 10/17/05 @ 18:00
- 10/19/05 @ 09:50
4230: 1.467', 48 cfs
6712: Pull composite bottle @ 09:51 = 20 liters, pump tubing = 772,141
- Precipitation amounts in this area approximately 0.79 in (recorded at the Calleguas Creek @ CSUCI rainfall gage, ID#623).
- No problems during this monitoring event at Calleguas Creek Station.
- Follow-up: none

NPDES 2005/2006 Event #1 (Wet)

ME-SCR Santa Clara River (Freeman Diversion Station)

- 10/16/05 @ 11:30
4210: 0.11', 0 cfs, reset level = 0.00'
6712: Programmed for time paced sampling, 30 minute intervals, 180 mL, 96 samples (24 per bottle), start time Monday 10/17/05 @ 00:01
- 10/17/05 @ 09:50
4210: 0.007', 0 cfs
6712: "21, 24 bottle 1 in 00:04", bottle #1 = 3.5 liters
- 10/17/05 @ 14:45
4210: 0.021', 0 cfs
6712: "7, 24 bottle 2 in 00:12, bottle #1 = 3.5 liters, #2 = 1 liter
Grab samples @ 14:50 in Diversion Canal, water temp = 17.4 degrees C
- 10/18/05 @ 14:30
4210: 0.001', 0 cfs
6712: "7, 24 bottle 4 in 22:33", "Errors have occurred during program", bottle #1 = 3.5 liters, #2 = 3 liter, #3 = 1 liters, #4 = empty
- 10/19/05 @ 08:40
Pull composites & composite into 20 liter carboy @ 08:45, UWCD staff have power off for trash rack repairs.
- Precipitation amounts in this area approximately 0.83 in (recorded at the Fillmore Fish Hatchery rainfall gage, ID#2660).
- Sampling conducted in diversion canal (UWCD diverting water into ponds).
- Follow-up: none

ME-VR Ventura River (Foster Park Station)

MB-1 (Field Blank)

- 10/16/05 @ 12:30
4230: 1.313', 0 cfs, Add data set #2, 1.30', 15 cfs, program trigger = 32,000 cf
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 96 samples (24 per bottle), Start time Monday 10/17/05 @ 00:01.
- 10/17/05 @ 10:30
4230: 1.328', 13 cfs
6712: "18, 24 bottle 1 in 1 pulse", "Errors have occurred during program"
Remote Pump: Tubing disconnected @ NEMA box, reconnected & zip tied.
6712: Pull 2 - 200 mL grabs into composite bottle = volume check looks good.
NOTE: River level has NOT changed.
- 10/17/05 @ 15:50
4230: 1.380', 10 cfs
6712: "1, 24 bottle 2 after 1 pulse", "Errors have occurred during program", Pull 1 liter grab into composite bottle # 1.
Grab samples @ 16:00, water temp = 18.0 degrees C.
- 10/18/05 @ 10:00
4230: 1.392', 9 cfs, adjust trigger = 10,000 cf
Interrogate 4230, view hydrograph, discharge errors noted.
6712: "18, 24 bottle 2", "Error have occurred during program",
Re-Program 6712: time paced, 30 minutes, start time 10/18/05 @ 11:30
NOTE: River level has NOT changed.

NPDES 2005/2006 Event #1 (Wet)

ME-VR (Continued)

- 10/19/05 @ 11:00
4230: 1.362', 11 cfs
6712: Program done @ 10:59, Pull composites & composite into 20 liter carboy @ 11:00, Field Blanks (MB-1) = 2 liters organics, 250 mL tr. metals
- Precipitation amounts for this event approximately 1.08 in (recorded at the Stewart Canyon rainfall gage, ID#2633).
- Remote pump tubing disconnected during program. Rating table errors occurred: hydrograph showing flow decreasing with increasing stage.
- Follow-up: Fix rating table, ensure proper intake line connections.

A-1 Wood

MD-1 (Field Duplicate)

- 10/16/05 10:15
4250: Adjust time 09:16 to 10:16, adjust level -0.022 ft to 0.00 ft.
6712: Programmed for time paced sampling, 30 minutes intervals, 200 mL per sample, 96 samples (24 per bottle), start time Monday 10-17-05 @ 00:01.
- 10/17/05 08:30
4250: 0.065', 0 cfs
6712: "Errors have occurred", "19, 24 bottle 1 in 22:35", no sample in bottle, (due to low/obstructed flow).
- 10/17/05 @ 13:25
4250: 0.118 ft, 0.06 cfs, 0.60*ft/s @ 13:25.
6712: "4, 24 bottle 2 in 04:44", "Errors have occurred during program". Pull hand grab composite into bottle #1 = 9 liters. Intake cleared of trash by staff (DW & TL).
- 10/17/05 16:55
4250: 0.380 ft, 4.27 cfs, 8.22 ft/s.
6712: 11, 24 bottle 2 in 01:00, Adjust pacing = 15 minutes.
Grab samples @ 17:00, water temp = 16.8 degrees C.
- 10/18/05 08:00
4250: 0.217 ft, 0.92 cfs, 4.09 ft/s.
6712: 24 bottle 4, sampling stopped @ 08:15
Interrogate 4250 and 6712
- 10/19/05 10:00
4250: 0.123 ft, 0.29 cfs, 2.90 ft/s @ 10:08
Pull composites & composite into 20 liter carboy @ 10:15
- Precipitation amounts in this area approximately 1.14 inches (recorded at the County Government Center rainfall gage, ID#110).
- Debris/Trash at culvert inlet restricting initial lower flows. Inlet cleared by VCWPD staff on 10/17/05 @ 13:25
- Follow-up: none

NPDES 2005/2006 Event #1 (Wet)

I-2 Ortega

- 10/17/05: Toxicity Grab samples only collected per NPDES Permit Requirements. Chris Stephens collected 5 gallon in plastic bucket from manhole @ 12:30.

R-1 Swan

- 10/17/05: Toxicity Grab samples only collected per NPDES Permit Requirements. Chris Stephens collected 5 gallons in plastic bucket from manhole @ 11:30

W-3 La Vista

- 10/16/05 @ 09:30
4250: 0.037 ft, 0.0 cfs, 0.8 ft/sec. Adjusted level = 0.10 ft, 1.2 cfs, 1.57 ft/s.
6712: Programmed for time paced sampling, 30 minute intervals, 200mL per sample, 96 samples (24 per bottle), Start time Monday 10/17/05 @ 00:01, raise intake line out of sediment.
- 10/17/05 @ 09:00
4250: 0.09 ft, 1.1 cfs, 1.52 ft/sec. @ 09:36
6712: "Sample 21, 24 bottle #1 in 23:28", "Errors have occurred" (possibly due to low or NO flow), bottle #1 = 1-2 liter,
- 10/17/05 @ 12:00
4250: 0.133 ft, 2.8 cfs, 2.63 ft/s @ 12:02.
6712: "2, 24 bottle 2 in 25:42, Bottle #1 = 2.5 liters.
4250: 0.218 ft, 4.4 cfs, 2.52 ft/sec. @ 12:36.
Grab samples taken @ 12:30, water temp 18.1 degrees C.
- 10/18/05 @ 14:00
4250: 0.052 ft, 0.4 cfs, 0.87 ft/sec @ 14:01.
6712 "Sample 6, 24 bottle #4 in 27:24", "Errors have occurred during program", Program stopped @ 14:08,
- 10/19/05 @ 09:00
4250: 0.033', 0.2 cfs, 0.56 ft/s @ 09:06
6712: Pull composites & composite into 20 liter carboy @ 09:10.
- Precipitation amounts in this area approximately 1.14 inches (recorded at the Las Posas Reservoir rainfall gage, ID#9).
- No problems during this monitoring event at La Vista.
- Follow-up: none

W-4 Revolon

- 10/16/05 @ 10:00
4210: 1.679', 162 cfs.
6712: Programmed for time paced sampling, 30 minute intervals, 200mL per sample, 96 samples (24 per bottle), Start time Monday 10/17/05 @ 00:01.
- 10/17/05 @ 08:30
4210: 1.649, 154 cfs.
6712: "19, 24 in bottle 1 in 21:29", "Error have occurred during program"
- 10/17/05 @ 13:20
4210: 2.967', 616 cfs.
6712: "4, 24 in bottle 2 in 05:05, bottle #1 = 4.5 liter, #2 = 1 liter.
Grab samples taken @ 13:35, water temp = 19.3 degrees C

NPDES 2005/2006 Event #1 (Wet)

W-4 (Continued)

- 10/18/05 @ 12:40
4210: 2.282', 357 cfs.
6712: "3, 24 in bottle 4 in 15:17", "Errors have occurred during program", bottle #1 = 4.5 liters, #2 = 4.5 liters, #3 = 4.5 liters, Program stopped @ 13:07, pump counts = 510,434.
Interrogate 6712 & 4210
- 10/19/05 @ 10:00
4210: 1.480', 113 cfs
6712: Pull composites & composite into 20 liter carboy @ 10:10.
- Precipitation amounts in this area approximately 0.98 inches (recorded at the South Mountain West rainfall gage, ID#2650 10-16-04 midnight through 10-18-04 midnight).
- No problems encountered during this monitoring event at Revolon. Water levels are NOT correct due to sediment deposited causing backwater in the lower reach of Revolon Slough.
- Follow-up: none

Sample Tracking

- Toxicity samples to ABC 10/18/05 @ 09:45
- Grab samples to ABC on 10/18/05 @ 09:45 (left in cold room)
- Bacteria grab samples to VCHCA Lab on 10/17/05 @ 17:46
- Composite samples to ABC: 10/19/05 @ 11:30
- Composite samples will be picked up at ABC Lab on 10-19-05 by CRG Lab staff.

Post-Event Assessment

Mass Emission:

ME-CC (Calleguas Creek) was programmed to collect flow paced sampling for a .25 inch rain event. Actual rainfall in the watershed was over 1.0 inches. The hydrograph shows an initial rise and fall from the lower watershed, then a much larger increase in flow due to the additional rainfall in the upper parts of the watershed. Due to sampler programming for a forecasted .25 rainfall event, the sampler completed sampling earlier than plan for due to the higher rainfall experienced in this storm. Flow paced sampling is *NOT* time specific.

ME-VR2 (Ventura River) experienced two problems. Rainfall in the watershed did not cause any significant runoff. Secondly, the 4230 flowmeter experienced a problem with the rating table. The flow rate was inverted, causing the flow paced sampling to slow down when the level rose. This caused an error in the sample collection programming. After consulting with ISCO technical support, the rating table requires a much tighter level to discharge data set, at a minimum of $\frac{1}{4}$ ft increments. The sampler was changed to time paced sampling on 10/18/05 @ 11:30 to collect adequate composite sample volumes.

NPDES 2005/2006 Event #1 (Wet)

ME-SCR (Santa Clara River) Due to high turbidity, United Water Conservation District staff opened the large roller gate and we lost communication with the Santa Clara River on 10-18-05 approx. @ 18:00.

Receiving Water:

W-3 (La Vista Drain) Grab samples were collected d/s of sampler @ nears the end of concrete lined box culvert.

W-4 (Revolon Slough) has been showing higher water levels due to the backwater effect from downstream sediment. The intake line was raised prior to the event due to 1 ft of sediment at the intake line. Grab samples collected from the bridge on the south side of the wingwall to ensure sample collection of only Revolon and *NOTA*-1 flow.

NPDES 2005/2006 Event #1 (Wet)

Land Use:

A-1 (Wood Road) flows were backed up by trash accumulation at the 36" culvert inlet. VCWPD staff removed the larger debris to allow flow to reach the intake line and flowmeter on 10/17/05 @ 13:30. Samples were lost due to the flow restriction at the beginning of the event.

I-2 (Ortega)

R-1 (Swan)

**NPDES 2005/2006 Water Quality Monitoring
Event #2 (Wet), November 9 - 10, 2005 Summary**
Sampling Duration = 24 Hours (Forecasted 0.50 inches rain)
Approximate Monitoring Duration = 11/09 00:01 AM to 11/10 00:01 PM

Actual Sampling Duration(s):

ME-CC = 34Hrs. ME-SCR = 24 Hrs. ME-VR2 = 35 Hrs.,

Actual Precipitation:

.59 inches (#110 County Government Center)

.55 inches (#9 Las Posas Reservoir)

.55 inches (#2650 South Mountain West)

.59 inches (#623 Calleguas Creek @ CSUCI)

.47 inches (#2660 Fillmore Fish Hatchery)

1.13 inches (#2633 Stewart Canyon)

Sampling Crew: David Thomas, Tommy Liddell.

Weather Conditions: Wet both days of monitoring.

ME-CC Calleguas Creek (CISU Bridge)

MB-1 Field Blanks

- 11/08/05 00:00
4230: 1.389', 36 cfs, Program trigger = 180,000 cf,
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90
samples, Start time Monday 11/09/05 @ 00:01.
- 11/09/05 @ 08:30
4230: 1.455', 39 cfs.
6712: "Sample 9 after 1 pulse", bottle #1 = 1 liter
- 11/09/05 @ 12:25
4230: 1.724', 125 cfs, o/s = 1.64'
6712: "Sample 14 after 1 pulse", "Errors have occurred during program".
Grab Samples @ 13:00, water temp = 18.0 degrees C
- 11/10/05 @ 10:25
4230: 1.805', 161 cfs, Interrogate flowmeter.
6712: "Sample 83 after 1 pulse", "Errors have occurred during program",
stop program @ 10:30, bottle = 17 liters, pull composite bottle @ 10:30,
pump tubing = 761,993. Field Blanks = 2 - organics, 250 mL tr. Metals @
10:30
- Precipitation amounts in this area approximately 0.59 in (recorded at the
Calleguas Creek @ CSUCI rainfall gage, ID#623).
- Sediment is becoming a problem at the intake and bubbler area on the
bridge pier.
- Follow-up: none

NPDES 2005/2006 Event #2 (Wet)

ME-SCR Santa Clara River (Freeman Diversion Station)

MS/MSD

- 11/08/05 @ 09:25
4210: 0.016', 0 cfs.
6712: Programmed for time paced sampling, 30 minute intervals, 180 mL, 96 samples (24 per bottle), start time Wednesday 11/09/05 @ 00:01
- 11/09/05 @ 09:00
4210: 0.020', 0 cfs
6712: "15, 24 bottle 2 in 13:20", "Errors have occurred during program", bottle #1 = 4.5 liters, #2 = .5 liter, UWCD staff turned out (opened gate) on 11/09/05 @ 07:00 causing communication errors with River.
- 11/09/05 @ 13:35
4210: 0.012', 0 cfs
6712: "8, 24 in bottle 3 in 10:08", bottle #1 = 4.5 liters, #2 = 2 liters, #3 = 0.5 liters, Hand grab composite bottle #3 = 4.5 liters
Grab samples @ 14:00, water temp = 16.5 degrees C, grab samples collected from River wing wall.
- 11/10/05 @ 09:20
4210: 0.012', 0 cfs
6712: "7Program: ME-SCR is done", "Error have occurred during program", bottle #1 = 4.5 liters, #2 = 3 liter, #3 = 5.5 liters, #4 = 2.5 liters, pump tubing = 348,104, Pull composites & composite into 20 liter carboy @ 09:30
- Precipitation amounts in this area approximately 0.47 in (recorded at the Fillmore Fish Hatchery rainfall gage, ID#2660).
- Sampling conducted in River at wing wall (UWCD turned out).
- Follow-up: Install second intake line @ wing wall

ME-VR Ventura River (Foster Park Station)

MD-1 (Field Duplicates)

- 11/07/05 @ 14:41
4230: 1.346', 12 cfs, adjust time = 14:41, add data set #3 with additional point to correct flow/discharge errors seem in event #1
- 11/08/05 @ 09:30
4230: 1.349', 18 cfs, interrogate, program trigger = 33,000 cf, install 3 12-volt deep cycle marine batteries to help with power failures.
Check flowrate: 1.5' = 29 cfs through 12.0' = 11,997 cfs, looks good = no flow problems.
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90 samples, Start time Monday 11/09/05 @ 00:01.
- 11/09/05 @ 07:40
4230: 1.368', 19 cfs
6712: "18, 22 bottle 1 after 1 pulse", bottle # 1 = 3 liters.
- 11/09/05 @ 15:00
4230" 1.429', 24 cfs
- 6712: "14, 22 bottle 2 after 1 pulse", bottle #1 = 4.5 liters, #2 = 2 liters
Grab samples @ 15:00, water temp = 18.4 degrees C.

NPDES 2005/2006 Event #2 (Wet)

ME-VR continued

- 11/10/05 @ 12:15
4230: 1.415', 23 cfs, Interrogate.
6712: "Program: Extended 1 is done", bottle #1 = 4.5 liters, #2 = 4 liters, #3 = 3 liters, #4 = 3 liters, pump tubing = 464,037, program completed on 11/10/05 @ 10:31.

Sample Tracking

- Toxicity samples to ABC 11/09/05 @ 15:40
- Grab samples to ABC on 11/09/05 @ 15:40 (left in cold room)
- Bacteria grab samples to VCHCA Lab on 11/09/05 @ 16:08
- Composite samples to ABC: 11/10/05 @ 13:00
- Composite samples will be picked up at ABC Lab on 11-10-05 by CRG Lab staff.

Post-Event Assessment

Mass Emission:

ME-CC (Calleguas Creek) Sediment is causing problems at intake/bubbler line on bridge pier. Spoke w/ Hank (VCWPD Hydrology) on this, he will probably NOT replace plastic well till rainy season is over.

ME-VR2 (Ventura River) River stage did NOT respond to this rainfall event. Water was clear during entire sampling duration.

ME-SCR (Santa Clara River) Due to high turbidity, United Water Conservation District staff opened the large roller gate and we lost communication with the Santa Clara River on 11-09-05 approx. @ 07:00. A second intake line will be required.

NPDES 2005/2006 Water Quality Monitoring Event #3 (Wet), February 17-19, 2006 Summary

Sampling Duration = 48 Hours (Forecasted 0.50 inches rain)

Approximate Monitoring Duration = 02/17 16:00 to 02/19 00:00

Sample trigger volumes set for Dry weather antecedent conditions

Actual Sampling Duration(s):

ME-CC = 88Hrs.

ME-SCR = 48 Hrs.

ME-VR2 = 45 Hrs.,

Actual Precipitation:

.67 inches (#110 County Government Center)

.47 inches (#9 Las Posas Reservoir)

.59 inches (#2650 South Mountain West)

.67 inches (#623 Calleguas Creek @ CSUCI)

.74 inches (#2660 Fillmore Fish Hatchery)

.46 inches (#2633 Stewart Canyon)

Sampling Crew: David Thomas, Tommy Liddell.

Weather Conditions: Wet both days of monitoring.

ME-CC Calleguas Creek (CISU Bridge)

MS/MSD

- 02/17/06 17:20
4230: 1.365', 26 cfs, Program trigger = 100,000 cf, o/s = 1.36'
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90 samples, Start time Friday 02/17/06 @ 17:50.
- 02/18/06 @ 11:00
4230: 1.533', 79 cfs.
6712: "Sample 59 after 1 pulse", bottle #1 = 19+ liter (almost full)
- 02/18/06 @ 12:00
4230: 1.605', 68 cfs (error), o/s = 1.4'.
6712: "Sample 61 after 1 pulse", Pull and ice composite bottle #1, install new composite bottle #2, clean intake line @ bridge pier, clear intake line(s).
4230: 1.395', 32 cfs @ 12:52
- 02/19/06 @ 06:45
4230: 1.628', 94 cfs, o/s = 1.62'.
6712: "Sample 43 after 1 pulse", "Warning: Replace pump tubing", "Errors have occurred", pump tubing = 1,056,037, replace pump tubing, reset count = 0, calibrate volume, bottle #2 = 2/3 full, Pull and ice composite bottle #2, Install new composite bottle #3.
Grab Samples @ 07:00, water temp = 12.5 degrees C
Clean intake line @ bridge
4230: 1.6615', 91 cfs.
- 02/21/06 @ 09:45
4230: 1.330', 20 cfs, Interrogate 4230 & 6712
6712: "Sample 90 after 1 pulse", stop program @ 09:50, bottle #3 = 2/3 full, pull composite bottle #3 @ 10:00.
- Precipitation amounts in this area approximately 0.67 in (recorded at the Calleguas Creek @ CSUCI rainfall gage, ID#623).
- Sediment is becoming a problem at the intake and bubbler area on the bridge pier.
- Follow-up: none

NPDES 2005/2006 Event #3 (Wet)

- **ME-SCR Santa Clara River (Freeman Diversion Station)**
MB-1 (Field Blanks)
- 02/17/06 @ 19:00
4210: 0.012', 0 cfs, "Power failed".
6712: Programmed for time paced sampling, 30 minute intervals, 180 mL, 96 samples (24 per bottle), start time Friday 02/17/06 @ 19:11
- 02/18/06 @ 13:45
4210: 0.020', 0 cfs
6712: "15, 24 bottle 2 in 25:23", "Errors have occurred during program", bottle #1 = 3 liters, #2 = 3 liter.
UWCD staff turned out (opened gate) on 02/18/06 @ 01:06 causing communication errors with River (3,500 NTU), turned in (closed gate) on 02/18/06 @ 07:24 (298 NTU), (225 cfs @ roller Gate, 158 NTU on 02/18/06 @ 09:30.
- 02/19/06 @ 09:10
4210: 0.0', 0 cfs
6712: "6, 24 in bottle 4 in 28:51", bottle #1 = 3 liters, #2 = 5 liters, #3 = 5 liters, bottle 4 = 1 liter, Hand grab composite bottle #3 = 0 liters
Grab samples @ 09:30, water temp = 9.8 degrees C,
Grab samples collected from River wing wall @ 09:30, water temp = 9.8 degrees C.
- 02/21/06 @ 09:00
4210: 0.004', 0 cfs
6712: "Program: ME-SCR 001 is done", "Error have occurred during program", bottle #1 = 3 liters, #2 = 5 liter, #3 = 5 liters, #4 = 5 liters, pump tubing = 663,130, Pull composites & composite into 1 - 20 liter carboy @ 09:00
Field Blanks collected @ 09:00
- Precipitation amounts in this area approximately 0.74 in (recorded at the Fillmore Fish Hatchery rainfall gage, ID#2660).
- Sampling conducted in River at wing wall (UWCD turned out).
- Follow-up: Install second intake line @ wing wall prior to next event.

ME-VR2 Ventura River (Ojai Valley Sanitation District)

FB-1 (Field Blank)

- 02/17/06 @ 15:30
4230: 1.417', 23 cfs, trigger = 39,600 cf
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90 samples (22 per bottle), Start time Friday 02/17/06 @ 16:00
- 02/18/06 @ 10:00
4230: 1.399', 22 cfs.
6712: "14, 22 bottle 2 after 1 pulse", bottle #1 = 3 liters, bottle #2 = 1.5 liters, possible line blocked w/ algae, clean intake line at wing wall.
- 02/19/06 @ 08:00
4230" 1.395', 21 cfs
6712: "12, 22 bottle 4 after 1 pulse", bottle #1 = 3 liters, bottle #2 = 1.5 liters, bottle #3 = .5 liters, bottle #4 = empty, pull 200 mL grab = 10 mL, "Power failure", switch 6712 power to 3 - 12 volt deep cycle marine batteries = 12.46v, NOTE: 6712 Refrigerator and 4230 both powered w/ 110v outlet.
Grab samples @ 08:30, water temp = 11.7 degrees C.

NPDES 2005/2006 Event #3 (Wet)

ME-VR2 continued

- 02/21/06 @ 10:35
4230: 1.382', 20 cfs, Interrogate.
6712: "Program: Extended 1 is done", bottle #1 = 3 liters, bottle #2 = 1.5 liters, bottle #3 = .5 liters, bottle #4 = 1.5 liters, pump tubing = 471,553, program completed on 02/19/06 @ 12:14.
Pull composite on 02-21-06 @ 10:45 = 6 liters.
- Precipitation amounts in this area approximately 0.46 in (recorded at the Steward Canyon rainfall gage, ID#2633).
- Sampling conducted at intake line w/ grab poles.
- Follow-up: Install second intake line.

Sample Tracking

- Toxicity samples NOT collected
- Grab samples to CRG on 02/21/06 @ 11:25
- Bacteria grab samples to VCHCA Lab on 02/19/06 @ 09:58
- Composite samples to CRG on 02/21/06 @ 11:25
- Grab and Composite samples were picked up by CRG staff (Chuck) at County Government Center Parking Lot.
- Dirty bottles pickup: 3 - 20L Composite bottles and (8) 9.4 L Pickle jars were also picked up for cleaning by CRG on 02/21/06 @ 11:25.

Post-Event Assessment

Mass Emission:

ME-CC (Calleguas Creek) Sediment is causing problems at intake/bubbler line on bridge pier. Spoke w/ Hank (VCWPD Hydrology) on this again, he will NOT replace plastic well till rainy season is over.

ME-VR2 (Ventura River) River stage did NOT respond to this rainfall event. Water was clear during entire sampling duration.

ME-SCR (Santa Clara River) Due to high turbidity, United Water Conservation District staff opened the large roller gate and we lost communication with the Santa Clara River on 02-18-06 approx. from 01:06 till 07:24. A second intake line will be required.

NPDES 2005/2006 Water Quality Monitoring Event #4 (Wet), February 27-29, 2006 Summary

Sampling Duration = 48 Hours (Forecasted 2.50 inches rain)

Approximate Monitoring Duration = 02/27/06 06:00 to 03/01/06 06:00

Sample trigger volumes set for moderate antecedent conditions

Actual Sampling Duration(s):

ME-CC = 44 Hrs. ME-SCR = 52 Hrs. ME-VR2 = 38 Hrs.,

Actual Precipitation:

1.97 inches (#110 County Government Center)

1.65 inches (#9 Las Posas Reservoir)

1.92 inches (#2650 South Mountain West)

1.89 inches (#623 Calleguas Creek @ CSUCI)

4.02 inches (#2660 Fillmore Fish Hatchery)

3.88 inches (#2633 Stewart Canyon)

Sampling Crew: David Thomas, Tommy Liddell.

Weather Conditions: Wet both days of monitoring.

ME-CC Calleguas Creek (CISU Bridge)

- 02/26/06 13:30
4230: 1.473', 44 cfs, Program trigger = 1,000,000 cf, o/s = 1.36'
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90 samples, Start time day 02/27/06 @ 06:00.
Program: VTS Table: Moderate, 1.50" event, 18 liters = 1,000,000 cf trigger
Reference: Moderate, 0.5" rainfall, 300,000 cf trigger
Current stage @ 1.38', 30 cfs/1,800 cfm/108,000 cfh, 166 minutes between samples (.36 samples/hr)
Rated stage @ 2.80', 1,000 cfs/60,000 cfm/3,600,000 cfh, 5 minutes between samples (12 samples/hr)
So...
1.50" rainfall, 18 L, 1,000,000 cf trigger = 16 minutes between samples (3.6 samples/hour)
- 02/27/06 @ 16:30
4230: 1.583', 78 cfs, o/s = 1.60'
6712: "Sample 3 after 1 pulse", "Errors have occurred", bottle #1 = 2 liters
- 02/27/06 @ 19:54
4230: 3.311', 1,444 cfs, adjust trigger = 2,000,000 cf based on 3.0" rain forecasted.
6712: "Sample 10 after 1 pulse", bottle #1 = 17 liters, Pull and ice composite bottle #1, install new composite bottle #2.
4230: 3.824', 2,199 cfs @ 20:30
Grab Samples @ 20:30, water temp = 12.7 degrees C
- 02/27/06 @ 23:50
4230: 4.902', 4,359 cfs, o/s = 5.0'.
6712: "Sample 34 after 1 pulse", "Liquid generation, no more liquid", pump tubing = 389,600, calibrate volume, bottle #2 = full, Pull and ice composite bottle #2, Install new composite bottle #3.
NOTE: Errors (excess volumes, and liquid detection errors) due to loose liquid detector knob, problem corrected.

NPDES 2005/2006 Event #4 (Wet)

ME-CC (continues)

- 02/28/06 @ 07:30
4230: 3.877', 2,259 cfs, o/s 4.1'.
6712: "Sample 78 after 1 pulse", "Errors have occurred", bottle #3 = 10 liters, pull and ice composite bottle #3 @ 07:50, Install new composite bottle #4, restart program: 90 samples, 200 mL, no delay to start.
- 02/28/06 @ 11:30 (estimated)
4230: 2.675', 737 cfs
6712: "Sample 10 after 1 pulse", bottle #4 = 2 liters, o/s = 2.68'
- 03/01/06 @ 08:45
4230: 1.549', 70 cfs, o/s = 1.55', interrogate 4230 & 6712
6712: "Sample 19 after 1 pulses", Bottle #4 = 3.5 liters, program stopped @ 08:48, pump tubing = 880,642, pull composite @ 09:00.
- Precipitation amounts in this area approximately 1.89 inches (recorded at the Calleguas Creek @ CSUCI rainfall gage, ID#623).
- Follow-up: none

ME-SCR Santa Clara River (Freeman Diversion Station)

MD-1 (Field Duplicates)

- 02/26/06 @ 11:40
4210: 0.014', 0 cfs.
6712: Programmed for time paced sampling, 45 minute intervals, 200 mL, 96 samples (24 per bottle), start time Monday 02/27/06 @ 06:00
- 02/27/06 @ 17:05
4210: 0.0', 0 cfs
6712: "16, 24 bottle 1 in 05:00", "Errors have occurred during program", bottle #1 = 3 liters.
NOTE: sample intake line is NOT communicating w/ River.
UWCD staff turned out (opened gate) on 02/27/06 @ 14:17 causing communication errors with River (10,000 NTU), communication restored due to river level approx. 02/28/06 @ 23:00 per hydrograph.
- 02/27/06 @ 21:00
Grab samples collected in River from rock riprap d/s roller gate @ 21:30, water temp = 11.5 degrees C.
- 02/28/06 @ 10:20
4210: 1.529', 1,612 cfs, o/s = 2.0', adjust level = 2.0', 4,376 cfs.
6712: "15, 24 bottle 2 in 05:00", bottle #1 = 3 liters, #2 = 3 liter.
- 03/01/06 @ 09:45
4210: 0.758', 142 cfs
6712: "23,24 bottle 3 in 04:52", "Error have occurred", bottle #1 = 3 liters, bottle #2 = 3 liters, bottle #3 = 5 liters, stop program @ 09:50, pull composite @ 09:50.
- Precipitation amounts in this area approximately 4.02 inches (recorded at the Fillmore Fish Hatchery rainfall gage, ID#2660).
- Sampling conducted in River d/s roller gate (UWCD turned out).
- Follow-up: Complete installation of second intake line @ wing wall prior.

NPDES 2005/2006 Event #4 (Wet)

ME-VR2 Ventura River (Ojai Valley Sanitation District)

MS/MSD

- 02/26/06 @ 15:10
4230: 1.365', 19 cfs, trigger = 1,000,000 cf
6712: Programmed for flow paced sampling, 1 pulse, 200mL per sample, 90 samples (22 per bottle), Start time Friday 02/27/06 @ 06:00
- 02/27/06 @ 15:42
4230: 1.408', 22 cfs.
6712: "2, 22 bottle 2 after 1 pulse", bottle #1 = 200 mL liters.
- 02/27/06 @ 22:20
4230" 2.884', 135 cfs, o/s = water level 1/2 way up wing wall and brown, adjust trigger = 750,000 cf
6712: "4, 22 bottle 4 after 1 pulse", bottle #1 = 1 liters, Grab samples @ 22:30, water temp = 12.1 degrees C.
- 02/28/06 @ 08:50
4230: 3.837', 613 cfs.
6712: "7, 22 bottle 3 after 1 pulse", bottle #1 = spilled, bottle #2 = 9.4 + liters, bottle #3 = 3 liters, pump tubing = 253,930.
- 03/01/06 @ 07:26
4230: 1.832', 52 cfs, interrogate
6712: 20, 22 bottle 3 after 1 pulse, Program stopped @ 07:30, Pull composite on @ 07:30, interrogate.
- Precipitation amounts in this area approximately 3.88 inches (recorded at the Steward Canyon rainfall gage, ID#2633).
- Sampling conducted at intake line w/ grab poles.
- Follow-up: none

Sample Tracking

- Toxicity samples NOT collected
- Grab samples to CRG on 03/01/06 @ 12:45
- Bacteria grab samples to VCHCA Lab on 02/27/06 @ 23:30
- Composite samples to CRG on 03/01/06 @ 12:45
- Grab and Composite samples were picked up by CRG staff (Chuck) at County Government Center Parking Lot.
- Dirty bottles pickup: 4 - 20L Composite bottles and (8) 9.4 L Pickle jars were picked up for cleaning by CRG on 03/01/06 @ 12:45.

NPDES 2005/2006 Water Quality Monitoring Event #5 (Dry), May 31-June 1, 2006 Summary

Sampling Duration = 24 Hours

Approximate Monitoring Duration = 05/31/06 06:00 to 06/1/06 06:00

Actual Sampling Duration(s):

ME-CC = 26 Hrs. ME-SCR = 24 Hrs. ME-VR2 = 28 Hrs.

Sampling Crew: Tommy Liddell, Debi McAlpine, Shane Giller.

Weather Conditions: Clear skies, warm weather.

ME-CC Calleguas Creek (CISU Bridge)

MB-1 (Field Blanks)

- 5/30/06 @ 10:08
4230: 1.364', 26 cfs, Programmed for flow-paced sampling, trigger - 26 cfs x 60 s./min. x 15 min. = 23,400 cf, totalizer - 23,400 cf x 4 samples/hr. x 24 hrs. = 2,246,400 cf, volume check - 4 samples x 200 mL/sample x 24 hrs. = 19.2 L.
6712: Program => 1 pulse, 96 samples, sample at start, 200 mL per sample, start Wed., 5/31/06 @ 06:00
- 5/31/06 @ 10:46
4230: 1.305', 17 cfs
6712: Sample 14 after 1 pulse, bottle ~3L, re-iced
Batteries: 13.45V
Grab samples: Taken at check dam @ 10:50, temp. 25.2°C
- 6/1/06 @ 08:12
4230: 1.298', 15 cfs, interrogated
6712: Sample 75 after 1 pulse, bottle ~ 15L, pump count 624,318, program stopped at 08:15. Sample volume lower than expected due to drop in flow.
Composite samples: Pulled @ 08:15
Field blanks: Taken at check structure @ 08:15
Follow-up: Install ultrasonic to replace bubbler due to heavy siltation. Trouble-shoot cellular modem connection.

ME-SCR Santa Clara River (Freeman Diversion Station)

MS/MSD

- 5/30/06 @ 11:12
4210: 0.134', 8 cfs, "Power failed, check source"
6712: Programmed for time-paced sampling, 15 min. per sample, 24 samples per bottle, 200 mL per sample, start Wed., 5/31/06, pump count 568,336, ran pump reverse = bubbles
- 5/31/06 @ 12:02
4210: 1.123', 8 cfs, "Power failed, check source"
6712: Bottle #1 ~ ½ full, bottle #2 <1 L
Grab samples: Taken at wingwall @ 12:15, temp. 24°C
- 6/1/06 @ 09:08
4210: 0.138', 9 cfs, interrogated
6712: "Program 1 extended is done," "Warning, replace pump tubing," pump count 1,296,233, bottles #1-4 ~ 1/2 full
Composite samples: Pulled @ 09:15
Follow-up: None

NPDES 2005/2006 Event #5 (Dry)

ME-VR2 Ventura River (Ojai Valley Sanitation District)

- 5/30/06 @ 09:32
4230: 1.607', 36 cfs, trigger 36,000 cf
6712: Programmed for flow-paced sampling, 200 mL samples, approx. 15 min. per sample. While attempting program, alarms sounded repeatedly at OVSD indicating power failure. 6712 kept pulsing on and off.
- 5/30/06 @ 12:45
4230: 1.611', 36 cfs, plugged into small 12V battery
6712: Plugged into 12V deep cycle batteries, programmed for flow-paced sampling, 200 mL samples, 24 samples/bottle, start Wed., 05/31/06 @ 06:00
6700: Plugged into 110V
Batteries: 12.51V
Power issues: OVSD still having problems with onsite generator. Will test at 2 PM.
- 5/31/06 @ 08:44
4230: 1.586', 35 cfs
6712: 12,24 in bottle 1 after 1 pulse, bottle #1 ~2.5 L
Batteries: 11.83V
Power issues: Talked to Bradshaw (OVSD). Repairs to power system will take place tomorrow (after event #5 completed), but he is not anticipating any problems today. Switch 6712/6700 back to 110V, leave 4230 on small 12V, hope trickle charge recharges 12V deep cycle batteries.
6712: Run "Extended 1," begin immediately, sample delivered approx. 200 mL. While onsite, 2 samples from "new" program delivered to bottle 1, but bottle 1 should not spill since bottles were only going to be filled $\frac{1}{2}$ way.
Grab samples: Upstream intake line @ 09:10, temp. 17.4°C
- 5/31/06 @ 13:51
4230: 1.568', 34 cfs
6712: 18, 24 in bottle 1 after 1 pulse, distributor arm moved to bottle 2, restarted program, sample pulled
- 6/1/06 @ 10:04
4230: 1.579', 35 cfs, interrogated
6712: 21, 24 in bottle 4 after 1 pulse, "Errors have occurred," bottle #1 ~ 8L, bottle #2 ~ 6L, bottle #3 ~ 5L, bottle #4 ~ 4L. Program stopped @ 10:06. Sample volume lower than expected due to overnight drop in flow.
Composite samples: Pulled @ 10:06
Sampler maintenance: Replaced pump tubing in auxiliary pump. Reset pump counter to 0 (was 809,909)
Follow-up: Install cellular modem.

Sample Tracking

- Toxicity and bacteria samples to ABC on 5/31/06 at 13:31
- Grab and composite samples to CRG on 6/1/06 @ 13:15, picked up by CRG staff (Adam) at County Government Center Parking Lot
- Dirty bottle/container pickup by CRG on 6/1/06 @ 13:15: 3 - 20 L composite bottles (clean per SOP), 8 - 9.4 L pickle jars (clean per SOP), 4 folding lid boxes, 3 coolers for 20 L bottles, and 2 coolers with grab samples

NPDES 2005/2006 Water Quality Monitoring Event #6 (Dry), June 13-14, 2006 Summary

Sampling Duration = 24 Hours

Approximate Monitoring Duration = 6/13/06 06:00 to 6/14/06 06:00

Actual Sampling Duration(s):

ME-CC = 24 Hrs. ME-SCR = 24 Hrs. ME-VR2 = 24 Hrs.

Sampling Crew: Tommy Liddell, Debi McAlpine, Shane Giller.

Weather Conditions: Clear skies, warm weather.

Field Calibration of Equipment: Beckman 255 pH meter calibrated at 08:00 on 6/13/06. pH buffer of 7.0 calibrated to 7.04.

ME-CC Calleguas Creek (CSUCI Bridge)

- 6/12/06 @ 13:20
4230: 1.301', 16 cfs, programmed for flow-paced sampling (~200mL/15 min.), trigger - 16 cfs x 60 s./min. x 15 min. = 14,400 cf
6712: Program => 1 pulse at start, 96 samples, 200 mL/sample, start Tue., 6/13/06 @ 06:00
- 6/13/06 @ 11:03
4230: 1.297', 15 cfs
6712: Sample 19 after 1 pulses, bottle ~ 3L, re-iced
Grab samples: Taken at check dam @ 11:10, temp. = 26.2°C, field pH = 8.18
- 6/13/06 @ 12:30
6712: Intake line not connected to pump tubing, reconnect, pull 200 mL grab, volume looks good, purge = bubbles, resume program @ 12:46
- 6/13/06 @ 15:00
6712: Blew sampling line out w/40 psi
- 6/14/06 @ 08:38
4230: 1.262', 11 cfs, interrogated
6712: "Program: Extended 1 is done," bottle is full
Composite samples: Pulled @ 08:45
Follow-up: Extend cell antenna to improve connection

ME-SCR Santa Clara River (Freeman Diversion)

MD-1 (Field Duplicates)

- 6/12/06 @ 12:33
4210: 0.114', 7 cfs =< erroneous reading due to siltation
6712: Programmed for time-paced sampling, 15 min. per sample, 4 bottles, 24 samples per bottle, 200 mL per sample, start Tue., 6/13/06 @ 06:00
- 6/13/06 @ 12:04
4210: 0.137', 8 cfs
6712: Bottle #1 ~ ½ full
Grab samples: Taken at wing wall @ 12:10, temp. = 24.4°C, field pH = 8.16
- 6/14/06 @ 09:53
4210: 0.1448', 11 cfs, interrogate
6712: "Program: Extended 1 is done," bottles #1-4 ~ ½ full
Composite samples: Pulled @ 09:40
Follow-up: None

NPDES 2005/2006 Event #6 (Dry)

ME-VR2 Ventura River (Ojai Valley Sanitation District)

MS/MSD

- 6/12/06 @ 10:29
4230: 1.552', 33 cfs, programmed for flow-paced sampling (~200mL/15 min.), trigger 33 cfs x 60 s./min. x 15 min. = 29,700 cf
6712: Program => 1 pulse at start, 4 bottles, 24 samples per bottle, 200 mL/sample, start Tue., 6/13/06 @ 06:00, max. run time 100 hrs., operated pump reverse = bubbles
Batteries: 12.40V
- 6/13/06 @ 09:37
4230: 1.564', 33 cfs
6712: "16 of 24 in bottle 1 after 1 pulse," bottle #1 - empty, attempted 200 mL grab - 0 mL dispensed, adjusted Teflon lines in auxiliary pump, 200 mL grab ~ 200 mL dispensed. Stopped "Extended 1," moved distributor arm to bottle #2, pulled ~ 2L, restarted "Program 1" (start immediately, run 20 hrs., sample every 1 pulse because "Program 1" wanted to start 20-June). First sample pulled - 0 mL, readjusted remote pump and stabilized b/c line kinking when pump moves around. Attempted 200 mL grab, ~ 200 mL dispensed. Attempted another 200 mL grab, 0 mL dispensed. David Thomas to return to site to fix.
Grabs: Upstream intake line @ 09:40, temp. =19.7°C, field pH = 8.51
Batteries: 11.66V => Plugged 4230 back into 110V
- 6/13/06 @ 10:45. David Thomas onsite.
Pump tubing adjustment: Attempted to stop kinking caused by too short of intake line on river side of pump head. Zip-tied intake tubing to intake line at kink point. Sample #8 @ 11:00 - volume good, no kinking during pumping. Sample #9 @ 11:13 - volume good. Sample #10 @ 11:30 - volume good, minimum kinking, moved zip-tie up $\frac{1}{2}$ ", possible defective pump tubing.
- 6/13/06 @ 13:24
4230: 1.545', 32 cfs
6712: "18 of 24 in bottle 1 after 1 pulse." Bottle #1 ~3L. Sample #18 at 13:34 - volume good. Added second zip-tie to stabilize.
- 6/14/06 @ 10:30
4230: 1.559', 32 cfs, interrogate
6712: "Program: Extended 1 is done." "Errors have occurred during program." Bottles #1,2 ~ 5 L, bottle #3 ~ 2 L, bottle #4 ~ $\frac{1}{2}$ L. Pump tubing on auxiliary pump not kinked.
Composite samples: Pulled at 10:40
Follow-up: Clean sediment from around intake and bubbler lines. Remember to leave 6712 on to trickle-charge 12V.

Sample Tracking

- Bacteria samples to ABC on 6/13/06 @ 13:05
- Grab and composite samples to CRG on 6/14/06 @ 14:30, picked up by CRG staff (Chuck) at County Government Center Parking Lot
- Dirty bottle/container pickup by CRG on 6/14/06 @ 14:30: 3 - 20 L composite bottles (clean per SOP), 8 - 9.4 L pickle jars (clean per SOP), 4 folding lid boxes, 3 coolers for 20 L bottles, and 2 coolers with grab samples