

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

REVISION NO. 2, MONITORING AND REPORTING PROGRAM NO. 94-263

FOR  
CITY OF RIPON  
WASTEWATER TREATMENT PLANT  
SAN JOAQUIN COUNTY

This Revised Monitoring and Reporting Program (MRP) describes requirements for monitoring domestic wastewater, industrial wastewater, treated domestic wastewater effluent, treatment/storage/ percolation ponds, industrial wastewater land application area, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Regional Board staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

**DOMESTIC WASTEWATER INFLUENT MONITORING**

Domestic wastewater influent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Daily Flow	gpd	Meter	Continuously	Monthly
Monthly Average Flow	gpd/mo	Calculated	Monthly	Monthly
BOD	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Total Arsenic	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Dissolved Arsenic <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Total Iron	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Dissolved Iron <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Sodium <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Chloride <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Monthly	Monthly
Standard Minerals <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Annually	Annually

<sup>1</sup> Composite sampling can be flow or time-based. For time-based composites, sampling intervals shall be no greater than one-hour apart nor a total sample collection duration of less than 12-hours.

<sup>2</sup> Sample shall be filtered using a maximum effective pore diameter filter of 0.45 microns prior to digestion. BOD denotes 5-day Biochemical Oxygen Demand.

Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, potassium, sulfate, manganese, total alkalinity (including alkalinity series), and hardness.

### INDUSTRIAL WASTEWATER INFLUENT MONITORING

Industrial wastewater influent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Daily Flow	gpd	Meter	Continuously	Monthly
Monthly Average Flow	gpd/mo	Calculated	Continuously	Monthly
BOD	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Total Dissolved Solids	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Fixed Dissolved Solids	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Sodium <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Chloride <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Nitrate as Nitrogen	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Total Nitrogen	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
pH	Std. Units	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Standard Minerals <sup>2</sup>	mg/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly
Trihalomethanes	ug/L	Grab or Composite <sup>1</sup>	Weekly/Monthly <sup>3</sup>	Monthly

<sup>1</sup> Composite sampling can be flow or time-based. For time-based composites, sampling intervals shall be no greater than one-hour apart nor a total sample collection duration of less than 12-hours.

<sup>2</sup> Sample shall be filtered using a maximum effective pore diameter filter of 0.45 microns prior to digestion.

<sup>3</sup> Sampling Frequency shall be weekly if grab samples are collected, or monthly if a composite sampling is performed.

BOD denotes 5-day Biochemical Oxygen Demand.

Standard Minerals shall include, at a minimum, the following elements/compounds: Boron, Calcium, Magnesium, Potassium, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

Trihalomethanes reporting shall include chloroform, bromodichloromethane, dibromochloromethane, dichloriodomethane, and bromoform and shall be analyzed by EPA Method 8020 or equivalent.

### TREATED DOMESTIC WASTEWATER EFFLUENT MONITORING

Treated domestic wastewater samples shall be collected before discharge to the percolation ponds and shall be representative of the volume and nature of the discharge. Effluent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
BOD	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Arsenic	mg/L	Grab	Monthly	Monthly
Dissolved Arsenic <sup>1</sup>	mg/L	Grab	Monthly	Monthly
Total Iron	mg/L	Grab	Monthly	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Iron <sup>1</sup>	mg/L	Grab	Monthly	Monthly
Sodium <sup>1</sup>	mg/L	Grab	Monthly	Monthly
Chloride <sup>1</sup>	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
pH	Std. Units	Grab	Monthly	Monthly
Standard Minerals	mg/L	Grab	Annually	Annually

<sup>1</sup> Sample shall be filtered using a maximum effective pore diameter filter of 0.45 microns prior to digestion.

BOD denotes 5-day Biochemical Oxygen Demand.

Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, potassium, sulfate, manganese, total alkalinity (including alkalinity series), and hardness.

### TREATMENT/STORAGE/PERCOLATION POND MONITORING

Each of the treatment, storage, and percolation ponds shall be monitored for the parameters specified below:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard	0.01 Feet	Measurement	Weekly	Weekly
Dissolved Oxygen <sup>1</sup>	mg/L	Grab	Weekly	Monthly
Levee Condition	--	Observation	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
pH	Std. Units	Grab	Monthly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

### INDUSTRIAL WASTEWATER LAND APPLICATION AREA MONITORING

Monitoring of the industrial wastewater land application area shall be conducted daily (during operation) and the results shall be included in the monthly monitoring report. Evidence of erosion, land application area saturation, runoff, or the presence of nuisance conditions shall be noted in the report. Effluent shall be monitored as required by the Industrial Wastewater Influent Monitoring section to allow calculation of loading rates at the land application areas. Monitoring of the effluent and the land application areas shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Reporting Frequency</u>
Wastewater Applied	gpd	Continuous	Monthly
Land Area Acreage <sup>1</sup>	acres	Calculated	Monthly
Application Rate	gal/acre•day	Calculated	Monthly
BOD	lbs/acre•day	Calculated	Monthly
Total Nitrogen	lbs/acre•month	Calculated	Monthly
Total Dissolved Solids	lbs/acre•month	Calculated	Monthly
Fixed Dissolved Solids	lbs/acre•month	Calculated	Monthly

<sup>1</sup> Land application area irrigation checks shall be identified.  
 BOD denotes 5-day Biochemical Oxygen Demand.

### GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured, and groundwater elevation calculated to the nearest 0.01 feet. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Groundwater Elevation	0.01 Feet	Measurement	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Fixed Dissolved Solids	mg/L	Grab	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly
pH	Std. Units	Grab	Quarterly
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly
Arsenic <sup>1</sup>	mg/L	Grab	Quarterly
Iron <sup>1</sup>	mg/L	Grab	Quarterly
Sodium <sup>1</sup>	mg/L	Grab	Quarterly
Chloride <sup>1</sup>	mg/L	Grab	Quarterly
Standard Minerals <sup>1</sup>	mg/L	Grab	Quarterly

<sup>1</sup> Sample shall be filtered using a maximum effective pore diameter filter of 0.45 microns prior to digestion. MPN denotes Most Probable Number.

Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, potassium, sulfate, manganese, total alkalinity (including alkalinity series), and hardness.

### REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

## A. Monthly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly reports shall be submitted to the Regional Board on the **1<sup>st</sup> day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of domestic and industrial wastewater influent monitoring, treated domestic wastewater effluent monitoring, treatment/storage/percolation pond monitoring, and industrial wastewater land application area monitoring;
2. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format; and
3. If requested by staff, copies of laboratory analytical report(s).

## B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1<sup>st</sup>) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum;

8. Copies of laboratory analytical report(s) for groundwater monitoring.

**C. Annual Report**

An Annual Report shall be prepared as the fourth quarter monitoring report. The Annual Report will include all monitoring data required in the monthly/quarterly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular groundwater monitoring report for the last sampling event of the year, plus annual monitoring scheduled analytes;
2. If requested by staff, tabular and graphical summaries of all data collected during the year;
3. An evaluation of the groundwater quality beneath the wastewater treatment facility;
4. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
6. Summary of information on the disposal of sludge and/or solid waste;
7. The results from annual monitoring of the groundwater wells;
8. The results from any sludge monitoring required by the disposal facility;
9. A copy of the certification for each certified wastewater treatment plant operator working at the facility and a statement about whether the Discharger is in compliance with Title 23, CCR, Division 3, Chapter 26; and
10. A forecast of influent flows predicted for the next year.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Original signed by  
Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer  
\_\_\_\_\_  
(30 October 2007)

TRO: 10/26/07