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COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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OCT 15 2003

JAMES F. STAHL
Chief Engineer and General Manager

File No: 84-01.01-55

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th St., Suite 200
Los Angeles, CA 90013

Attn: Technical Support Unit

San Jose Creek Water Reclamation Plant
WQCB Order No. 95-079, NPDES No. CA0053911
Monitoring and Reporting Program No. 5542
WQCB Order No. 87-50
Monitoring and Reporting Program No. 6372
Combined NPDES and Reuse Monitoring Report for August 2003

Enclosed please find the monthly Monitoring Report for the subject reporting period.

All analyses were conducted at a laboratory certified for such analyses by the Department of Health Services, or approved by the Executive Officer in accordance with current EPA procedures, or as specified in the Monitoring Program.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Martha Rincón
Printed Name of Person Signing

Supervising Engineer, Monitoring Section
Official Title

Martha Rincón
Signature

10/15/03
Date Signed

MR:JN:rg
Enclosure

cc: California Department of Health Services
Los Angeles County Department of Health Services
Environmental Protection Agency, Region IX
Central Basin Municipal Water District
Water Replenishment District of Southern California
Navigant Consulting, Inc.

DOC#

SAN JOSE CREEK WATER RECLAMATION PLANT
AUGUST 2003 - MONTHLY MONITORING REPORT

WQCB ORDER NO. 95-079
NPDES NO. CA0053911
MONITORING AND REPORTING PROGRAM NO. 5542

WQCB ORDER NO. 87-50 (REUSE)
MONITORING AND REPORTING PROGRAM NO. 6372

INTRODUCTION

The waste discharge, water reclamation and monitoring and reporting requirements for the San Jose Creek Water Reclamation Plant (WRP) are contained in the following documents:

1. Board Order No. 95-079 (NPDES No. CA0053911) adopted June 12, 1995 by the California Regional Water Quality Control Board, Los Angeles Region (WQCB).
2. Monitoring and Reporting Program No. 5542 revised June 12, 1995 by order of the Executive Officer of the WQCB.
3. Resolution No. 97-02, adopted January 27, 1997 by the WQCB.
4. Board Order No. 87-50 adopted April 23, 1987 by the WQCB. These requirements were re-adopted on May 12, 1997 in Board Order 97-092.
5. Monitoring and Reporting Program No. 6372 ordered April 23, 1987 by order of the Executive Officer of the WQCB.

NPDES PERMIT

COMPLIANCE WITH WASTE DISCHARGE REQUIREMENTS

There were no exceedences of the waste discharge requirements in August.

REMARKS ON THE MONITORING AND REPORTING PROGRAM

Influent Monitoring

Results for the second semi-annual influent monitoring are included in this report.

Effluent Monitoring

Results for the third quarter and second semi-annual effluent monitoring are included in this report. Please note that these results are combined and reported together. Radioactivity analyses were not completed by the time this report was prepared. Results will be reported as they become available.

Results for the annual effluent acute bioassay are included in this report.

Sediment Monitoring

Results of the third quarter sediment monitoring are included in this report.

Receiving Water Monitoring

Results of the third quarter receiving water chronic bioassays for stations C-2 and R-11 are included in this report. Results of the third quarter receiving water chronic bioassays for stations R-6 and R-8 will be included in future reports as they become available.

Results for the annual receiving water acute bioassays for stations C-2, R-11, R-6 and R-8 are included in this report.

Ammonia Limits in Receiving Water

Receiving Water Objective I.D.1 states that, beginning June 12, 2003, "ammonia in the receiving water shall not exceed concentrations specified in Tables 3-2 and 3-4¹ of the Basin Plan as a result of the wastes discharged." In order to comply with the Basin Plan objectives, the Districts have planned for the conversion of the San Jose Creek WRP's treatment to nitrification/denitrification (NDN).

As of June 12, 2003, the San Jose Creek WRP was operating in nitrification/denitrification mode in an effort to comply with the ammonia objectives. The San Jose Creek Monitoring and Reporting Program requires monthly monitoring of total ammonia in the receiving water. To determine compliance with applicable ammonia objectives for receiving water samples collected on or after June 12, 2003, the Districts will compare results of samples collected from the receiving water station immediately downstream of each plant discharge against the applicable ammonia objectives and discuss any non-compliance in the report.

Malfunction of Ammonia Addition Station

On August 12 and 13, 2003, the new ammonia addition station recently installed at the San Jose Creek West Water Reclamation Plant (WRP) malfunctioned. The ammonia addition station was installed at the San Jose Creek West WRP as part of the nitrification/denitrification treatment modifications. After the wastewater is nitrified and denitrified, the ammonia concentration is greatly reduced. However, some ammonia is necessary for the disinfection process. Thus, some ammonia is added back into the wastewater after the nitrification and denitrification process. On August 12 at approximately 12 P.M., a contractor replaced the tubing on the ammonia addition pump as part of maintenance work on the station. However, the pumping mechanism was not properly re-installed, and consequently, the amount of ammonia addition was not correctly dosed. The problem was discovered at approximately 9:30 A.M. on August 13 and was immediately corrected.

For the time period that the ammonia addition was not correctly dosed, 1.2 gallons/minute of 19% ammonia solution was being added to the treated wastewater effluent. Given that the amount of effluent discharged varies during the day and throughout the night, the concentration of ammonia in the effluent (going into the receiving water) varied throughout the day as well. Based on the average daily effluent for the time period, the

¹ The reference to Tables 3-2 and 3-4 is no longer accurate because a Basin Plan Amendment (BPA) updating the Los Angeles Region's ammonia objectives for inland surface waters was adopted and became effective on July 15, 2003. In the new objectives incorporated by the BPA, the freshwater ammonia objectives are contained in Tables 3-1, 3-2 and 3-3. Tables 3-1 and 3-3 apply to the WRPs that discharge to the San Gabriel River. Tables 3-4 and 3-5 of the BPA list saltwater ammonia objectives, which are not applicable to discharges to the San Gabriel River. Thus, the reference to Tables 3-2 and 3-4 in the current permit is inapplicable since the Basin Plan objectives have been recently superseded.

concentration of ammonia was approximately 9 mg/L in the effluent. The peak facility discharge occurred shortly before midnight; at that time, the ammonia concentration in the effluent was approximately 5 mg/L. During the early morning hours, between 5 A.M. and 7 A.M., the facility discharged the lowest flows of the day; thus, the ammonia concentration in the effluent was approximately 22 mg/L.

Coincident with the malfunction of the ammonia addition station, the Districts conducted special sampling of the San Gabriel River on August 13 as part of toxicity testing for the San Gabriel Watershed. Receiving water samples were collected, which showed ammonia levels in the receiving water ranging from 3.8 mg/l to 8.6 mg/L. The two receiving water stations with the highest measured ammonia concentrations on the San Gabriel River, R3-1 and R9-West, were sampled for ammonia the following morning, and both samples were below the detection limit of 0.5 mg/L. (Station R-3-1 is located approximately fifty feet below the Alondra Boulevard overpass of the San Gabriel River, downstream of the San Jose Creek Outfall #1 discharge and upstream of the Los Coyotes WRP.) All ammonia analyses conducted were done consistent with the Districts' standard TIE practices. That is, the toxicity sample is collected, the baseline tests are begun and the ammonia is only quantified when ammonia toxicity is suspected. Thus, the samples were sent for ammonia quantification to the San Jose Creek Laboratory on August 19, 2003. As such, USEPA analysis procedures for ammonia, requiring prompt sample acidification, were not followed. (The samples were kept at 4°C but were not acidified until the day of ammonia quantification.) Because the samples were not collected and handled in accordance with requirements established in the Monitoring and Reporting Program, the results have not been included in this monthly report. No impacts to aquatic life were observed as a result of this incident.

Effluent Performance Goal

Results from a San Jose Creek East WRP effluent sample taken on August 5, 2003 indicate that the bromodichloromethane performance goal of 2.5 ug/L was exceeded with a level of 4 ug/L. Performance goals are not effluent limits and are only used to monitor plant performance. The Districts will continue to monitor levels of this constituent to determine whether this value is due to some cause other than normal statistically expected variability. The Waste Discharge Requirements for San Jose Creek WRP state that the Executive Officer may modify a performance goal if the Discharger requests and has demonstrated that the change is warranted. If the bromodichloromethane concentration in final effluent from San Jose Creek East WRP continues to be measured above the performance goal, the Districts will request that the performance goal be re-calculated in the future.

Receiving Water pH

Receiving Water Requirement I.C.1 states that the pH of the receiving water shall not be depressed below 6.5 or raised above 8.5 as a result of the plant discharge. In August 2003, pHs above 8.5 were observed at receiving water stations R-A-1, R-A, R-9-East and R-9-West on the following occasions:

- At station R-A-1, the pH was 9.1 on August 5, 8.8 on August 12, and 8.7 on August 19. Because station R-A-1 is upstream of the discharge from Long Beach WRP, the elevated pHs at station R-A-1 were not caused by the plant effluent and these measurements are not exceedances of the receiving water requirements.
- At station R-A, the pH was 8.8 on August 5. Station R-A is immediately downstream of the Long Beach WRP. However, the elevated pH at station R-A on August 5 is not due to discharge of treated effluent because the Long Beach WRP effluent pH was 7.4 on that day. This incident was due to the high pH at station R-A-1 which was measured at 9.1 on this day.

- At station R-9-East, the pH was 8.9 on August 5, 8.7 on August 12, and 8.6 on August 19. The elevated pHs at station R-9-East on these days are not due to discharge of treated effluent because the Long Beach WRP effluent pH was 7.4 or lower on those days.
- At station R-9-West, the pH was 9.2 on August 12. This elevated pH at station R-9-West is not due to discharge of treated effluent because the Los Coyotes effluent pH was 7.3 on August 12.

Receiving Water Requirement I.C.1 specifies that ambient pH levels shall not be changed more than 0.5 pH units from natural conditions. On August 5, 2003, the pH at the downstream receiving water station C-2 on San Jose Creek was observed to be 0.9 pH unit lower than the pH at the upstream station C-1. The pHs at C-1 and C-2 were 8.2 and 7.3, respectively. The Districts do not consider receiving water station C-1 to be representative of natural conditions. The flow at this station is highly influenced by urban runoff and other flows of unknown origin upstream of the treatment plant. In recognition of this, the Regional Board included language in the new permits for the Long Beach, Los Coyotes and Whittier Narrows WRPs to allow the Board to determine natural conditions on a case-by-case basis. Consequently, changes such as the one described here will not be considered to be exceedances of the receiving water requirements. The Districts will continue to monitor effluent and receiving water pHs and report the results accordingly.

Receiving Water Temperature

Receiving water limitation I.C.2 states that the temperature of the receiving water at any time or place and within any given 24-hour period shall not be increased by more than 5°F (or above 70°F if the ambient received water temperature is less than 60°F) as a result of the wastes discharged. On August 5, 2003, the temperature at downstream receiving water station C-2 on San Jose Creek was observed to be higher than the temperature at the upstream station C-1 by more than 5°F. The temperatures at stations C-1 and C-2 were measured at 26°C (78°F) and 29°C (83°F), respectively. On this day, the effluent temperature at San Jose Creek East WRP was measured at 85°F, which is a typical discharge value.

Per the Los Angeles Region Basin Plan, the increase of 5°F applies to the natural temperature of the receiving water. However, the upstream receiving water station C-1 is not representative of natural conditions because the flow at this station is highly influenced by dry weather urban runoff and other flows of unknown origin. In recognition of this, the Regional Board included language in the new permits for the Long Beach, Los Coyotes and Whittier Narrows WRPs to allow the Board to determine natural conditions on a case-by-case basis. Consequently, changes such as the one described here will not be considered to be exceedances of the receiving water requirements. The Districts will continue to monitor effluent and receiving water temperatures and report the results accordingly.

Receiving Water Dissolved Oxygen

Receiving Water Requirement I.C.4 states that the dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged. In August 2003, the dissolved oxygen concentration at station R-A-2 was measured at 3.8 mg/L on August 19. The low dissolved oxygen concentration at station R-A-2 was not a result of wastes discharged since the dissolved oxygen concentrations at other stations closer to the Districts' plant discharges (i.e., R-4, R-A, R-9-East and R-9-West) were all 8.9 mg/L or above on this day. The low dissolved concentration may be due to localized conditions.

Fish in San Gabriel River

During their routine monitoring of lined San Gabriel River receiving water stations on August 8, 2003, Districts technicians observed thirty to fifty dead fish at 1:55 P.M. The majority of the dead fish were tilapias

that ranged in size between 1 to 3 inches in length. Most of the tilapias were found just below a culvert located 150 to 200 yards north of receiving water station R-3-1. Station R-3-1 is located approximately fifty feet below the Alondra Boulevard overpass of the San Gabriel River, downstream of the San Jose Creek Outfall #1 discharge and upstream of the Los Coyotes WRP. Other dead organisms included a mosquito fish and a crayfish. There were also many fish and crayfish that were still alive but unresponsive unless handled. The Districts believe that this incident may have been due to low flow in the river.

REUSE PERMIT

COMPLIANCE WITH WATER RECLAMATION REQUIREMENTS

There were no violations of the water reclamation requirements in August.

All reclaimed water used during August was used only for those purposes specified in the requirements.

REMARKS

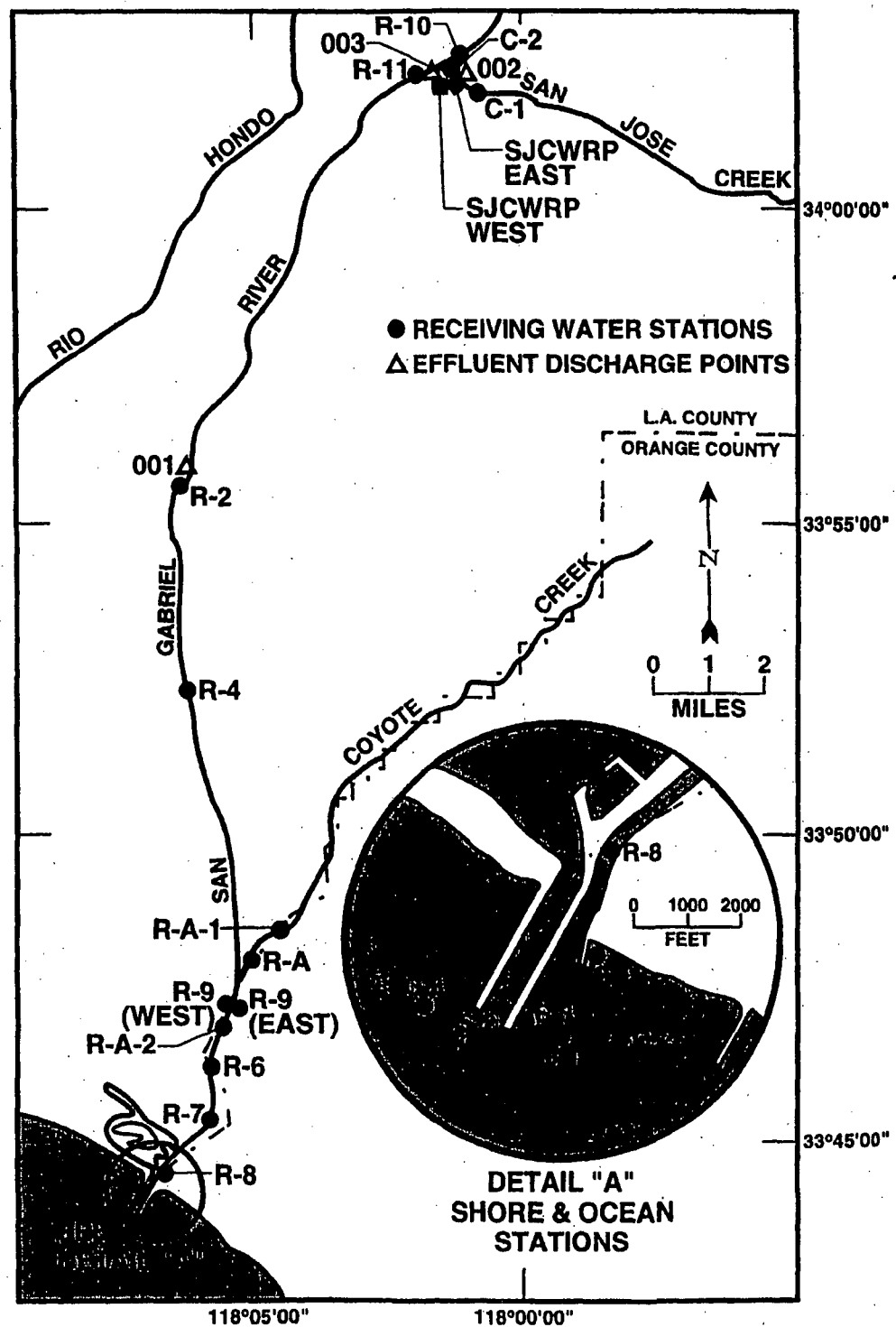
The Monitoring and Reporting Program requires quarterly monitoring of radioactivity. Radioactivity analyses were not completed by the report preparation time. Results will be reported as they become available.

**DISCHARGE POINTS AND
RECEIVING WATER STATIONS MAP**

San Jose Creek Water Reclamation Plant

SAN JOSE CREEK WRP

Effluent Discharge Points and Receiving Water Stations





COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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JAMES F. STAHL
Chief Engineer and General Manager

March 18, 2004
File No.: 31-370.40-4A

Via Electronic Mail

Ms. Amy King
Tetra Tech, Inc.
402 West Broadway, Suite 400
San Diego, CA 92101

Dear Ms. King:

Preliminary Data Submission for 2004 Water Quality Assessment and Update of the Clean Water Act Section 303(d) List of Impaired Waters

In response to the request of the Regional Water Quality Control Board, Los Angeles Region (Regional Board), the County Sanitation Districts of Los Angeles County (Districts) are providing the enclosed surface water quality monitoring data to be used by the State Water Resources Control Board (State Board) and U.S. EPA in conducting the 2004 Water Quality Assessment and Update of the Clean Water Act Section 303(d) List of Impaired Waters.

The following water quality data are included in this submittal: 1) Toxicity data for the San Gabriel River, Reach 1; 2) Nitrogen data for the Santa Clara River, Reaches 7 and 8; and 3) Chloride data for Piru Creek in the Santa Clara River watershed.

Toxicity Data for San Gabriel River, Reach 1

Tables 1, 2, and 3 show toxicity results for samples taken at Districts' receiving water stations R-4, R-9W, and R-3-1, respectively, all located in Reach 1 of the San Gabriel River (please refer to Figure 1 for the location of these receiving water stations). The tables provide toxicity results for June 2003 through January 2004. In June 2003, the Districts completed conversion of water reclamation plants in the San Gabriel River watershed to nitrification/denitrification (NDN) mode. The toxicity results presented in Tables 1, 2, and 3 are therefore reflective of current water quality conditions in Reach 1.

Reach 1 of the San Gabriel River is currently listed as impaired for toxicity (the reach was originally listed in 1998). Since the water reclamation plants have been operating in NDN mode, 24 receiving water samples have been collected. As shown in Tables 1, 2 and 3, out of the 24 samples analyzed from Reach 1 (8 monthly samples for each of the 3 receiving water stations in the reach), none of the samples showed evidence of toxicity. The Basin Plan includes a narrative objective for toxicity which states "[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life."

Nitrogen Data for Santa Clara River, U.S. EPA Reaches 7 and 8 (Regional Board Reaches 5 and 6)

Nitrate, nitrite, and nitrate+nitrite data from Districts' receiving water stations in Reaches 7 and 8 (please refer to Figure 2 for reach segments) of the Santa Clara River are provided in Tables 4 through

8. Table 9 presents nitrate and nitrite data obtained from the United Water Conservation District (UWCD) for their receiving water sampling station located near the Los Angeles/Ventura County Line, at the end of Reach 7 of the Santa Clara River.

Table 4 shows nitrogen data from Districts' receiving water station RB, located in Reach 8 of the Santa Clara River. Figure 3 summarizes these data. The data presented are reflective of water quality conditions since the conversion to NDN mode of Districts' water reclamation plants discharging to the Santa Clara River. The Saugus Water Reclamation Plant, which is located in Reach 8, was fully converted to NDN mode on September 11, 2003. Nitrate+nitrite concentrations at station RB ranged from 2.1 mg/L N to 7.1 mg/L N. The Basin Plan's nitrate+nitrite water quality objective for Reach 8 (Regional Board Reach 6) is 10 mg/L, and therefore, the data appear to show attainment of the water quality objective. Nitrite concentrations at station RB ranged from 0.02 mg/L to 0.77 mg/L for this period. None of the samples exceeded the applicable water quality objective for nitrite (1.0 mg/L), and therefore, the nitrite data also appear to show attainment of the Basin Plan's water quality objective of 1 mg/L for Reach 8.

Tables 5 through 9 show nitrogen data for Reach 7 of the Santa Clara River. Data from Districts' receiving water stations RC, RD, RE and RB01, and UWCD's receiving water station located near the Los Angeles/Ventura County Line, appear to show attainment of the applicable water quality objective for nitrate+nitrite (5 mg/L N) for the reach. The nitrogen data for Reach 7 (Regional Board Reach 5) are summarized in Figure 4. Once again, the data presented are reflective of conditions in the reach since the implementation of NDN at the Districts' water reclamation plants, which discharge to the Santa Clara River, and therefore characterize current water quality. The Districts' Valencia Water Reclamation Plant, which is located in Reach 7, was partially converted to NDN mode starting May 12, 2003, and was fully converted to NDN mode on June 18, 2003.

Chloride Data for Piru Creek

Figure 5 and Table 10 show chloride data for Piru Creek from March 1997 through January 2004. Chloride levels in Piru Creek for this time period ranged from 31 mg/L to 77 mg/L, with 7 out of 26 samples, or 27% of the measurements, exceeding the chloride water quality objective for Piru Creek (60 mg/L). These data were obtained from UWCD (www.unitedwater.org). Information regarding the status of quality assurance procedures related to this data should be obtained directly from that agency.

The Districts appreciate the opportunity to respond to the Regional Board's preliminary request for data. If you have any questions regarding this submittal, please contact Heather Lamberson, extension 2828, or Martha Rincón, extension 2830, at (562) 699-7411.

Very truly yours,

James F. Stahl

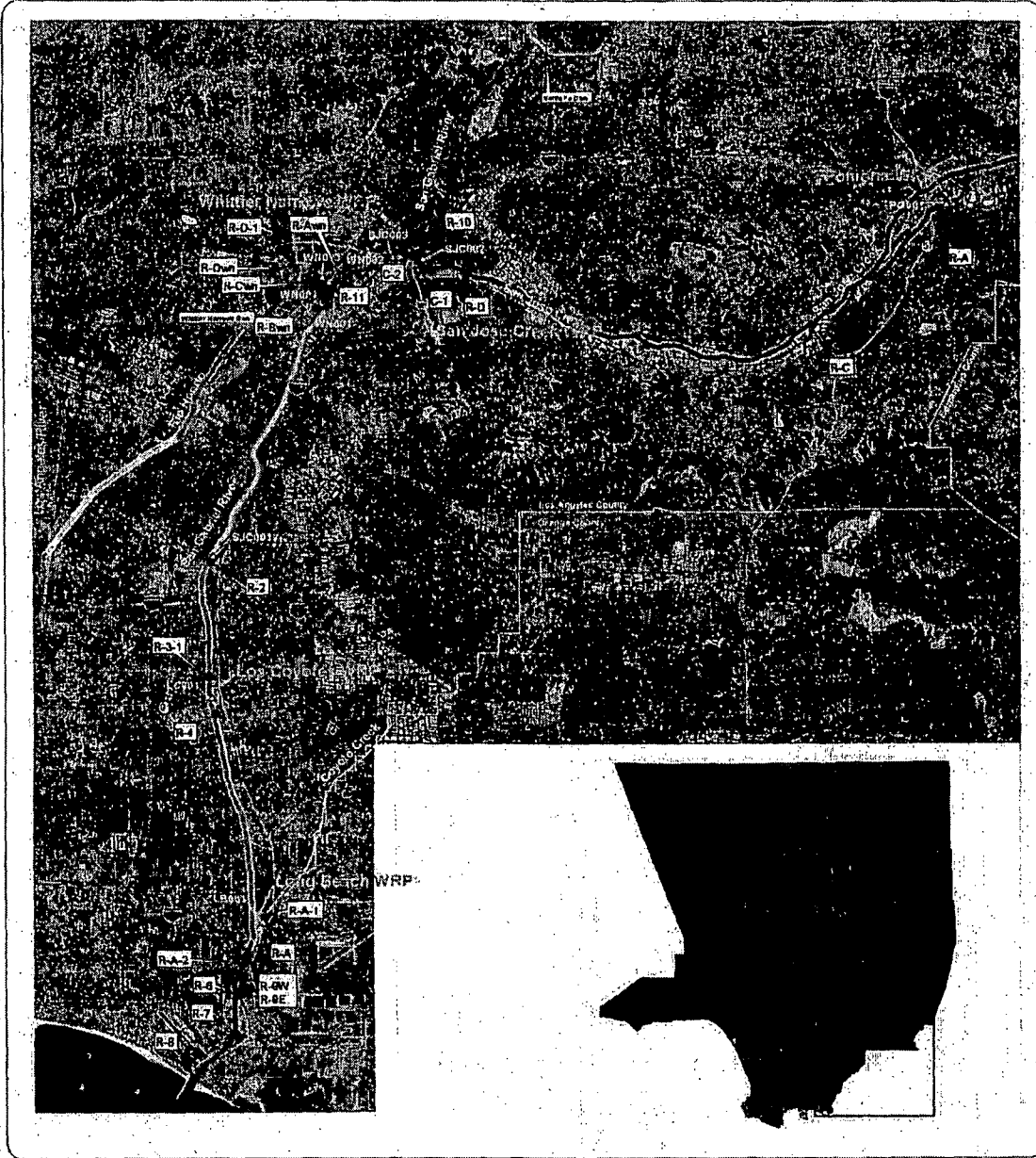


Victoria O. Conway
Head, Monitoring Section
Technical Services Department

VOC:HL:drs
Enclosures

Cc: Cindy Lin, U.S. EPA Region IX

Figure 1: Lower San Gabriel River Watershed



▲ Effluent Discharge Point
 ● LACSD Receiving Water Stations
 Water Reclamation Plant
 Lined
 Unlined

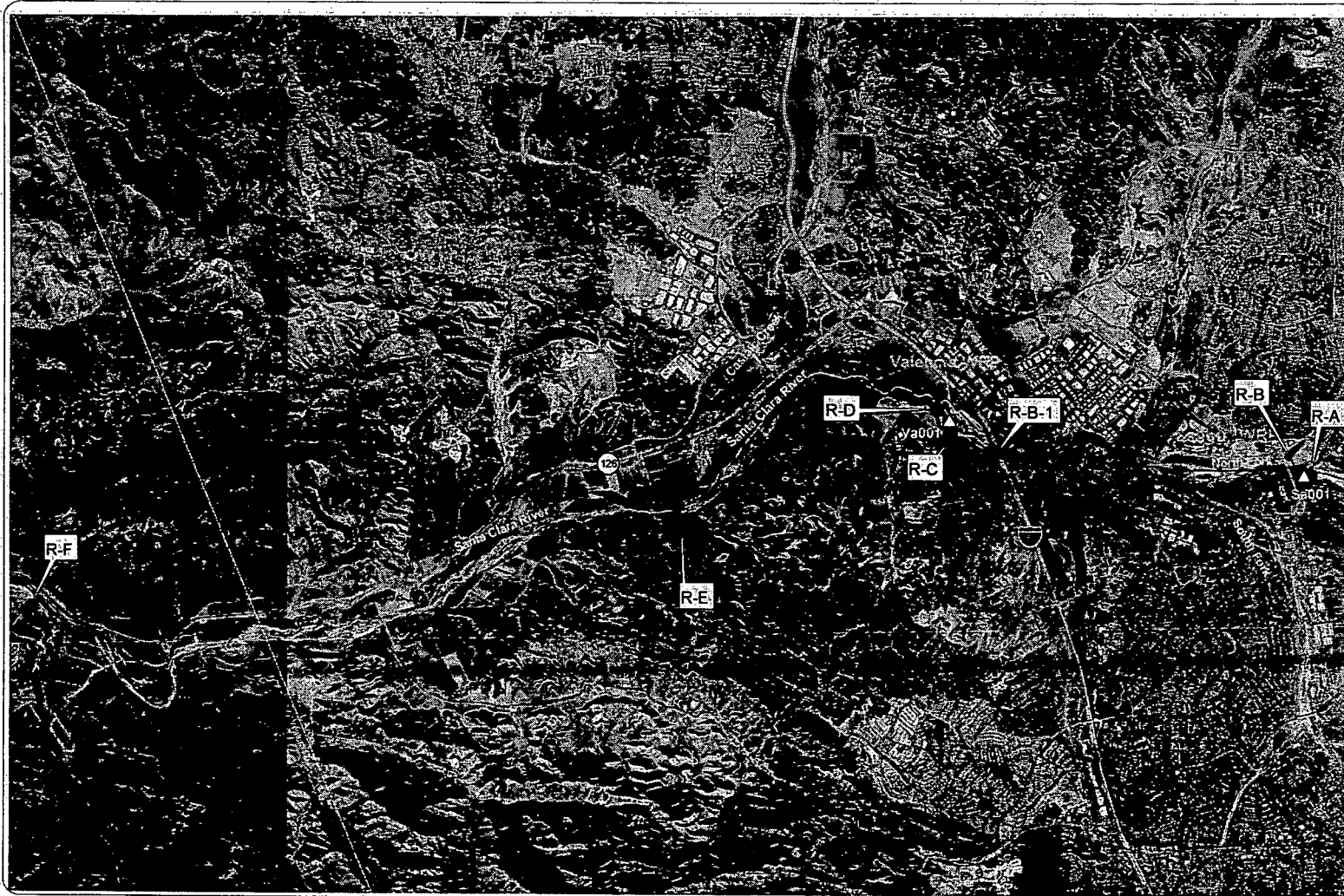
Lower San Gabriel River Watershed Reaches
 RH Reach 1
 RH Reach 2
 GJC Reach 1
 GJC Reach 2
 SGR Estuary
 SGR Reach 1
 SGR Reach 2
 SGR Reach 3

COUNTY SANITATION DISTRICTS
 OF LOS ANGELES COUNTY, CALIF.
 OFFICE OF CHIEF ENGINEER AND GENERAL MANAGER
 GENERAL MAP OF
 Lower San Gabriel River Watershed
 JAMES F. STALE - CHIEF ENGINEER & GENERAL MANAGER
 WHITTIER, CALIF. - MAY 2000



This map was prepared by the County Sanitation Districts of Los Angeles County, California, for the purpose of showing the location of the Lower San Gabriel River Watershed. It is not intended to be used for any other purpose.

Figure 2: Santa Clara River



▲ Effluent Discharge Point
 ● LACSD Receiving Water Stations
 □ Water Reclamation Plant

Santa Clara River Reaches

▲ Reach 6
 ▲ Reach 7
 ▲ Reach 8
 ▲ Reach 9



COUNTY SANITATION DISTRICTS
 OF LOS ANGELES COUNTY, CALIF.
 OFFICE OF CHIEF ENGINEER AND GENERAL MANAGER
 GENERAL MAP OF
 Santa Clara River
 JAMES F. STAHL - CHIEF ENGINEER & GENERAL MANAGER
 WHITTIER, CALIF. MAY 2002



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Table 1. RECEIVING WATER STATION R4 CHRONIC BIOASSAY TESTING SUMMARY

TEST SPECIES ENDPOINT	NOEC ^a	TUc ^a (NOEC)	EC/IC25 ^b (95% CI)	% EFFECT IN 100% SAMPLE ^c
<i>Pimephales promelas</i>	JUNE 2003			
Survival	100	1.0	>100 (N/A)	5.0 (-0.7 to 10.7)
Growth	100	1.0	>100 (N/A)	1.1 (-13.8 to 16.0)
<i>Pimephales promelas</i>	JULY 2003			
Survival	100	1.0	>100 (N/A)	-5.4 (-10.7 to -0.1)
Growth	100	1.0	>100 (N/A)	-21.1 (-29.3 to -13.1)
<i>Pimephales promelas</i>	AUGUST 2003			
Survival	100	1.0	>100 (N/A)	-2.6 (N/A)
Growth	100	1.0	>100 (N/A)	-34.3 (-44.1 to -24.6)
<i>Pimephales promelas</i>	SEPTEMBER 2003			
Survival	100	1.0	>100 (N/A)	2.5 (-2.4 to 7.4)
Growth	100	1.0	>100 (N/A)	-19.0 (-24.5 to -13.4)
<i>Pimephales promelas</i>	OCTOBER 2003			
Survival	100	1.0	>100 (N/A)	0 (N/A)
Growth	100	1.0	>100 (N/A)	-24.4 (-35.3 to -13.4)
<i>Pimephales promelas</i>	NOVEMBER 2003			
Survival	100	1.0	>100 (N/A)	-2.7 (-8.8 to 3.4)
Growth	100	1.0	>100 (N/A)	-2.1 (-12.7 to 8.4)
<i>Pimephales promelas</i>	DECEMBER 2003			
Survival	100	1.0	>100 (N/A)	0 (N/A)
Growth	100	1.0	>100 (N/A)	2.7 (-11.2 to 16.5)
<i>Pimephales promelas</i>	JANUARY 2004			
Survival	100	1.0	>100 (N/A)	7.5 (-1.9 to 16.9)
Growth	100	1.0	>100 (N/A)	7.0 (3.5 to 10.6)

Table 2. RECEIVING WATER STATION R9-W CHRONIC BIOASSAY TESTING SUMMARY

TEST SPECIES ENDPOINT	NOEC ^a	TUc ^a (NOEC)	EC/IC25 ^b (95% CI)	% EFFECT IN 100% SAMPLE ^c
<i>Pimephales promelas</i>	JUNE 2003			
Survival	100	1.0	>100 (N/A)	0 (N/A)
Growth	100	1.0	>100 (N/A)	0.8 (-6.1 to 7.8)
<i>Pimephales promelas</i>	JULY 2003			
Survival	100	1.0	>100 (N/A)	2.5 (-2.4 to 7.4)
Growth	100	1.0	>100 (N/A)	-9.0 (-12.0 to -6.1)
<i>Pimephales promelas</i>	AUGUST 2003			
Survival	100	1.0	>100 (N/A)	2.6 (-3.2 to 8.4)
Growth	100	1.0	>100 (N/A)	-23.3 (-38.6 to -8.0)
<i>Pimephales promelas</i>	SEPTEMBER 2003			
Survival	100	1.0	>100 (N/A)	0 (N/A)
Growth	100	1.0	>100 (N/A)	-0.8 (-10.0 to -8.5)
<i>Pimephales promelas</i>	OCTOBER 2003			
Survival	100	1.0	>100 (N/A)	-2.6 (N/A)
Growth	100	1.0	>100 (N/A)	-15.9 (-21.2 to -10.6)
<i>Pimephales promelas</i>	NOVEMBER 2003			
Survival	100	1.0	>100 (N/A)	-2.3 (-8.1 to 3.4)
Growth	100	1.0	>100 (N/A)	-6.8 (-11.7 to -1.9)
<i>Pimephales promelas</i>	DECEMBER 2003			
Survival	100	1.0	>100 (N/A)	-5.3 (N/A)
Growth	100	1.0	>100 (N/A)	-6.6 (-11.4 to -1.8)
<i>Pimephales promelas</i>	JANUARY 2004			
Survival	100	1.0	>100 (N/A)	0 (N/A)
Growth	100	1.0	>100 (N/A)	-17.7 (-25.3 to -10.1)

Table 3. RECEIVING WATER STATION R3-1 CHRONIC BIOASSAY TESTING SUMMARY

TEST SPECIES ENDPOINT	NOEC ^a	TUc ^a (NOEC)	EC/IC25 ^b (95% CI)	% EFFECT IN 100% SAMPLE ^c
<i>Pimephales promelas</i>	JUNE 2003			
Survival	100	1.0	>100 (N/A)	-5.3 (N/A)
Growth	100	1.0	>100 (N/A)	6.0 (3.1 to 8.9)
<i>Pimephales promelas</i>	JULY 2003			
Survival	100	1.0	>100 (N/A)	0 (-10.1 to 10.1)
Growth	100	1.0	>100 (N/A)	-12.2 (-19.8 to -4.7)
<i>Pimephales promelas</i>	AUGUST 2003			
Survival	100	1.0	>100 (N/A)	2.5 (-2.4 to 7.4)
Growth	100	1.0	>100 (N/A)	-23.9 (-33.1 to -14.8)
<i>Pimephales promelas</i>	SEPTEMBER 2003			
Survival	100	1.0	>100 (N/A)	0 (-5.0 to 5.0)
Growth	100	1.0	>100 (N/A)	-5.4 (-14.6 to 3.8)
<i>Pimephales promelas</i>	OCTOBER 2003			
Survival	100	1.0	>100 (N/A)	0 (N/A)
Growth	100	1.0	>100 (N/A)	-24.7 (-29.8 to -19.5)
<i>Pimephales promelas</i>	NOVEMBER 2003			
Survival	100	1.0	> 100(N/A)	-5.4 (-10.7 to -0.1)
Growth	100	1.0	> 100(N/A)	-9.5 (-18.5 to -0.6)
<i>Pimephales promelas</i>	DECEMBER 2003			
Survival	100	1.0	> 100(N/A)	0 (-5.0 to 5.0)
Growth	100	1.0	> 100(N/A)	-0.5 (-6.0 to 5.0)
<i>Pimephales promelas</i>	JANUARY 2004			
Survival	100	1.0	>100 (N/A)	5.0 (-4.8 to 14.8)
Growth	100	1.0	>100 (N/A)	9.4 (0.1 to 18.7)

a- NOEC (No Observed Effect Concentration) calculated using flow charts contained in the U.S. EPA method (EPA/600/4-91/002). TUc (NOEC) calculated as 100 / NOEC. The NOEC and associated TUc provides an incomplete and, in some cases, inaccurate estimate of toxicity, and results should not be averaged or used for evaluating multiple tests or samples.

b- EC/IC25 and associated 95% confidence intervals (95% CI) calculated using flow charts contained in the U.S. EPA method (EPA/600/4-91/002). TUc - (EC/IC25) calculated as 100 / EC/IC25. Provided that the estimates do not exceed the highest concentration tested (100%), the result is amicable to averaging and for evaluation of multiple tests and samples.

c- % effect in 100% sample calculated as the mean effect in 100% sample relative to the control using the formula; effect = [(mean_{control} - mean_{100% sample}) / mean_{control}] x 100. A negative result (-) indicates an enhancement relative to the control. This measurement is most useful for evaluating multiple tests and samples, particularly when point estimate results exceed the highest concentration tested.

N/A: Not applicable

Figure 3. Nitrogen Concentrations at Station RB in the SCR (Reach 8)

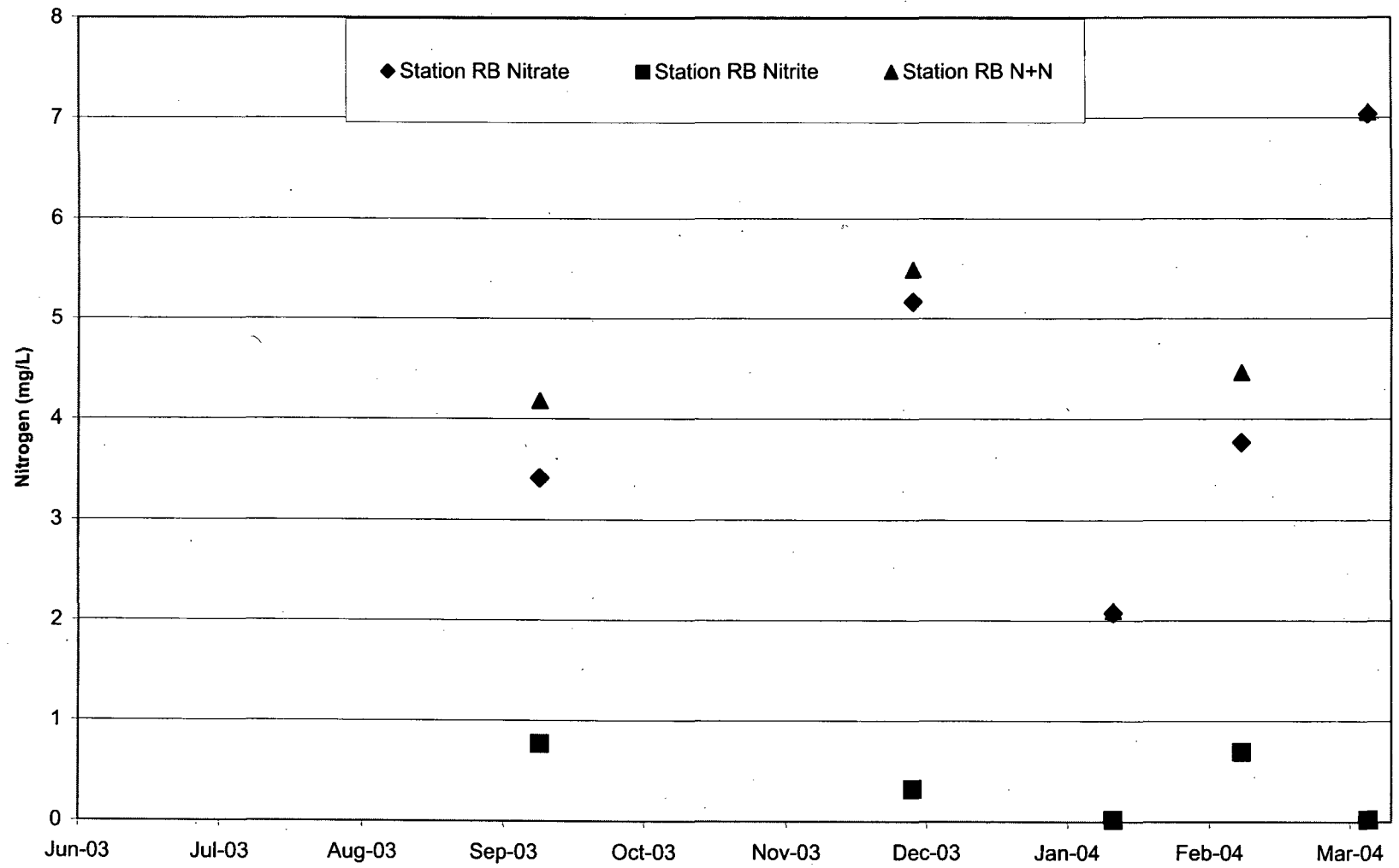


Table 4. Nitrogen Data for Station RB, Reach 8 of the SCR

SDATE	Location	SAMPLE DISCRIPTION	TEST DESC	G NITRATE UOM1	NITRITE NN+N	
9/10/2003	SCR-RB	SANTA CLARA RIVER: QI	NITRATE NITROGEN	3.41 MG/L	0.768	4.178
12/1/2003	SCR-RB	SANTA CLARA RIVER: QI	NITRATE NITROGEN	5.17 MG/L	0.32	5.49
1/14/2004				2.08	0.021	2.101
2/11/2004				3.77	0.692	4.462
3/10/2004				7.04	< 0.02	7.06

Table 5. Nitrogen Data for Station RC, Reach 7 of the SCR

SDATE	Location	TEST DESC	G NITRATI UOM1	NITRITE NN+N	
9/10/2003	SCR-RC	NITRATE NITROGEN	2.34 MG/L	0.018	2.358
12/1/2003	SCR-RC	NITRATE NITROGEN	2.65 MG/L	0.02	2.67
1/14/2004			3.86	0.032	3.892
2/11/2004			2.49	0.029	2.519

Table 6. Nitrogen Data for Station RD, Reach 7 of the SCR

SDATE	Location	TEST DESC	G NITRATIUM1	NITRITE NN+N	
9/10/2003	SCR-RD	NITRATE NITROGEN	5.33 MG/L	0.101	5.431
12/1/2003	SCR-RD	NITRATE NITROGEN	3.15 MG/L	0.13	3.28
1/14/2004			4.36	0.984	5.344
2/11/2004			3.75	0.033	3.783

Table 7. Nitrogen Data for Station RE, Reach 7 of the SCR

SDATE	Location	TEST DESC	G NITRATI UOM1	NITRITE NN+N	
9/10/2003	SCR-RE	NITRATE NITROGEN	4.6 MG/L	0.082	4.682
12/1/2003	SCR-RE	NITRATE NITROGEN	3.43 MG/L	0.13	3.56
1/14/2004			3.4	0.053	3.453
2/11/2004			3.66	0.064	3.724
3/10/2004			2.6	0.15	2.75

Table 8. Nitrogen Data for Station RB01, Reach 7 of the SCR

SDate	Location	TEST DESC	G NITRATI UOM1	NITRITE N	N+N	N+N Objective, mg/L
9/10/2003	SCR-RB01	NITRATE NITROGEN	1.52 MG/L	0.018	1.538	5
10/16/2003	SCR-RB01	NITRATE NITROGEN	1.48 MG/L	0.02	1.5	5
11/25/2003	SCR-RB01	NITRATE NITROGEN	1.34 MG/L	0.03	1.37	5
12/1/2003	SCR-RB01	NITRATE NITROGEN	1.3 MG/L	0.03	1.33	5
2/11/2004			1.7	0.031	1.731	5
3/10/2004			0.54	0.02	0.56	5

Table 9. Nitrogen Data for County Line, Reach 7 of the SCR (Data Source: UCWD)

WELLID	Owner Well ID	Sample Date	Nitrate_as_N_mgl	Nitrite_as_N_mgl	N+N	Source of Data
04N17W29SW1	SCR at Blue Cut (near Co line)	9/30/2003	3.07			FGL 110303 import
04N17W29SW1	SCR at Blue Cut (near Co line)	10/21/2003	2.78 <	0.1	2.88	FGL import 120103
04N17W29SW1	SCR at Blue Cut (near Co line)	11/20/2003	3.21			FGL import 011204
04N17W29SW1	SCR at Blue Cut (near Co line)	12/30/2003	0.41			FGL import 020204
04N17W29SW1	SCR at Blue Cut (near Co line)	1/30/2004	3.25 <	0.1	3.35	UWCD_Electdata02/04

Figure 5. Chloride Concentrations for Piru Creek Below Santa Felicia Dam

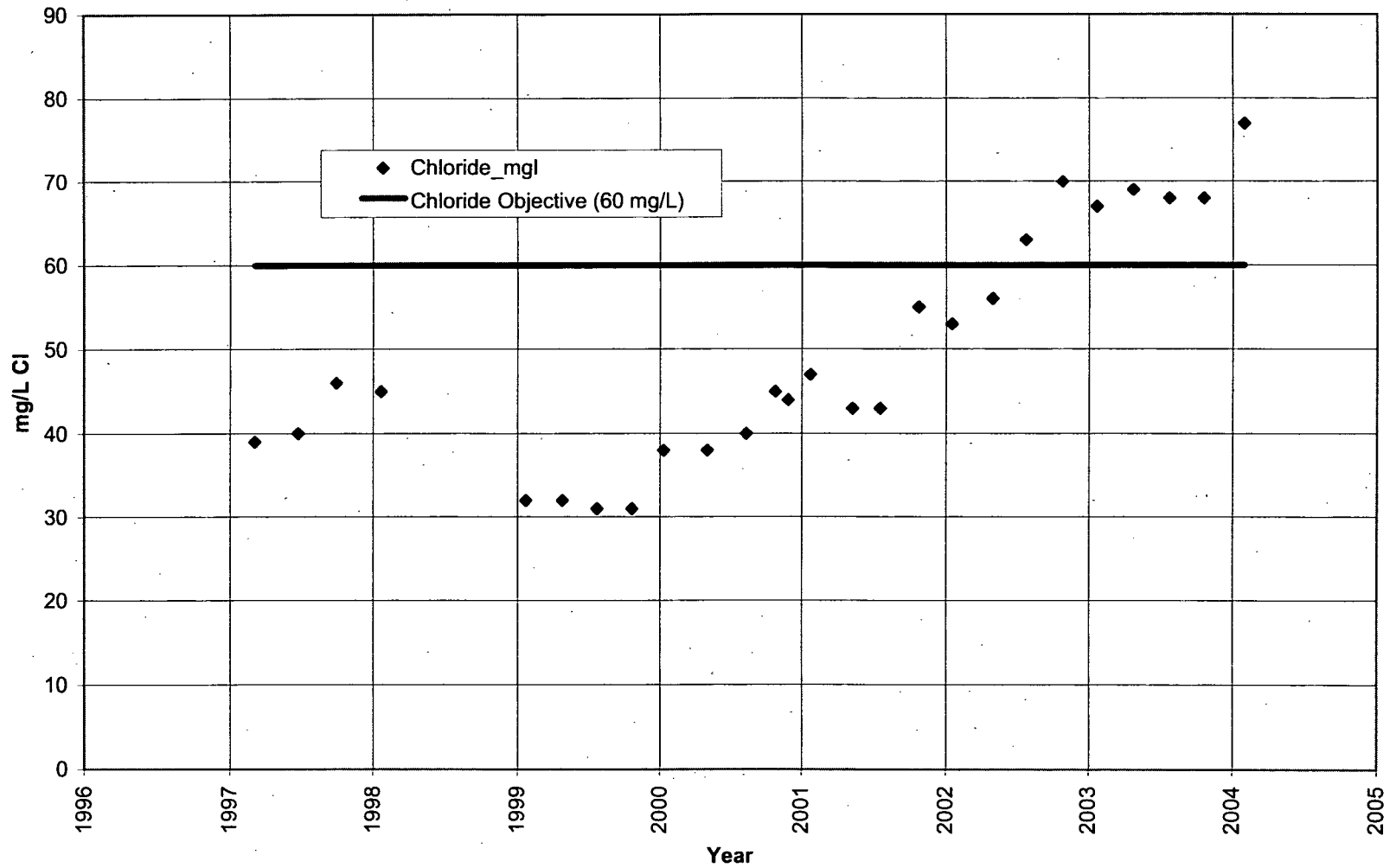


Table 10. Chloride Concentrations in Piru Creek, 1997 through Present

WELLID	Owner Well ID	Sample Date	Decimal Year	Chloride_mgl	Source of Data	Flow	Chloride Objective (60
04N18W03SW2	Piru Creek below SF Dam	3/6/1997	1997.178082	39			60
04N18W03SW2	Piru Creek below SF Dam	6/24/1997	1997.479452	40	UWCD Electdata.7/97		60
04N18W03SW2	Piru Creek below SF Dam	9/29/1997	1997.745205	46	UWCD_Electdata.10/97		60
04N18W03SW2	Piru Creek below SF Dam	1/22/1998	1998.060274	45	UWCD_Electdata.02/98		60
04N18W03SW2	Piru Creek below San Felicia Dam	1/22/1999	1999.060274	32	UWCD_Electdata03/99	USGS Gauge	60
04N18W03SW2	Piru Creek below San Felicia Dam	4/26/1999	1999.317808	32	UWCD_Electdata05/99	USGS Gauge	60
04N18W03SW2	Piru Creek below San Felicia Dam	7/23/1999	1999.558904	31	UWCD_Electdata08/99	USGS Gauge	60
04N18W03SW2	Piru Creek below San Felicia Dam	10/21/1999	1999.805479	31	UWCD_Electdata11/99	estimated flow	60
04N18W03SW2	Piru Creek below San Felicia Dam	1/11/2000	2000.030055	38	UWCD-FGL transfer 2-00	USGS gauge	60
04N18W03SW2	Piru Creek below San Felicia Dam	5/4/2000	2000.34153	38	7-6-00_FGL_import	USGS gauge	60
04N18W03SW2	Piru Creek below San Felicia Dam	8/11/2000	2000.612022	40	UWCD_Electdata09/00	USGS gauge	60
04N18W03SW2	Piru Creek below San Felicia Dam	10/25/2000	2000.81694	45	UWCD FGL 120500	USGS gauge	60
04N18W03SW2	PIRU C BL SANTA FELICIA DM	11/27/2000	2000.907104	44	DWR 2-01	Station Z2324000, field DO	60
04N18W03SW2	Piru Creek below San Felicia Dam	1/23/2001	2001.063014	47	UWCD_Electdata 7/3/01	fgl fix1/01_6/01, USGS gauge	60
04N18W03SW2	Piru Creek below San Felicia	5/9/2001	2001.353425	43	UWCD_Electdata 7/3/01	fgl fix1/01_6/01, USGS gauge, temp in degree C	60
04N18W03SW2	Piru Creek below San Felicia Dam	7/19/2001	2001.547945	43	UWCD FGL 082201	HC corrected, sample location WAS Piru at dam, temp in degree C	60
04N18W03SW2	Piru Creek below San Felicia	10/24/2001	2001.813699	55	FGL import 010202		60
04N18W03SW2	Piru Creek below San Felicia Dam	1/16/2002	2002.043836	53	UWCD FGL import 021102		60
04N18W03SW2	Piru Creek below San Felicia Dam	4/30/2002	2002.328767	56	FGL import 060302		60
04N18W03SW2	Piru Creek below San Felicia Dam	7/23/2002	2002.558904	63	FGL import 093002		60
04N18W03SW2	Piru Creek below San Felicia Dam	10/25/2002	2002.816438	70	FGL 120202		60
04N18W03SW2	Piru Creek below San Felicia Dam	1/21/2003	2003.057534	67	FGL download 030303		60
04N18W03SW2	Piru Creek below San Felicia Dam	4/24/2003	2003.312329	69	FGL 060203		60
04N18W03SW2	Piru Creek below San Felicia Dam	7/25/2003	2003.564384	68	FGL import 120103		60
04N18W03SW2	Piru Creek below San Felicia Dam	7/25/2003	2003.564384		FGL import 120103	FERC sample, amended report	60
04N18W03SW2	Piru Creek below San Felicia Dam	10/21/2003	2003.805479	68	FGL import 120103		60
04N18W03SW2	Piru Creek below San Felicia Dam	10/21/2003	2003.805479		FGL import 120103	FERC sample	60
04N18W03SW2	Piru Creek below San Felicia Dam	1/30/2004	2004.081967	77	UWCD_Electdata02/04		60

Table 10. Chloride Concentrations in Piru Creek, 1997 through Present

mg/L)