

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

MONITORING AND REPORTING PROGRAM NO. R7-2004-0009  
FOR  
CITY OF CALEXICO, OWNER/OPERATOR;  
MUNICIPAL WASTEWATER TREATMENT PLANT  
WASTEWATER COLLECTION AND DISPOSAL SYSTEMS  
Calexico – Imperial County

Location of Discharge: Latitude 32° 40' 20" North and Longitude -115° 30' 45" West

MONITORING

1. The collection, preservation and holding times of all samples shall be in accordance with United States Environmental Protection Agency (USEPA) approved procedures. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted by a laboratory certified by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40CFR Part 136), promulgated by the USEPA.
2. Samples shall be collected at the location specified in the Permit. If no location is specified, sampling shall be conducted at the most representative sampling point available.
3. If the facility is not in operation, or there is no discharge during a required reporting period, the discharger shall forward a letter to the Regional Board indicating that there has been no activity during the required reporting period.

INFLUENT MONITORING

The wastewater influent to the treatment plant shall be monitored for the following:

<u>Constituents</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
20°C BOD <sub>5</sub> <sup>1</sup>	mg/L <sup>2</sup>	24-Hr. Composite	2/Weekly	Monthly
Suspended Solids	mg/L	24-Hr. Composite	2/Weekly	Monthly

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<sup>1</sup> BOD<sub>5</sub> – Biochemical Oxygen Demand

<sup>2</sup> mg/L – milligrams-per-Liter

## EFFLUENT MONITORING

Wastewater discharged from the facility shall be monitored where representative samples of the effluent can be obtained. Wastewater discharged into the receiving water shall be monitored for the following constituents:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Daily Effluent Flow	MGD <sup>3</sup>	Measurement	Daily	Monthly
Dissolved Oxygen (DO)	mg/L	Grab	Daily	Monthly
pH	---	Grab	Daily	Monthly
Temperature	°F	Grab	Daily	Monthly
<i>Escherichia coli</i> (E. Coli)	MPN/100 ml	Grab	2/Week	Monthly
20°C BOD <sub>5</sub>	mg/L	24-Hr Composite	2/Week	Monthly
Suspended Solids	mg/L	24-Hr Composite	2/Week	Monthly
Total Dissolved Solids	mg/L	24-Hr Composite	Monthly	Monthly
Nitrites as Nitrogen (N)	mg/L	Grab	Monthly	Monthly
Ammonia Nitrogen as N	mg/L	Grab	Monthly	Monthly
Nitrates as N	mg/L	Grab	Monthly	Monthly
Total Nitrogen as N	mg/L	Grab	Monthly	Monthly
Ortho-Phosphate as Phosphorus	mg/L	Grab	Monthly	Monthly
Total Phosphorus	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly
Oil and Grease	mg/L	Grab	Monthly	Monthly
Copper	µg/L	Grab	Quarterly	Quarterly
Mercury	µg/L	Grab	Quarterly	Quarterly
Hardness (as CaCO <sub>3</sub> )	mg/L	Grab	Quarterly	Quarterly
Nickel	µg/L	Grab	Annually	Annually
Selenium	µg/L	Grab	Annually	Annually
Volatile Organic Compounds (EPA Methods 624 and 625)	µg/L	Grab	Annually	Annually

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<sup>3</sup> MGD - million gallons per day

## RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Sampling stations shall be as follows:

<u>Station</u>	<u>Description</u>
R-1	Not to exceed 100 feet upstream from the point of discharge. A greater distance may be acceptable provided the discharger submits proper justification that the prescribed distance is inaccessible.
R-2	Not to exceed 200 feet downstream of the discharge pipe outlet. A greater distance may be acceptable provided the discharger submits proper justification that the prescribed distance is inaccessible.

<u>Constituent</u>	<u>Unit</u>	<u>Station</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen	mg/L	R-1 & R-2	Monthly	Monthly
pH	----	R-1 & R-2	Monthly	Monthly
Temperature	°F	R-1 & R-2	Monthly	Monthly
<i>Escherichia coli</i> (E. Coli)	MPN/100mL	R-1 & R-2	Monthly	Monthly
Ammonia Nitrogen as N	mg/L	R-1 & R-2	Monthly	Monthly
Total Nitrogen as N	mg/L	R-1 & R-2	Monthly	Monthly
Total Phosphorus	mg/L	R-1 & R-2	Monthly	Monthly

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions at Stations R1 and R2. Attention shall be given to the presence or absence of:

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| <ul style="list-style-type: none"> <li>a. Floating or suspended matter</li> <li>b. Discoloration</li> <li>c. Bottom Deposits</li> <li>d. Aquatic life<br/>(including plants, fish, shellfish, birds)</li> </ul> | <ul style="list-style-type: none"> <li>e. Visible film, sheen or coating</li> <li>f. Fungi, slime, or objectionable growths</li> <li>g. Potential nuisance conditions</li> </ul> |
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Notes on receiving water conditions shall be summarized in the monitoring report.

## OPERATION AND MAINTENANCE

The discharger shall report the following:

<u>Activity</u>	<u>Reporting</u>
To inspect and document any operation/maintenance problems by inspecting each unit process. In addition, calibration of flow meters and equipment shall be performed in a timely manner and documented.	Annually
The names, certificate grades, and general responsibilities of all persons employed at the WWTP. The names and telephone numbers of persons to contact regarding the WWTP during routine and emergency situations.	Annually

## SLUDGE MONITORING

The discharger shall report annually on the quantity, location and method of disposal of all sludge and similar solid materials being produced at the wastewater treatment plant facility. These monitoring and reporting requirements are necessary to determine compliance with Waste Discharge Requirements No. R7-2004-0009.

The sludge that is generated at the treatment facility shall be sampled and analyzed for the following:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Arsenic	mg/kg <sup>4</sup>	Composite	Annually	Annually
Cadmium	mg/kg	Composite	Annually	Annually
Chromium	mg/kg	Composite	Annually	Annually
Copper	mg/kg	Composite	Annually	Annually
Lead	mg/kg	Composite	Annually	Annually
Mercury	mg/kg	Composite	Annually	Annually
Molybdenum	mg/kg	Composite	Annually	Annually
Zinc	mg/kg	Composite	Annually	Annually
Fecal Coliform	MPN/gram	Composite	Annually	Annually

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<sup>4</sup> mg/kg – milligrams-per-kilogram

## EFFLUENT TOXICITY TESTING

The discharger shall conduct chronic and acute toxicity testing on the effluent as follows:

<u>Test</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Minimum Frequency of Test</u>	<u>Reporting Frequency</u>
Chronic Toxicity	TU <sub>c</sub> <sup>5</sup>	24-Hr. Composite	Quarterly	Quarterly
Acute Toxicity <sup>6</sup>	% survival & TU <sub>a</sub> <sup>7</sup> or (P or F) <sup>8</sup>	24-Hr. Composite	Quarterly	Quarterly

Both test species given below shall be used to measure chronic and acute toxicity:

<u>Species</u>	<u>Effect</u>	<u>Test Duration (Days)</u>	<u>Reference<sup>9</sup></u>
Fathead Minnow ( <i>Pimephales promelas</i> )	Larval Survival and Growth	7	EPA/821-R-02-013 (Chronic) EPA/821-R-02-012 (Acute)
Water Flea ( <i>Ceriodaphnia dubia</i> )	Survival and Reproduction	7	EPA/821-R-02-013 (Chronic) EPA/821-R-02-012 (Acute)

### Toxicity Test References:

1. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA/821-R-02-012, October 2002, or subsequent editions.
2. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water for Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002, or subsequent editions.
3. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program, EPA 833-R-00-003, June 2000.
4. Method Guidance and Recommendations for Whole Effluent Testing, EPA 821-B-00-004, July 2000.
5. Clarifications Regarding Flexibility in 40 CFR Part 136 Whole Effluent Toxicity (WET) Test Methods, memorandum dated April 10, 1996 from Tudor Davies, Director of the EPA Office of Water's Office of Science and Technology.

<sup>5</sup> TU<sub>c</sub> - Chronic Toxicity Units

<sup>6</sup> Acute bioassay results can be calculated from chronic bioassay test for only *Pimephales promelas*.

<sup>7</sup> TU<sub>a</sub> - Acute Toxicity Units

<sup>8</sup> P or F - Pass or Fail when using a t-test.

<sup>9</sup> Additional references are listed in the Toxicity Test References section.

### Quality Assurance

Dilution and control waters may be obtained from an unaffected area of receiving waters. Synthetic (standard) dilution is an option and may be used if the above source is suspected to have toxicity greater than 1.0 TU<sub>c</sub>.

A series of at least five (5) dilutions and a control shall be tested for chronic toxicity testing and may be used for acute toxicity testing. The series shall include the following concentrations: 12.5, 25, 50, 75, and 100 percent effluent.

For the acute toxicity testing using a t-test, two (2) dilutions shall be used, i.e., 100 percent effluent and a control (when a t-test is used instead of an LC50).

If organisms are not cultured in-house, concurrent testing with a referenced toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).

If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the toxicity test references, then the Permittee must re-sample and retest within 14 days or as soon as possible.

### Definition of Toxicity

Chronic toxicity measures sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms.

Chronic toxicity shall be measured in TU<sub>c</sub>, where  $TU_c = 100/NOEC$ . The no observed effect concentration (NOEC) is the highest concentration of toxicant to which organisms are exposed in a chronic test that causes no observable adverse effect on the test organisms (e.g., the highest concentration of toxicant to which the value for the observed responses are not statistically significantly different from the controls).

Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity for *Pimephales promelas* can be calculated from the results of the chronic toxicity test for *Pimephales promelas* and reported along with the results of each chronic test. Acute toxicity of *Ceriodaphnia dubia* cannot be calculated from the results of the chronic toxicity test for *Ceriodaphnia dubia* because the test design is not amenable to calculation of a lethal concentration (LC50) value as needed for the acute requirement.

Acute toxicity shall be measured in TU<sub>a</sub>, where  $TU_a = 100/LC50$ , and as percent survival in 100% effluent or as pass/fail using a t-test. LC50 is the toxicant concentration that would cause death in 50 percent of the test organisms.

### Reporting Of Bioassay Results

The discharger shall submit the analysis and results of the toxicity tests, including any accelerated testing, in toxicity units with the discharge monitoring reports for the month in which the last test is conducted.

Reporting Of a Toxicity Identification Evaluation and/or Results of the Toxicity Reduction Evaluation Work plan

1. If a Toxicity Identification Evaluation (TIE) is conducted the discharge shall submit the results of the TIE with the discharge monitoring reports for the month in which the final report is completed.
2. If the Toxicity Reduction Evaluation (TRE) Work plan has been initiated, the discharger shall report on the progress of the actions being taken and include this information with each monthly monitoring report.

PRETREATMENT

In the event that significant industrial wastewaters are being discharged to the wastewater treatment facility, then the discharger shall provide the Regional Board with an annual report describing the pretreatment program activities over the previous twelve (12) month period and it shall include:

1. A summary of actions taken by the discharger which ensures industrial-user compliance;
2. An updated list of industrial users (by SIC categories) which were issued permits, and/or enforcement orders, and a status of compliance for each user; and
3. The name and address of each user that received a revised discharge limit.

REPORTING

1. The discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with the waste discharge requirements.
2. The discharger shall report with each sample result the applicable Minimum Level (as described in the California Toxics Policy) and the laboratory current Method Detection Limit, as determined by the procedure in 40 CFR 136 (revised as of May 14, 1999).
3. The discharger shall report the results of acute and chronic toxicity testing, TRE and TIE as required in the previous section entitled, "Effluent Toxicity Testing".
4. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurement(s);
  - b. The individual(s) who performed the sampling or measurement(s);
  - c. The date(s) analyses were performed;
  - d. The individual(s) who performed the analyses;
  - e. The analytical techniques or method used; and
  - f. The results of such analyses.
5. The results of any analysis taken, more frequently than required at the locations specified in this Monitoring and Reporting Program shall be reported to the Regional Board.
6. Monitoring reports shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency designated in this monitoring report.
7. Each report shall contain the following statement:

"I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible

for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations".

8. A duly authorized representative of the discharger may sign the documents if:
  - a. The authorization is made in writing by the person described above;
  - b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and
  - b. The written authorization is submitted to the Regional Board's Executive Officer.
9. Reporting of any failure in the facility (wastewater treatment plant, and collection and disposal systems) shall be as described in Provision No. 11. Results of any analysis performed as a result of a failure of the facility shall be provided within ten (10) days after collection of the samples.
10. The discharger shall attach a cover letter to the Discharge Monitoring Report. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned and the proposed time schedule of corrective actions. Identified violations should include a description of the requirement that was violated and a description of the violation.
11. Monthly monitoring reports shall be submitted to the Regional Board by the 15<sup>th</sup> day of the following month. Quarterly monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15, and October 15, of each year. Annual monitoring reports shall be submitted to the Regional Board by January 15 of each year.

12. Submit monitoring reports to:

California Regional Water Quality Control Board  
Colorado River Basin Region  
73-720 Fred Waring, Suite 100  
Palm Desert, CA 92260

13. A copy of the monitoring report shall also be sent to:

Regional Administrator  
U.S. Environmental Protection Agency  
Region 9, Attn: 65/MR, W-3  
75 Hawthorne Street  
San Francisco, CA 94105

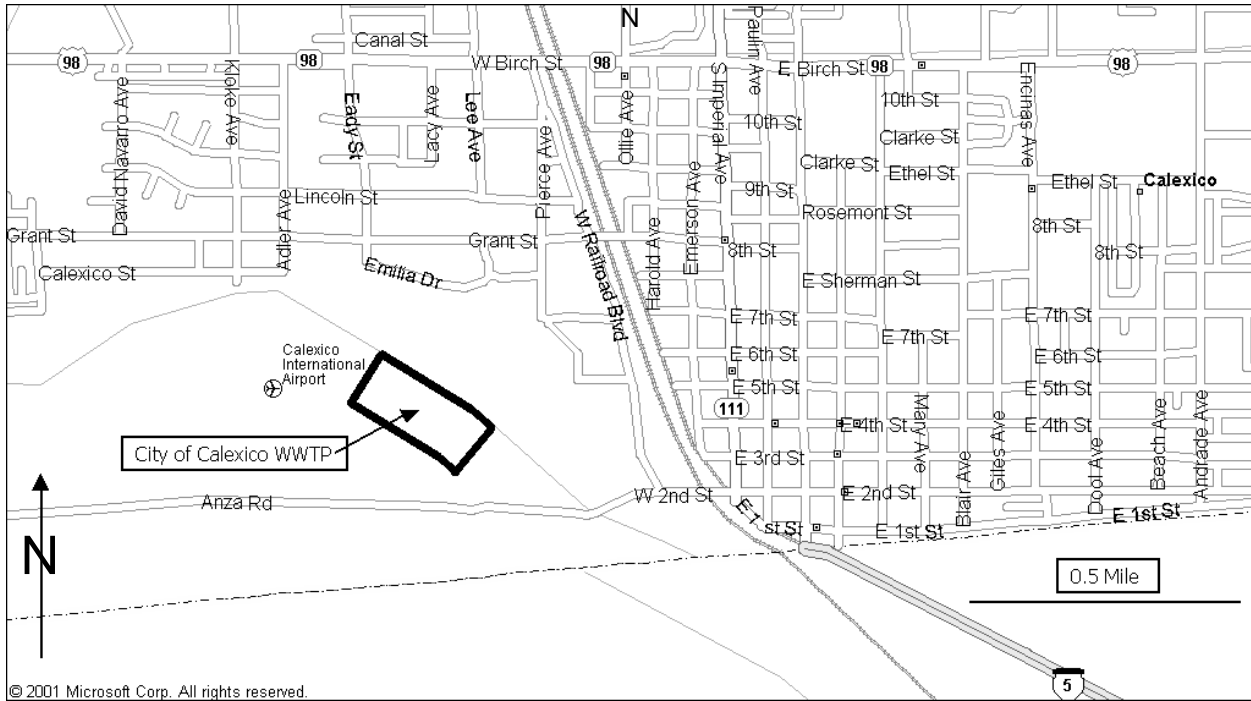
Ordered by:

\_\_\_\_\_  
Executive Officer

\_\_\_\_\_  
Date



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**



**SITE MAP**

**CITY OF CALEXICO, OWNER/OPERATOR  
MUNICIPAL WASTEWATER TREATMENT PLANT  
WASTEWATER COLLECTION AND DISPOSAL SYSTEMS  
Calexico – Imperial County**

Location of Discharge: Latitude 32° 40' 20" North and Longitude -115° 30' 45" West

**Board Order No. R7-2004-0009**