SL – #29

CITY OF BURBANK
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PUBLIC WORKS
DEPARTMENT

(119)

June 11, 2004

Craig J. Wilson
Chief, TMDL Listing Unit
Division of Water Quality
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

SUBJECT: DATA SUBMITTAL FOR THE 2004 303(d) LIST

Dear State Water Resources Control Board,

The City of Burbank appreciates the opportunity to submit data to the State Water Resources Control Board's (SWRCB) for the 2004 303(d) list of impaired waterbodies. We are also requesting the delisting of cadmium and ammonia from the Burbank Western Channel. The enclosed data and supporting information validate this request.

Cadmium

The City of Burbank submitted data during the listing process for the 2002 303(d) List. During that listing process, Burbank's data showed zero exceedances of water quality standards for 33 data points. At that time, the SWRCB response stated that there was insufficient data to show attainment of water quality standards.

Burbank is pleased to submit additional data at this time that support the delisting of cadmium for the Burbank Western Channel. The data show only two exceedances for 95 data points. The two exceedances occurred in early fall 2003 and appear to be random. There have not been any exceedances since that time. The data that supports this delisting is included in the attachments and on the enclosed disk.

Ammonia

Ammonia was included on the 2002 303d list for the Burbank Western Channel and the Los Angeles River Nitrogen Compounds and Related Effects TMDL was created to address this impairment. During the drafting of this TMDL, the City of Burbank upgraded the Burbank Water Reclamation Plant (BWRP) to a biological nutrient removal facility.

This upgrade reduced the ammonia concentration of the water in the Burbank Western Channel below 0.5 mg/L. This concentration is well below the TMDL's target concentration of 2.3 mg/L for the Burbank Western. The data that supports this delisting is included in the attachments and on the enclosed disk.

Thank you for your consideration of our concerns. If you have any questions, please call me at (818) 238-3931.

Sincerely,

Rodney Andersen
Principal Civil Engineer

Attachments:

1. Data Submittal - Cadmium, Hardness, and Nitrogen in the Burbank Western Channel
2. Burbank Western Channel Cadmium Chart
3. Burbank Western Channel Ammonia Chart
4. Data Information Supporting the Evaluation of Delisting
5. Standard Operating Procedure for Receiving Water Monitoring
6. Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

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TRACE METALS BY INDUCTIVELY COUPLED PLASMA / MASS SPECTROMETRY (ICP/MS)

(EPA METHOD 200.8)

GENERAL DISCUSSION

Principle: This method determines total recoverable elements in plant process and product waters, ground water and drinking waters. Dissolved metals can be determined after filtration followed by acid preservation. Acid digestion is performed on all samples where the turbidity is >1 NTU. Only experienced analysts should use this method. Analyst must demonstrate satisfactory performance on calibrations, MRL check, external performance samples, and spiked samples prior to performing compliance analysis.

Sampling and Preservation: Samples are collected in plastic containers pre-preserved with 2% Metals Grade HNO_3. Sample pH is measured in the field or the lab and must be less than pH 2. If pH is greater than 2, additional HNO_3 is added and the sample is allowed to sit for at least 24 hours before an aliquot is drawn for analysis. Samples may be stored at room temperature. The regulatory holding time (HT) is 6 months. For mercury, the HT is 28 days.

QUALITY CONTROL

A) Initial Demonstration of Performance - Prior to running this method, all analysts must perform an initial demonstration of performance. This includes: Determination of Linear Calibration Ranges, acceptable analysis of blind quality control samples (QCS), determination of Instrument Detection Limits (IDLs), and determination of Method Detection Limits (MDLs). The blind QC sample is run three times, and all results must be within acceptance limits (10% of the true values.)

1. **Linear Calibration Ranges**
   a. Calibrate the instrument; described in **Section 7F.**
   b. Using a multi-element standard, run a series of increasing concentration standards close to the upper linear range of the instrument.
   c. The Upper Linear Calibration Range limit is defined as the concentration where the measured value is within 10% of the actual prepared value of the standard.
   d. The Upper Linear Calibration Range should be redetermined whenever one of the following occurs:
      1. A new detector is installed.
      2. The detector (analog and/or pulse count) voltages are changed.
      3. A new PA tube is installed in the RF generator.
      4. A different sample introduction system (change in nebulizer or spray chamber type) is installed.
2. **Quality Control Sample (QCS) Analysis** – QCS analysis must be performed whenever one of the following occurs:
   a. When beginning the use of this method.
   b. To verify the calibration standards.

   c. Whenever the QCS is analyzed the results must be within +/- 10% of the stated value. If the QCS is not within limits, an immediate second analysis should be performed. If the second analysis result is unacceptable the analysis should be terminated and the source of the problem identified before continuing.

3. **Instrument Detection Limits (IDLs)** should be determined for all analytes
   a. Calibrate the instrument.
   b. Run a blank as if it were a sample for a series of 10 sequential measurements with rinsing in between each measurement.
   c. Calculate the standard deviation of the 10 blank measurements for each isotope.
   d. Multiply the standard deviation by 3 to obtain the IDL.
   e. IDLs should be redetermined whenever the following occurs:
      1) Annually
      2) New analyst running the instrument
      3) Any change to the sample preparation procedure
      4) Any significant change to the instrument (new detector, detector voltages changed, or different sample introduction system used.)

4. **Method Detection Limits (MDLs)** should be established for all analytes
   a. Fortify a reagent blank with each analyte two to five times the estimated detection limit (the IDL can be used to estimate this). This is the MDL solution.
   b. Analyze seven replicate aliquots and process them through the entire method (including all sample preparation steps). Calculate the standard deviation of the seven aliquots measured concentrations. Multiply the standard deviation by 3.14 (student's t value for 99% confidence level and n=7) to obtain the Method Detection Limit (in concentration units).
   c. The MDLs must be sufficient to detect analytes at the required levels according to compliance monitoring regulation.
   d. MDLs should be redetermined whenever the following occurs:
      1) Annually
      2) New analyst running the instrument
      3) Any change to the sample preparation procedure
      4) Any significant change to the instrument (new detector, detector voltages changed, or different sample introduction system used.)

B) <u>Daily Instrument Performance / Quality Control Procedures</u>

1. A daily instrument tuning and optimization procedure is followed. This includes x-y optimization, instrument mass tuning and resolution calibration, auto lens optimization, and a daily performance check. This daily performance check requires minimum responses for several elements, and maximum background, and oxide and double charged species formation checks. A full instrument tuning is performed every 4-6 weeks. This procedure includes the daily optimization procedure, as well as analog and pulse stage optimization and dual detector and dead time calibration.

2. Every element must be calibrated using a minimum of three standards over the concentration range of interest. All samples are diluted to fall below the high standard for each element analyzed. Linearity studies have been performed for some elements to ensure accurate quantitation in higher concentration ranges.

3. All samples are analyzed in replicate. Three or four readings of every sample are made. In addition, duplicate analysis is performed at the rate of one for each 20 or fewer samples. Replicate and duplicate precision is monitored. Sample duplicates must have a minimum relative percent difference (RPD) of 20% or the run will be considered to have poor precision and the analysis must be repeated.

4. Four internal standards (IS) covering the full mass range are added to all blanks, standards and samples to compensate for physical interference effects. The recovery of each IS must be 60-125% of the original response in the calibration blank.

5. QCS and blanks bracket every ten samples. QCS recoveries must fall within the acceptance limits 90-110%. MS/MSD samples are analyzed at the rate of once every 20 or fewer samples, and recoveries must fall within acceptance limits (70-130%).

6. Laboratory Reagent Blank (LRB)
   a. A minimum of 1 LRB must be run every 20 or fewer samples of the same matrix.
   b. LRB values greater than the MDL indicate laboratory or reagent contamination.
   c. When LRB values constitute 10% or more of the analyte or is 2.2 times the analyte MDL, whichever is greater, fresh aliquots of the samples must be prepared and analyzed for the affected analytes after the source of contamination has been identified, corrected and verified with acceptable LFB performance.

7. Laboratory Fortified Blank (LFB)
   a. A minimum of one LFB must be run every batch of 20 or fewer samples.
   b. The LFB is prepared by spiking an aliquot of the Laboratory Reagent Blank with each analyte at a concentration between 40 ug/L and 100 ug/L, except selenium and mercury. Selenium should be spiked between 200 and 500 ug/L, while mercury should be between 2 and 5 ug/L. The LFB must be carried through all procedures with which the samples are subjected.
   c. The LFB Percent Recovery must be within 85-115%.
   d. The LFB Percent Recovery is calculated according to the following:

$$R = \frac{LFB - LRB}{S}$$

Where:
R = Percent Recovery
LFB = Lab Fortified Blank
LRB = Lab Reagent Blank
S = Spike Amount Added (in concentration units)

8. Laboratory Fortified Matrix – LFM (required)
   a. A minimum 10% of all samples must be spiked with a known amount of each analyte.
   b. The LFM Percent Recovery must be within 70-130%.
   c. The aliquot used for the LFM must be a duplicate of the aliquot used for sample analysis and total recovery analyses prior to sample preparation.
      1) For aqueous samples, analyte spike concentration must be the same as that used in the LFB.

      2) For solid samples, the analyte spike concentration should be 100 mg/kg (equivalent to 200 ug/L), except for silver which should be limited to 50 mg/kg (100 ug/L).
      3) The LFM Percent Recovery is calculated according to the following:

$$R = \frac{(Cs - C)}{S} * 100$$

Where: R = Percent Recovery
Cs = Measured concentration in fortified sample matrix
C = Measured concentration in unfortified sample
S = Spike Amount Added (in concentration units)

9. Additional masses are monitored as required by the 200.8 method. If the alternate mass determinations give different results than the primary mass, further investigation may be in order. Secondary isotopes may be less sensitive or more prone to interferences; therefore, differences between the results do not necessarily indicate a problem with the data calculated for the primary isotope.

METHOD DETECTION LIMIT STUDY

Instrument detection limits and method reporting limits are determined annually at a minimum following EPA protocol.

REFERENCES

EPA Method 200.8, Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma - Mass Spectrometry, Revision 5.4, May 1994, EMSL – USEPA

Standard Methods for the Examination of Water and Wastewater, 19th Edition, Section 3125.

Environmental Analysis Using Method 200.8 and 6020 on the ELAN 6000, Perkin Elmer, May 1996

ELAN 6100 Hardware Guide, Dec. 1998.

UNITED WATER
BURBANK WATER RECLAMATION PLANT

Standard Operating Procedure for the
Burbank Water Reclamation Plant

STANDARD OPERATING PROCEDURE FOR
Receiving Water Monitoring, Burbank Western Channel

Table of Contents

1.0 Introduction

The purpose of this Standard Operating Procedure (SOP) is to define the procedure for monitoring the receiving water stations of the Burbank Water Reclamation Plant. An old axiom states "...the result of any analytical method can be no better than the sample on which it is performed." When any sample is collected, preserved, or stored, it is important that specific guidelines are in place to maintain the sample's integrity and analytical results. The primary focus of this SOP is to ensure that all required samples needed to meet the BWRP sampling program are sampled and handled correctly to avoid any possible contamination or deterioration of the sample before reaching the laboratory for analysis.

2.0 Major Activities Associated with Receiving Water Monitoring.

A list of major activities associated with Receiving Water Monitoring is as follows:

- Sample container(s) preparation
- Field sampling and analysis
- Visual observations of receiving waters
- Documentation / Record keeping

3.0 Receiving Water Stations

A list of Receiving Water Stations associated with Receiving Water Monitoring is as follows:

Receiving water (RW) stations have been established at the following locations:

Monitoring Station Number	Monitoring Station Location
R1	At the confluence of the Burbank Western Wash and the Lockheed Channel about 300 feet above the Reclamation Plant
R2	Burbank Western Wash at Verdugo Avenue
R5	Burbank Western Wash just upstream from the Los Angeles River confluence at Riverside Drive

Stations R-2 and R-5 are located at channel overpasses and are monitored from above by collecting samples via a rope and sample container. Samples are collected at station R-1 by entering the Burbank Western Channel by lowering and securing an extension ladder and descending to the channel floor.

4.0 Performance Standards Associated with Receiving Water Monitoring

Performance Standards associated with Receiving Water Monitoring are as follows:

- All required personal protective equipment worn
- Proper calibration of monitoring equipment
- Accurate sampling and field analysis
- Accurate completion of River Log documentation
- Accurate completion of Sample Chain of Custody documentation

5.0 Safety Considerations

Some sample constituents can be toxic, therefore precautions must be taken during sample collection and handling. The following personal protective equipment (PPE) will be worn at all times while collecting samples at stations R-1, R-2 and R-5:

- Minimum required personal protective equipment is a hard hat, safety glasses and hand protection
- Exercise proper personal hygiene
- Ensure the proper PPE's are worn when working with raw river water
- Exercise extreme caution when working in the Western Wash

Station R-1 is sampled by descending 18 feet into the Burbank Western Channel and collecting samples directly from the channel flow. Special precautions must be taken when entering and exiting the Channel at station R-1. In addition to other listed PPE, fall protection must be employed that consists of a full-body, MSA pullover harness (model 502734) and polyester safety line, or equivalent.

A vehicle inspection will be conducted before beginning any activity requiring use of a company vehicle. The Health and Safety Form HSF-032 will be used to document the inspection, after which it will be filed in the vehicle inspection record binder located at the administration desk (Appendix C).

6.0 Seasonal or other variations

This Standard Operating Procedure has the following seasonal or other variations:

- Entry into the Western Wash when there is an imminent threat of rain is strictly forbidden and considered an unsafe act due to the varying weather conditions upstream of receiving water sampling points.
- Receiving water samples shall not be taken during or within 48 hours following the flow of rainwater runoff into the Los Angeles River System.

7.0 Safety Equipment

Safety Equipment associated with Receiving Water Monitoring is as follows:

- Personal protective equipment
    1. Hard hat
    2. Safety Glasses
    3. Hand protection
- Fall arrest system
    1. MSA Full-body harness
    2. Polyester safety line

The pullover, full body, harness (model 502734) is the primary component of the personal fall arrest system and meets all applicable OSHA standards. The harness and safety rope are primarily used for protection during ladder climbing. Other uses consist of rescue, retrieval or evacuation. The harness is designed to contain and distribute the forces of fall arrest, restraint and suspension to the wearer's pelvis, thighs, chest and shoulders. For more information see Appendix A, MSA Pullover Harness User Instructions. Before using the MSA pullover harness each user will be trained by an individual knowledgeable in the proper dawning, use, removal of the harness and use of the safety rope. Acceptable trainers include: The Laboratory Manager and Operations personnel trained in confined space entry.

8.0 Required Sampling Equipment

Laboratory personnel performing receiving water sampling and monitoring must possess the following equipment:

- Sterile sample containers: for coliforms samples only
- Non-sterile sample containers with caps (plastic or TFE-lines as appropriate); glass bottles (standard or borosilicate), plastic bottles (polyethylene or equivalent), acid washed plastic or glass containers, with appropriate preservative, if necessary
- Hach sensION156 digital multimeter: pH, D.O., and Electrical Conductivity
- A Thermometer; digital or glass, units in °C or °F.
- Plastic coolers or similar containers for transport of collected samples.
- Chain of custody forms
- Laboratory logbook
- pH test strips

9.0 Reagents

The following chemical reagents are used in receiving water sampling and monitoring:

- ***Sulfuric Acid, reagent grade:*** preserve ammonia, organic nitrogen, total phosphate and total organic carbon samples (adjust pH to <2).
- ***Nitric Acid, ICP/MS grade:*** preserve metals samples (adjust pH to <2).
- ***Hydrochloric Acid, Reagent grade:*** Used to preserve samples for O&G and volatile organic compound analysis (adjust pH to <2).
- ***Sodium Hydroxide, 50%:*** *U*sed to preserve cyanide samples (adjust pH to >10).
- ***Aluminum Chloride***: Used to preserve samples for dissolved or total sulfide analysis.
- ***10% Sodium Thiosulfate***: Dechlorinate samples for organic analysis [5 drops (≈0.25 ml) ≈80 mg/L]

10.0 Sample Collection and Preservation Procedures

Depending on the analysis to be performed, sample collection procedures may vary. Refer to Standard Methods, Table 1060:I – Summary of Special Sampling or Handling Requirements for specific details.

Sample to ensure analytical results represent the sample's composition. Factors that may affect results include: suspended matter, turbidity, physical and chemical changes that come with storage and/or aeration.

Receiving water samples are collected as ***Grab or Catch samples*** only. Grab samples only represent the sample source's composition at a particular time.

A 1 Liter sample size is collected for most analyses. Refer to Table 1060-I for guidance on sample bottle preparation. Sample bottle preparation is to be performed by trained laboratory personnel only.

Handle samples appropriately so they do not deteriorate or become contaminated before reaching the lab.

Keep a record of every sample collected (see Chain of Custody Procedures section 11.0 of this SOP) and identify every bottle by attaching a label. Record pertinent information on each bottle to provide positive sample identification at a later date, including the sample name, location, sampler's initials, time of sampling, name of preservative (if applicable) and laboratory identification number.

Table 1060:I. Summary of Special Sampling or Handling Requirements*

Determination	Container†	Minimum Sample Size *mL*	Sample Type‡	Preservation§	Maximum Storage Recommended/ Regulatory‖
Acidity	P, G(B)	100	g	Refrigerate	24 h/14 d
Alkalinity	P, G	200	g	Refrigerate	24 h/14 d
BOD	P, G	1000	g	Refrigerate	6 h/48 h
Boron	P	100	g, c	None required	28 d/6 months
Bromide	P, G	100	g, c	None required	28 d/28 d
Carbon, organic, total	G	100	g, c	Analyze immediately; or refrigerate and add H_3PO_4 or H_2SO_4 to pH<2	7 d/28 d
Carbon dioxide	P, G	100	g	Analyze immediately	stat/N.S.
COD	P, G	100	g, c	Analyze as soon as possible, or add H_2SO_4 to pH<2; refrigerate	7 d/28 d
Chloride	P, G	50	g, c	None required	28 d
Chlorine, residual	P, G	500	g	Analyze immediately	0.5 h/stat
Chlorine dioxide	P, G	500	g	Analyze immediately	0.5 h/N.S.
Chlorophyll	P, G	500	g, c	30 d in dark	30 d/N.S.
Color	P, G	500	g, c	Refrigerate	48 h/48 h
Conductivity	P, G	500	g, c	Refrigerate	28 d/28 d
Cyanide:					
Total	P, G	500	g, c	Add NaOH to pH>12, refrigerate in dark#	24 h/14 d; 24 h if sulfide present
Amenable to chlorination	P, G	500	g, c	Add 100 mg $Na_2S_2O_3$/L	stat/14 d; 24 h if sulfide present
Fluoride	P	300	g, c	None required	28 d/28 d
Hardness	P, G	100	g, c	Add HNO_3 to pH<2	6 months/6 months
Iodine	P, G	500	g, c	Analyze immediately	0.5 h/N.S.
Metals, general	P(A), G(A)	500	g	For dissolved metals filter immediately, add HNO_3 to pH<2	6 months/6 months
Chromium VI	P(A), G(A)	300	g	Refrigerate	24 h/24 h
Copper by colorimetry*					
Mercury	P(A), G(A)	500	g, c	Add HNO_3 to pH<2, 4°C, refrigerate	28 d/28 d
Nitrogen:					
Ammonia	P, G	500	g, c	Analyze as soon as possible or add H_2SO_4 to pH<2, refrigerate	7 d/28 d
Nitrate	P, G	100	g, c	Analyze as soon as possible or refrigerate	48 h/48 h (28 d for chlorinated samples)
Nitrate + nitrite	P, G	200	g, c	Add H_2SO_4 to pH<2, refrigerate	none/28 d
Nitrite	P, G	100	g, c	Analyze as soon as possible or refrigerate	none/48 h
Organic, Kjeldahl*	P, G	500	g, c	Refrigerate; add H_2SO_4 to pH<2	7 d/28 d
Odor	G	500	g	Analyze as soon as possible; refrigerate	6 h/N.S.
Oil and grease	G, wide-mouth calibrated	1000	g, c	Add HCl to pH<2, refrigerate	28 d/28 d
Organic compounds:					
MBAS	P, G	250	g, c	Refrigerate	48 h
Pesticides*	G(S), TFE-lined cap	1000	g, c	Refrigerate; add 1000 mg ascorbic acid/L if residual chlorine present	7 d/7 d until extraction; 40 d after extraction
Phenols	P, G	500	g, c	Refrigerate, add H_2SO_4 to pH<2	*/28 d
Purgeables* by purge and trap	G, TFE-lined cap	2 × 40	g	Refrigerate; add HCl to pH <2; add 1000 mg ascorbic acid/L if residual chlorine present	7 d/14 d
Oxygen, dissolved:	G, BOD bottle	300	g		
Electrode				Analyze immediately	0.5 h/stat
Winkler				Titration may be delayed after acidification	8 h/8 h
Ozone	G	1000	g	Analyze immediately	0.5 h/N.S.
pH	P, G	50	g	Analyze immediately	2 h/stat
Phosphate	G(A)	100	g	For dissolved phosphate filter immediately; refrigerate	48 h/N.S.
Salinity	G, wax seal	240	g	Analyze immediately or use wax seal	6 months/N.S.
lica	P	200	g, c	Refrigerate, do not freeze	28 d/28 d
ludge digester gas	G, gas bottle	—	g	—	N.S.
Solids	P, G	200	g, c	Refrigerate	7 d/2–7 d; see cited reference
Sulfate	P, G	100	g, c	Refrigerate	28 d/28 d
Sulfide	P, G	100	g, c	Refrigerate; add 4 drops 2*N* zinc acetate/100 mL; add NaOH to pH>9	28 d/7 d
Taste	G	500	g	Analyze as soon as possible; refrigerate	24 h/N.S.
Temperature	P, G	—	g	Analyze immediately	stat/stat
Turbidity	P, G	100	g, c	Analyze same day; store in dark up to 24 h, refrigerate	24 h/48 h

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* See text for additional details. For determinations not listed, use glass or plastic containers; preferably refrigerate during storage and analyze as soon as possible.

† P = plastic (polyethylene or equivalent); G = glass; G(A) or P(A) = rinsed with 1 + 1 HNO_3; G(B) = glass, borosilicate; G(S) = glass, rinsed with organic solvent or baked.

‡ g = grab; c = composite.

§ Refrigerate = storage at 4°C, in the dark.

‖ Environmental Protection Agency, Rules and Regulations. 40 CFR Parts 100–149, July 1, 1992. See this citation for possible differences regarding container an preservation requirements. N.S. = not stated in cited reference; stat = no storage allowed; analyze immediately.

\# If sample is chlorinated, see text for pretreatment.

10.1 R1 Receiving water sampling and analysis

Location R1

Task #1 Set-up sampling safety equipment

Steps:

1. Unlock two gates that lead to the R1 sample site
2. Unlock & untie ladder, lower into the Western Wash and resecure to railing. (Two person job)
3. Properly fit safety harness to lab personnel and attach the nylon safety line
4. One analyst descend ladder to collect samples from receiving water stream

Task #2 Receiving Water Sampling and Analysis

Steps:

1. Rinse bottle two or three times with the water being collected before filling.
2. Analysis depending, fill the container full or leave space for aeration/mixing. Except when sampling volatile organic compounds, leave an airspace equivalent to 1% container volume. This allows the sample to expand or contract depending on the environmental conditions.
3. Perform visual observations
4. Secure ladder and safety harness
5. Perform field analysis of samples taken

10.2 R2 Receiving water sampling and analysis

Location R2

Task #1 Receiving Water Sampling and Analysis

Steps:

1. Lower sampling device into the Receiving water and retrieve sample.
2. Rinse sample bottle(s) two or three times with the water being collected before filling.
3. Analysis depending, fill the container full or leave space for aeration/mixing. Except when sampling volatile organic compounds, leave an airspace equivalent to 1% container volume. This allows the sample to expand or contract depending on the environmental conditions.
4. Perform visual observations
5. Perform field analysis of samples taken

10.3 R5 Receiving water sampling and analysis

Location R5
Task #1 Receiving Water Sampling and Analysis

Steps:

1. Lower sampling device into the Receiving water and retrieve sample.
2. Rinse sample bottle(s) two or three times with the water being collected before filling.
3. Analysis depending, fill the container full or leave space for aeration/mixing. Except when sampling volatile organic compounds, leave an airspace equivalent to 1% container volume. This allows the sample to expand or contract depending on the environmental conditions.
4. Perform visual observations
5. Perform field analysis of samples taken.

NOTE: **(1)** If a preservative is present, take special care not to overfill the container, as preservative may be lost or diluted. Do not rinse if the bottle contains a dechlorination agent or preservative.
(2) For samples that contain residual chlorine, fill the sample container about ¾ full then add 1 drop (≈0.05 ml) of 10% sodium Thiosulfate solution.

11.0 Visual Observations

In addition to the individual sampling and analytical requirements of each receiving water location visual observations are also made at the time the receiving waters are sampled in at least one area between R-1 and R-2, and in the vicinity of R-5. All observations are to be documented in the Observation log with attention given to the presence and extent, or absence of:

- oil, grease, scum, or solids of waste origin
- sludge deposits
- discoloration
- algal blooms
- odors
- foam
- any usual occurrences

Additional observation data to be recorded in the observation log is as follows:

- Date and time of observation
- Weather conditions
- Flow measurement
- Exact sampling location
- Users of water in the river (i.e. homeless, people washing in the river, etc.)
- Non-contact users (i.e.: bikers, joggers, etc.)
- Wildlife (i.e.: birds, mammals, reptiles, estimated amount of vegetation)

12.0 Field Sample Analyses

Field Sample analyses associated with Receiving Water monitoring includes the following:

1. **pH:** The pH of wastes discharged shall at all times be within the range of 6.0 to 9.0.

2. **Temperature:** The temperature of wastes discharged shall not exceed 100°F.

3. **Dissolved Oxygen:** The dissolved oxygen in the receiving water shall not be depressed below 5 mg/L as a result of wastewater discharge.

4. **Chlorine Residual:** The residual chlorine in the receiving water shall not exceed 0.1mg/L as a result of the wastes discharged.

5. **Flow (estimate):** $= \frac{Y \times B \times V}{1.545}$

Where Y = Channel Depth (ft)
B = ½ Wetted Channel Width (ft)
V = Velocity (ft/sec)

13.0 Chain of Custody Procedures:

The ability to trace sample possession and handling from the collection time through analysis and final disposition is essential to insuring sample integrity. This process is referred to as chain of custody (COC) and is important in demonstrating sample control when litigation is involved. The COC procedure is useful for tracking samples and analyses, regardless if litigation is not a consideration. The following are summaries of the major aspects of the "chain of custody":

a) **Sample Labels**

Labels are important because they prevent sample misidentification. Self-adhesive labels are generally used. Information written on the labels should include sample identification, collection date and time, sampler's initials, sampling site, and preservative (if applicable). Labels are affixed to the container prior to sampling. Use a waterproof pen or marker to write sample information.

b) **Sample Seals**

Sample seals are used to detect unauthorized tampering up until the sample prep or analysis has occurred. Self-adhesive paper seals are acceptable for this requirement. Attach the seal in such a way that it is necessary to break the seal to open the container. The person who performs the sampling is responsible to affix the seal correctly before it leaves his or her jurisdiction.

c) **Chain of Custody (COC), Logbook or Observation Sheet**

Record all pertinent sampling information on COCs and log and observation sheet including the sample location, collection date and time, sample type (grab or composite), condition (physical characteristics), sampling reason (permit or process analysis), requested analysis, preservative (if used), field observations, laboratory i.d. number, date and time sample received and signature of sampler and sample receipt custodian. (Log and observation worksheet, See Appendix B).

d) **Sample Transport and Delivery**

Chill samples on ice immediately after collection and deliver to the sample receiving laboratory in a timely fashion, usually within 1 hours of collection.

e) **Sample Receipt and Log-in**

Relinquish samples to authorized personnel only. Once delivered, laboratory personnel inspect the sample bottle's condition and make sure the seal is in place and all information on the label and COC record is complete and correct. A laboratory number is assigned and pertinent information entered into the sample logbook and LIMS.

14.0 Laboratory Analysts Sample Assignments

It is the laboratory manager's responsibility to ensure the proper training and cross training of all lab personnel. Laboratory personnel must receive adequate training on each analysis before performing any analysis on the Receiving Water Samples.

Laboratory analysts performing field sampling and analysis are responsible for distribution of the collected samples to be analyzed in the laboratory. Samples are distributed to laboratory analysts according to their training and levels of expertise. Analysts are responsible for the sample while it is in their custody.

15.0 Minimum Sampling / Analysis Frequency and Limitations

The Burbank Water Reclamation Plant NPDES permit section V Receiving Water Monitoring Requirements (Pages T-6 thru T-9) details the Receiving Water sampling locations, constituents to be monitored and their minimum analysis frequency.

16.0 Receiving Water Monitoring Program

The following analyses, which constitute the receiving water monitoring program, shall be conducted on grab samples obtained at Stations R-1, R-2 and R-5 at the indicated frequency:

Constituent	Analysis Frequency	Constituent	Analysis Frequency
pH	weekly	Chronic Toxicity	quarterly
Dissolved Oxygen	weekly	Acute Toxicity	quarterly
Total Coliform	weekly	Arsenic	quarterly
Temperature	weekly	Cadmium	quarterly
Total Residual Chlorine	weekly	Total Chromium	quarterly
Turbidity	quarterly	Copper	quarterly
Total Dissolved Solids	quarterly	Lead	quarterly
Conductivity	quarterly	Mercury	quarterly
Chloride	quarterly	Nickel	quarterly
Sulfate	quarterly	Zinc	quarterly
Nitrate nitrogen	quarterly	Total Hardness	quarterly
Nitrite Nitrogen	quarterly	Cyanide	quarterly
Ammonia nitrogen	quarterly	Phenolic Compounds	semi-annually
Organic Nitrogen	quarterly	Aldrin	semi-annually
Total Nitrogen	quarterly	Dieldrin	semi-annually
Total Phosphate (as P)	quarterly	Endrin	semi-annually
Detergents (as MBAS)	quarterly	HCH	semi-annually
BOD_5 20°C	quarterly	Chlordane	semi-annually
Total Organic Carbon	quarterly	Lindane	semi-annually
Oil and Grease	quarterly	Toxaphene	semi-annually
MTBE	quarterly	PAHs	semi-annually

Only stations R-1 and R-2 will be used to determine compliance with receiving water limits. Receiving water samples will not be taken during or within 48 hours following the flow of rainwater runoff into the Los Angeles River system. In addition, no sampling or observations need to be performed during periods where the plant is not discharging to the Burbank Western Channel.

Due to an inability to continuously monitor residual chlorine at R-2, an additional sampling station was created at the Burbank Western Channel's Olive Street overpass. The station is named R-Olive and is used to monitor the effectiveness of excess Sodium Bisulfite, from the Burbank Steam Power Plant's 001 discharge, on eliminating residual chlorine in the channel due to upstream contributions.

17.0 References

Standard Methods for the Examination of Water and Wastewater, 18th Edition, p 1-18, Method 1060A, B and C

18.0 Supplemental Information

NPDES Pemit CA0055531, Order 98-052, Monitoring and Reporting Program No. C1-4424
APPENDIX A: MSA PULLOVER HARNESS USER INSTRUCTIONS
APPENDIX B: RECEIVING WATER SAMPLING AND OBSERVATION WORKSHEET
APPENDIX C: VEHICLE INSPECTION FORM

City of Burbank
Cadmium and Hardness Data
Quality Assurance Procedures

With every sample for hardness and cadmium the following procedures are used:

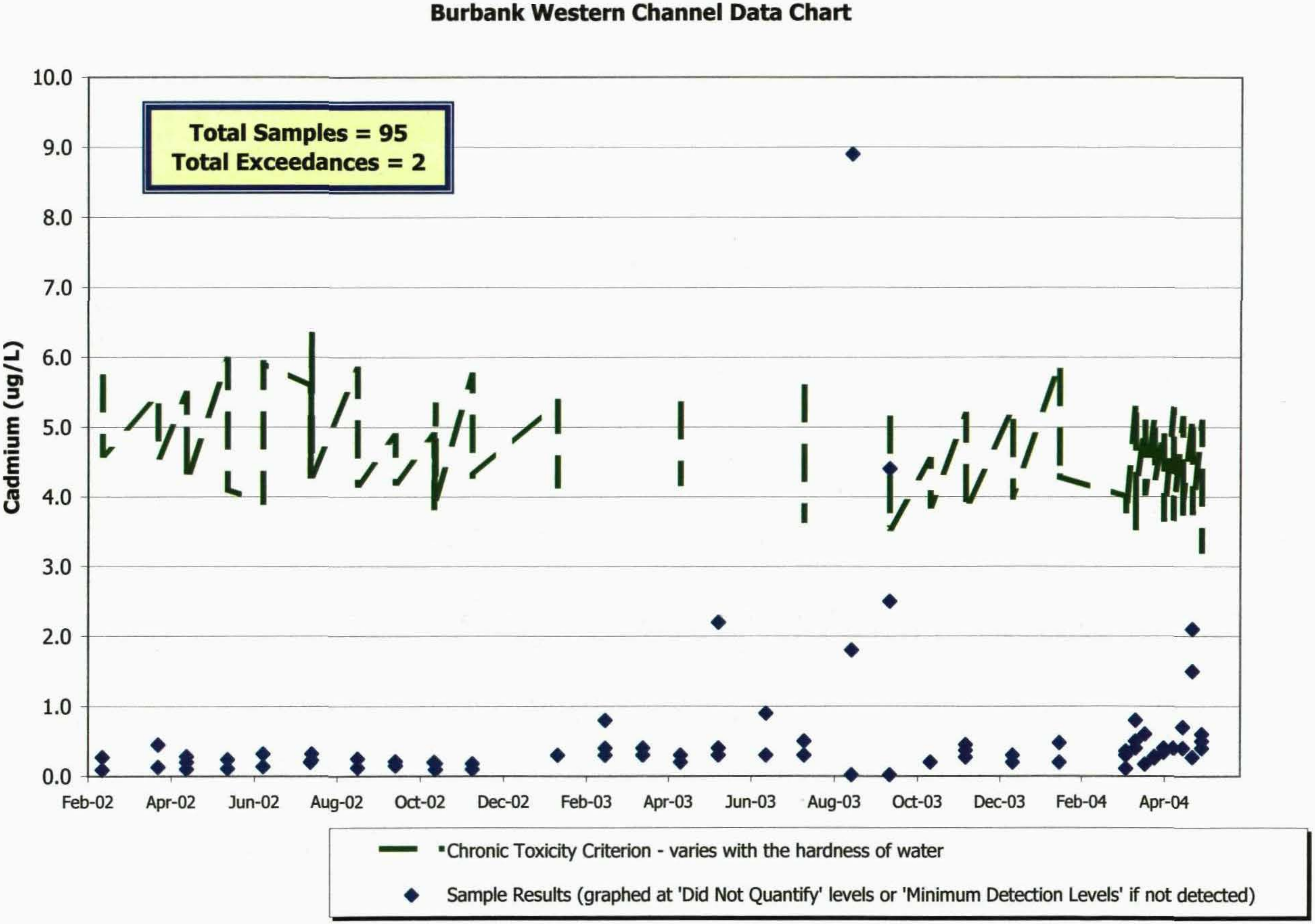
1) ICV = Initial Calibration Verification
2) ICB = Initial Calibration Blank
3) LCS = Laboratory Control Sample
4) Sample
5) Sample Duplicate
6) MS = Matrix Spike
7) MSD = Matrix Spike Duplicate
8) 9 other samples (Equaling 10 samples)
9) CCV = Continuing Calibration Verification
10) CCB = Continuing Calibration Verification

The ICV verifies the instrument is properly calibrated. The ICB verifies that no background or matrix interferences are being detected and contributing to the results. If detectable results are indicated in the blank this is what is called a "false positive". LCS is a matrix free sample (ex.: DI water) with a known amount of analyte added that is run through the entire procedure. This sample is used to measure the precision and accuracy of the analysis. The LCS % recovery must fall within the prescribed range to verify you are detecting the analyte of interest. This range is usually 100 + or - 10 to 20% and depends on who is performing the analysis. For the matrix spike and matrix spike duplicate (MS/MSD), a known amount of analyte is put into a sample other than DI water (002 effluent for example) and run through the entire procedure. These samples are analyzed once every 10 samples to verify the sample itself is not biasing the final results positively or negatively. Finally, a CCV and a CCB are analyzed, which are the same as the ICB and LCS. The CCV and CCB are simply analyzed after 10 samples to verify the instrument's initial calibration curve is still providing valid data and that the instrument is still performing well.

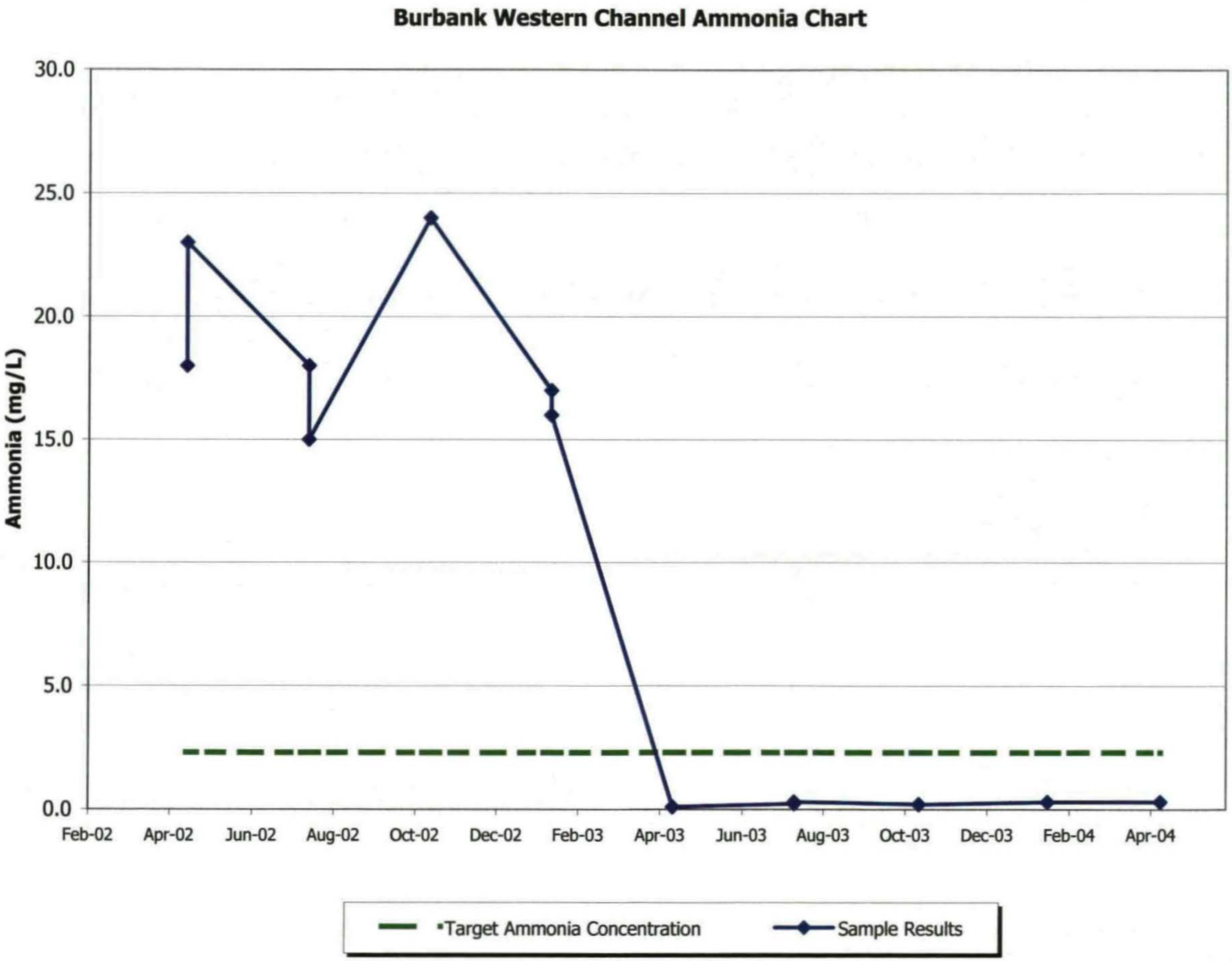
For Cadmium and Hardness the quality control data must fall with the limits listed below.

Hardness:	ICV 85-115%rec	ICB <0.05 mg/L	LCS 85-115%rec
	MS/MSD 75-125%rec	CCV 85-115%rec	CCB <0.05 mg/L
Cadmium:	ICV 85-115%rec	ICB <1 ug/L	LCS 85-115%rec
	MS/MSD 70-130%rec	CCV 85-115%rec	CCB <1 ug/L

All data quality procedures listed above were met for samples analyzed for cadmium and hardness.



Burbank Western Channel Data Chart


Burbank Western Channel Ammonia Chart
Ammonia (mg/L)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Feb-02
Apr-02
Jun-02
Aug-02
Oct-02
Dec-02
Feb-03
Apr-03
Jun-03
Aug-03
Oct-03
Dec-03
Feb-04
Apr-04
Target Ammonia Concentration
Sample Results

4

Data Information Supporting the Evaluation of Delisting

The City of Burbank is providing the following information pursuant to the State Water Resources Control Board's (SWRCB) Public Solicitation of Water Quality Data and Information – 2004 Clean Water Act Section 303(d) List. The information is intended to address the request for information listed in the solicitation. Number references coincide with items listed in the Solicitation.

6. All data and information submitted should include the following:

a. Name of the person or organization providing the information:
City of Burbank

b. Mailing address, phone number, and email address of a contact responsible for answering questions about the information:
Rodney Andersen
275 E. Olive Avenue
Burbank, CA 91510
randersen@ci.burbank.ca.us

c. Bibliographic citations for all published information provided:
There are no published bibliographic citations for provided information

d. To the extent possible, all information should be submitted in electronic format:
All data and supplemental information has been submitted in electronic format

e. Detailed quality assurance and quality control information about sampling and analysis of all numeric data:
Strict QA/QC protocols were followed for all field sampling and laboratory analysis included in this submittal. See included Receiving Water Monitoring Standard Operating Procedure (SOP) for sampling QA/QC information (Attachment 5). See included excerpt from the Burbank Water Reclamation Plant Laboratory Trace Metals Analysis SOP for analysis QA/QC information (Attachment 6).

f. Water body name. The preferred statewide GIS projection is the California Teale Albers, NAD27: **Burbank Western Channel**

g. Geographic extent of the potential water quality limited segment: entire length

h. Pollutant(s) of concern: **cadmium, ammonia**

i. Applicable water quality objective or criterion: **Cadmium – California Toxics Rule, Ammonia – 1999 Ammonia Criteria Update and Los Angeles River Nitrogen Compounds and Related Effects TMDL**

j. Comparison of results against applicable water quality objective or criterion:
See Attachments 2 and 3.

k. Designated beneficial use(s) that may be impacted by pollutant(s)
Aquatic life habitat

l. Complete background information (metadata) for field data (i.e., when and where measurements were taken, number of samples, detection limits, etc.:
Metadata for cadmium and ammonia sample measurements are listed with the analytical results for the identified samples.

m. Full identification of any citizen volunteer water quality monitoring efforts including:
There were no citizen volunteer water quality monitoring efforts

7. All numeric data submitted in support of new listings or changes to existing listings, should be evaluated to address the following:

a. Data quality assurance assessment(s):
Data quality assurance assessments were conducted for all data submitted as part of the RWQCB 303(d) List Solicitation. See included Receiving Water Standard Operating Procedure (SOP) for sampling QA/QC information (Attachment 5). See included excerpt from the Burbank Water Reclamation Plant (BWRP) Laboratory Trace Metals Analysis SOP for analysis QA/QC information (Attachment 6).

b. Spatial representation:
Numeric data were evaluated at receiving water stations consistent with the Burbank Water Reclamation Plant NPDES permit (CA0055531) and included receiving water stations both upstream (R1) and downstream (R1.5, R2, and R5) of reclamation plant and BWP power plant discharges.

c. Temporal representation:
Analytical results include a monthly representation of cadmium and hardness and a quarterly representation of nitrogen compounds, including ammonia, in the BWRP receiving waters.

d. Age(s) of the data:
Numeric data included in this submittal covers the period of March 2002 to May 2004.

e. Effects of seasonality:
There are no apparent seasonal effects.

f. Effects of any events that might influence data evaluation (e.g., storm events, flow conditions, laboratory data qualifiers, etc):
No results contained in this data submittal were influenced by storm events or unusual flow conditions. All data contained in this submittal was evaluated and validated based on acceptable QA/QC standard included in the certified laboratory's analytical SOPs.

g. The total number of samples:
For the evaluation period March 2002 to May 2004, 95 samples were evaluated for cadmium and hardness (total); 18 samples were evaluated for ammonia downstream of the Burbank Water Reclamation Plant.

h. The number of samples exceeding standards:
Cadmium – 2, Ammonia – 8, with trend showing no exceedances in last 10 samples.

i. The source or reference for samples:
The source or reference of all samples for which analytical data are included is consistent with the BWRP NPDES permit (CA0055531) and are identified as:
R1: At the confluence of the Burbank Western Channel and Lockheed Channel about 50 feet above the Burbank Water Reclamation Plant

R1.5: Approximately 50 feet upstream of the Burbank Power Plant Discharge Point 001

R2: Burbank Western Wash at Verdugo Avenue

R5: Burbank Western Wash just upstream from the confluence with the Los Angeles River

j. The potential sources of pollutants:
Potential sources of pollutants include discharge from the BWRP and BWP Steam Power Plant, air deposition, illegal discharges to the receiving water body from unknown users including trash and/or industrial dischargers

k. Any program that might address the water quality problem in lieu of a TMDL:
NPDES Permits, Industrial Source Reduction and Control Program

Cadmium, Hardness, and Nitrogen in the Burbank Western Channel

Entity Providing Information: City of Burbank

Contact Person: Rodney Andersen

275 E. Olive Ave., Burbank, CA, 91510

randersen@ci.burbank.ca.us

$\Sigma=95$

31

31

80

$\Sigma=27$

11 SAMPLES

					Cadmium				Hardness				Ammonia			
#	Date	Time	Sampler	Station	Actual Result (ug/L)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as CaC03)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
1	3/6/2002	8:25 AM	RC	R1	DNQ (0.27) Est. Conc.	0.09	0.25	1	338	0.1	0.1	0.5				
2	3/6/2002	8:07 AM	RC	R1.5	<1	0.09	0.25	1	252	0.1	0.1	0.5				
3	4/16/2002	9:15 AM	CH	R1	DNQ (0.45) Est. Conc.	0.094	0.25	1	316	0.1	0.1	0.5				
4	4/16/2002	9:00 AM	CH	R1.5	DNQ(0.13) Est. Conc.	0.094	0.25	1	248	0.1	0.1	0.5				
5	5/7/2002	9:45 AM	JB	R1	DNQ (0.28) Est. Conc.	0.094	0.25	1	319	0.1	0.1	0.5				
6	5/7/2002	9:30 AM	JB	R1.5	DNQ (0.10) Est. Conc.	0.094	0.25	1	228	0.1	0.1	0.5				
7	5/7/2002	9:45 AM	JB	R1	<1	0.2	0.25	1	319	0.1	0.1	0.5	0.34	0.03		0.1
8	5/7/2002	11:48 AM	JB	R2	<1	0.2	0.25	1	235	0.1	0.1	0.5	18	2		5
9	5/7/2002	11:29 AM	JB	R5	<1	0.2	0.25	1	226	0.1	0.1	0.5	23	3		10
10	6/6/2002	9:35 AM	JB	R1	DNQ (0.24) Est. Conc.	0.094	0.25	1	358	0.1	0.1	0.5				
11	6/6/2002	9:15 AM	JB	R1.5	DNQ (0.11) Est. Conc.	0.094	0.25	1	216	0.1	0.1	0.5				
12	7/2/2002	9:00 AM	JB	R1	DNQ(0.32) Est. Conc.	0.094	0.25	1	203	0.1	0.1	0.5				
13	7/2/2002	8:35 AM	JB	R1.5	DNQ(0.14) Est. Conc.	0.094	0.25	1	354	0.1	0.1	0.5				
14	8/6/2002	9:50 AM	SA	R1	<1	0.2	0.25	1	327	0.1	0.1	0.5	0.2	0.04		0.1
15	8/6/2002	8:35 AM	SA	R2	<1	0.2	0.25	1	230	0.1	0.1	0.5	18	1.0		2.5
16	8/6/2002	8:15 AM	SA	R5	<1	0.2	0.25	1	246	0.1	0.1	0.5	15	1.0		2.5
17	8/7/2002	9:45 AM	SA	R1	DNQ(0.32) Est. Conc.	0.094	0.25	1	387	0.1	0.1	0.5				
18	8/7/2002	8:30 AM	SA	R1.5	DNQ(0.23) Est. Conc.	0.094	0.25	1	230	0.1	0.1	0.5				
19	9/10/2002	9:30 AM	SA	R1	DNQ (0.25) Est. Conc.	0.094	0.25	1	347	0.1	0.1	0.5				
20	9/10/2002	9:10 AM	SA	R1.5	DNQ (0.12) Est. Conc.	0.094	0.25	1	221	0.1	0.1	0.5				
21	10/8/2002	9:20 AM	SA	R1	DNQ(0.21) Est. Conc.	0.094	0.25	1	272	0.1	0.1	0.5				
22	10/8/2002	9:00 AM	SA	R1.5	DNQ(0.15) Est. Conc.	0.094	0.25	1	223	0.1	0.1	0.5				
23	11/5/2002	10:20 AM	JC	R1	<1	0.2	0.25	1	273	0.1	0.1	0.5	0.2	0.03		0.2
24	11/5/2002	9:05 AM	JC	R2	<1	0.2	0.25	1	201	0.1	0.1	0.5	24	2		5
25	11/5/2002	8:40 AM	JC	R5	<1	0.2	0.25	1	198	0.1	0.1	0.5	24	2		5
26	11/6/2002	9:50 AM	SA	R1	DNQ(0.18) Est. Conc.	0.094	0.25	1	306	0.1	0.1	0.5				
27	11/6/2002	9:10 AM	SA	R1.5	<1	0.094	0.25	1	207	0.1	0.1	0.5				
28	12/3/2002	10:30 AM	SA	R1	DNQ (0.18) Est. Conc.	0.094	0.25	1	340	0.1	0.1	0.5				
29	12/3/2002	9:55 AM	SA	R1.5	DNQ(0.1) Est.Conc.	0.094	0.25	1	230	0.1	0.1	0.5				
30	2/4/2003	9:40 AM	JC	R1	DNQ (0.3) Est. Conc.	0.2	0.25	1	310	0.1	0.1	0.5	0.1	0.02		0.05
31	2/4/2003	8:40 AM	JC	R2	DNQ (0.3) Est. Conc.	0.2	0.25	1	220	0.1	0.1	0.5	17	0.5		1.25

Cadmium, Hardness, and Nitrogen in the Burbank Western Channel

Entity Providing Information: City of Burbank

Contact Person: Rodney Andersen
275 E. Olive Ave., Burbank, CA, 91510
randersen@ci.burbank.ca.us

31 16 10 Samples

#	Date	Time	Sampler	Station	Cadmium				Hardness				Ammonia			
					Actual Result (ug/L)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as CaC03)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
32	2/4/2003	8:25 AM	JC	R5	DNQ (0.3) Est. Conc.	0.2	0.25	1	210	0.1	0.1	0.5	16	0.5		1.25
33	3/11/2003	9:30 AM	SA	R1	DNQ (0.8) Est. Conc.	0.2	0.25	1								
34	3/11/2003	8:50 AM	SA	R2	DNQ (0.3) Est. Conc.	0.2	0.25	1								
35	3/11/2003	8:40 AM	SA	R5	DNQ (0.4) Est. Conc.	0.2	0.25	1								
36	4/8/2003	11:00 AM	SA	R1	DNQ (0.3) Est. Conc.	0.2	0.25	1								
37	4/8/2003	10:00 AM	SA	R2	DNQ (0.4) Est. Conc.	0.2	0.25	1								
38	4/8/2003	10:05 AM	SA	R5	DNQ (0.4) Est. Conc.	0.2	0.25	1								
39	5/6/2003	2:45 PM	PG	R1	0.3	0.02	0.25	0.1	307	0.1	0.1	0.5	<0.05	0.02		0.05
40	5/6/2003	12:15 PM	PG	R2	0.2	0.02	0.25	0.1	222	0.1	0.1	0.5	0.1	0.02		0.05
41	5/6/2003	1:45 PM	PG	R5	0.3	0.02	0.25	0.1	222	0.1	0.1	0.5	0.1	0.02		0.05
42	6/3/2003	9:00 AM	JC	R1	2.2	0.02	0.25	0.1								
43	6/3/2003	9:40 AM	JC	R2	0.4	0.02	0.25	0.1								
44	6/3/2003	9:30 AM	JC	R5	0.3	0.02	0.25	0.1								
45	7/8/2003	9:45 AM	JC	R1	0.9	0.02	0.25	0.1								
46	7/8/2003	10:30 AM	JC	R2	0.3	0.02	0.25	0.1								
47	7/8/2003	10:15 AM	JC	R5	0.3	0.02	0.25	0.1								
48	8/5/2003	10:30 AM	JC	R1	0.5	0.02	0.25	0.1	326	0.1	0.1	0.5	0.3	0.02		0.05
49	8/5/2003	11:30 AM	JC	R2	0.3	0.02	0.25	0.1	185	0.1	0.1	0.5	0.2	0.02		0.05
50	8/5/2003	11:15 AM	JC	R5	0.5	0.02	0.25	0.1	190	0.1	0.1	0.5	0.3	0.02		0.05
51	9/9/2003	9:30 AM	JJ	R1	<1	0.018	0.25	1								
52	9/9/2003	11:15 AM	JJ	R2	1.8	0.018	0.25	1								
53	9/9/2003	10:55 AM	JJ	R5	8.9	0.018	0.25	1								
54	10/7/2003	10:20 AM	JJ	R1	<1	0.018	0.25	1	291	0.1	0.1	0.5				
55	10/7/2003	9:45 AM	JJ	R2	2.5	0.018	0.25	1	177	0.1	0.1	0.5				
56	10/7/2003	9:25 AM	JJ	R5	4.4	0.018	0.25	1	177	0.1	0.1	0.5				
57	11/6/2003	10:20 AM	JJ	R1	DNQ (0.2) Est. Conc.	0.11	0.25	0.5	246	0.1	0.1	0.5	0.1	0.02		0.05
58	11/6/2003	11:05 AM	JJ	R2	DNQ (0.2) Est. Conc.	0.11	0.25	0.5	199	0.1	0.1	0.5	0.2	0.02		0.05
59	11/6/2003	11:15 AM	JJ	R5	DNQ (0.2) Est. Conc.	0.11	0.25	0.5	199	0.1	0.1	0.5	0.2	0.02		0.05
60	12/2/2003	9:15 AM	JC	R1	DNQ (0.27) Est. Conc.	0.11	0.25	0.5	295	0.1	0.1	0.5				
61	12/2/2003	9:45 AM	JC	R2	DNQ (0.37) Est. Conc.	0.11	0.25	0.5	197	0.1	0.1	0.5				
62	12/2/2003	9:30 AM	JC	R5	DNQ (0.45) Est. Conc.	0.11	0.25	0.5	197	0.1	0.1	0.5				

Cadmium, Hardness, and Nitrogen in the Burbank Western Channel

Entity Providing Information: City of Burbank

Contact Person: Rodney Andersen
275 E. Olive Ave., Burbank, CA, 91510
randersen@ci.burbank.ca.us

31 (Cadmium) 31 (Hardness) 6 SAMPLES (Ammonia)

#	Date	Time	Sampler	Station	Cadmium				Hardness				Ammonia			
					Actual Result (ug/L).	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as CaC03)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
63	1/6/2004	8:40 AM	JJ	R1	DNQ (0.2) Est. Conc.	0.11	0.25	0.5	301	0.1	0.1	0.5				
64	1/6/2004	9:20 AM	JJ	R2	DNQ (0.3) Est. Conc.	0.11	0.25	0.5	208	0.1	0.1	0.5				
65	1/6/2004	9:00 AM	JJ	R5	DNQ (0.3) Est. Conc.	0.11	0.25	0.5	211	0.1	0.1	0.5				
66	2/10/2004	9:00 AM	JC	R1	DNQ (0.20) Est. Conc.	0.02	0.25	0.5	352	1	0.1	5	0.2	0.01		0.1
67	2/10/2004	9:30 AM	JC	R2	DNQ (0.48) Est. Conc.	0.02	0.25	0.5	226	1	0.1	5	0.3	0.01		0.1
68	2/10/2004	10:00 AM	JC	R5	DNQ (0.48) Est. Conc.	0.02	0.25	0.5	229	1	0.1	5	0.3	0.01		0.1
69	3/30/2004	9:45 AM	JJ	R1	DNQ (0.11) Est. Conc.	0.09	0.25	0.4	208	1	0.1	5				
70	3/30/2004	9:00 AM	JJ	R2	DNQ (0.30) Est. Conc.	0.09	0.25	0.4	191	1	0.1	5				
71	3/30/2004	8:45 AM	JJ	R5	DNQ (0.36) Est. Conc.	0.09	0.25	0.4	192	1	0.1	5				
72	4/6/2004	9:40 AM	PG/JJ	R1	0.8	0.09	0.25	0.4	310	1	0.1	5				
73	4/6/2004	10:10 AM	PG/JJ	R2	0.5	0.09	0.25	0.4	177	1	0.1	5				
74	4/6/2004	9:55 AM	PG/JJ	R5	0.4	0.09	0.25	0.4	215	1	0.1	5				
75	4/13/2004	10:40 AM	JJ	R1	0.6	0.09	0.25	0.4	288	1	0.1	5				
76	4/13/2004	9:45 AM	JJ	R2	DNQ (0.17) Est. Conc.	0.09	0.25	0.4	212	1	0.1	5				
77	4/13/2004	9:30 AM	JJ	R5	DNQ (0.17) Est. Conc.	0.09	0.25	0.4	213	1	0.1	5				
78	4/20/2004	8:40 AM	JJ	R1	DNQ (0.28) Est. Conc.	0.09	0.25	0.4	294	1	0.1	5				
79	4/20/2004	10:10 AM	JJ	R2	DNQ (0.26) Est. Conc.	0.09	0.25	0.4	235	1	0.1	5				
80	4/20/2004	9:00 AM	JJ	R5	DNQ (0.28) Est. Conc.	0.09	0.25	0.4	227	1	0.1	5				
81	4/27/2004	9:30 AM	JJ/CV	R1	0.4	0.09	0.25	0.4	278	1	0.1	5				
82	4/27/2004	10:15 AM	JJ/CV	R2	DNQ (0.34) Est. Conc.	0.09	0.25	0.4	188	1	0.1	5				
83	4/27/2004	9:55 AM	JJ/CV	R5	0.4	0.09	0.25	0.4	186	1	0.1	5				
84	5/4/2004	9:15 AM	JC/CV/JJ	R1	0.4	0.09	0.25	0.4	301	1	0.1	5	0.4	0.01		0.1
85	5/4/2004	9:30 AM	JC/CV/JJ	R2	0.4	0.09	0.25	0.4	187	1	0.1	5	0.3	0.01		0.1
86	5/4/2004	9:00 AM	JC/CV/JJ	R5	0.4	0.09	0.25	0.4	196	1	0.1	5	0.3	0.01		0.1
87	5/11/2004	8:45 AM	JJ	R1	0.4	0.09	0.25	0.4	291	1	0.1	5				
88	5/11/2004	9:35 AM	JJ	R2	0.7	0.09	0.25	0.4	191	1	0.1	5				
89	5/11/2004	9:15 AM	JJ	R5	0.7	0.09	0.25	0.4	206	1	0.1	5				
90	5/18/2004	9:35 AM	PG	R1	DNQ (0.27) Est. Conc.	0.09	0.25	0.4	293	1	0.1	5				
91	5/18/2004	9:05 AM	PG	R2	1.5	0.09	0.25	0.4	194	1	0.1	5				
92	5/18/2004	8:50 AM	PG	R5	2.1	0.09	0.25	0.4	193	1	0.1	5				
93	5/25/2004	10:20 AM	JJ/PG	R1	0.4	0.09	0.25	0.4	287	1	0.1	5				

Cadmium, Hardness, and Nitrogen in the Burbank Western Channel

Entity Providing Information: City of Burbank

Contact Person: Rodney Andersen
275 E. Olive Ave., Burbank, CA, 91510
randersen@ci.burbank.ca.us

					✓ Cadmium				✓ Hardness				Ammonia			
#	Date	Time	Sampler	Station	Actual Result (ug/L)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as CaC03)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
94	5/25/2004	9:45 AM	JJ	R2	0.5	0.09	0.25	0.4	168	1	0.1	5				
95	5/25/2004	9:30 AM	JJ	R5	0.6	0.09	0.25	0.4	156	1	0.1	5				

Background Information:	*R1*	*At the confluence of the Burbank Western Channel and Lockheed Channel about 50 feet above the Burbank Water Reclamation Plant*
	R1.5	*Approximately 50 feet Upstream of the Burbank Power Plant Discharge Point 001.*
	R2	*Burbank Western Wash at Verdugo Avenue*
	R5	*Burbank Western Wash just upstream from the confluence with the Los Angeles River*

Cadmium, HCadmium, Hardness, and Nitrogen in the Burbank Western Channel

Entity Providing Information: City of Burbank

Contact Person:
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		Nitrate				Nitrite				Organic Nitrogen			
#	Date	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
1	3/6/2002												
2	3/6/2002												
3	4/16/2002												
4	4/16/2002												
5	5/7/2002												
6	5/7/2002												
7	5/7/2002	0.55	0.049		0.1	<0.1	0.027		0.1	2.4			0.2
8	5/7/2002	1.2	0.049		0.1	1.01	0.027		0.1	<10			10
9	5/7/2002	8.6	0.049		0.1	1.03	0.027		0.1	<10			10
10	6/6/2002												
11	6/6/2002												
12	7/2/2002												
13	7/2/2002												
14	8/6/2002	1.19	0.049		0.1	<0.1	0.027		0.1	2.5			0.4
15	8/6/2002	1.19	0.049		0.1	<0.1	0.027		0.1	<10			10
16	8/6/2002	1.27	0.049		0.1	0.62	0.027		0.1	<10			10
17	8/7/2002												
18	8/7/2002												
19	9/10/2002												
20	9/10/2002												
21	10/8/2002												
22	10/8/2002												
23	11/5/2002	<0.1	0.049		0.1	1.29	0.027		0.1	1.4			0.5
24	11/5/2002	0.27	0.049		0.1	0.23	0.027		0.1	<2.5			2.5
25	11/5/2002	0.37	0.049		0.1	0.29	0.027		0.1	<2.5			2.5
26	11/6/2002												
27	11/6/2002												
28	12/3/2002												
29	12/3/2002												
30	2/4/2003	2.8	0.03		0.1	0.2	0.01		0.1	1.2			0.2
31	2/4/2003	0.2	0.03		0.1	0.3	0.01		0.1	4.9			2

Cadmium, HCadmium, Hardness, and Nitrogen in the Burbank Western Channel

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		Nitrate				Nitrite				Organic Nitrogen			
#	Date	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
32	2/4/2003	0.3	0.03		0.1	<0.1	0.01		0.1	5.9			2
33	3/11/2003												
34	3/11/2003												
35	3/11/2003												
36	4/8/2003												
37	4/8/2003												
38	4/8/2003												
39	5/6/2003	3.7	0.03		0.1	<0.1	0.01		0.1	1.4			0.2
40	5/6/2003	3.6	0.03		0.1	<0.1	0.01		0.1	0.9			0.2
41	5/6/2003	4.4	0.03		0.1	0.7	0.01		0.1	1.1			0.2
42	6/3/2003												
43	6/3/2003												
44	6/3/2003												
45	7/8/2003												
46	7/8/2003												
47	7/8/2003												
48	8/5/2003	0.8	0.03		0.1	<0.1	0.01		0.1	6.4			0.2
49	8/5/2003	2.0	0.03		0.1	<0.1	0.01		0.1	1.4			0.2
50	8/5/2003	1.9	0.03		0.1	<0.1	0.01		0.1	2.1			0.2
51	9/9/2003												
52	9/9/2003												
53	9/9/2003												
54	10/7/2003												
55	10/7/2003												
56	10/7/2003												
57	11/6/2003	0.8	0.03		0.1	<0.1	0.01		0.1	1.3			0.2
58	11/6/2003	4.7	0.03		0.1	<0.1	0.01		0.1	1.2			0.2
59	11/6/2003	5.0	0.03		0.1	<0.1	0.01		0.1	1.1			0.2
60	12/2/2003												
61	12/2/2003												
62	12/2/2003												

Cadmium, HCadmium, Hardness, and Nitrogen in the Burbank Western Channel

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		Nitrate				Nitrite				Organic Nitrogen			
#	Date	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
63	1/6/2004												
64	1/6/2004												
65	1/6/2004												
66	2/10/2004	2.0	0.03		0.1	<0.1	0.01		0.1	1.4			0.2
67	2/10/2004	3.0	0.03		0.1	<0.1	0.01		0.1	1.1			0.2
68	2/10/2004	2.8	0.03		0.1	<0.1	0.01		0.1	1.4			0.2
69	3/30/2004												
70	3/30/2004												
71	3/30/2004												
72	4/6/2004												
73	4/6/2004												
74	4/6/2004												
75	4/13/2004												
76	4/13/2004												
77	4/13/2004												
78	4/20/2004												
79	4/20/2004												
80	4/20/2004												
81	4/27/2004												
82	4/27/2004												
83	4/27/2004												
84	5/4/2004	1.5	0.03		0.1	<0.1	0.01		0.1	4.3			0.2
85	5/4/2004	2.9	0.03		0.1	<0.1	0.01		0.1	0.9			0.2
86	5/4/2004	3.2	0.03		0.1	<0.1	0.01		0.1	1.1			0.2
87	5/11/2004												
88	5/11/2004												
89	5/11/2004												
90	5/18/2004												
91	5/18/2004												
92	5/18/2004												
93	5/25/2004												

Cadmium, HCadmium, Hardness, and Nitrogen in the Burbank Western Channel

Entity Providing Information:	City of Burbank
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		Nitrate				Nitrite				Organic Nitrogen			
#	Date	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)	Actual Result (mg/L as N)	MDL (ug/L)	ML (ug/L)	RDL (ug/L)
94	5/25/2004												
95	5/25/2004												

Background Information: