

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 97-073

FOR
CALAVERAS COUNTY WATER DISTRICT
ARNOLD WASTEWATER TREATMENT FACILITY
CALAVERAS COUNTY

This revised Monitoring and Reporting Program (MRP) contains requirements for monitoring of water supply, process wastewater influent, effluent, groundwater, and discharge facilities (spray disposal fields and leachfields). 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.

All wastewater samples should be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. All samples shall be collected and preserved in accordance with EPA and analytical methodology.

Field testing instruments (such as those used to test pH and electrical conductivity) 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. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency;
and
4. Field calibration reports are provided with the appropriate monitoring report.

GROUNDWATER ASSESSMENT AND MONITORING PLAN

By **30 April 2003**, the Discharger shall submit a Groundwater Assessment and Monitoring Plan prepared and signed by a California Registered Geologist. The Groundwater Sampling Plan shall contain the following information:

- Provide a discussion on current groundwater quality at the wastewater treatment plant. This portion of the plan shall evaluate existing groundwater data to determine (1) what background water quality is, (2) whether the wastewater treatment and disposal activities are degrading the underlying shallow groundwater, (3) what the groundwater flow direction and gradient is, and (4) whether additional monitoring wells need to be installed;
- A scaled map showing relevant structures and features of the facility, locations of groundwater monitoring wells and their relationship to the disposal facilities, and groundwater elevation contours referenced to mean sea level datum;
- Explain the method used to obtain water level measurement data from each well. Also explain what is used for a reference point when collecting water level data;
- Explain how groundwater wells are purged prior to sampling, and how it is ensured that a representative sample is being collected from each well. Provide any data sheets that may be used during purging and sampling of wells;
- Explain decontamination procedures for equipment used to purge and/or sample groundwater;

- Provide a list of analytical methods that will be used to analyzed constituents in groundwater, include a list of any preservation methods used;
- Explain sample collection and handling procedures, including use of chain of custody; and
- Explain QA/QC procedures.

WATER SUPPLY MONITORING

The Discharger shall obtain and analyze representative samples of the water supply for the WWTP. The results shall be presented in the Annual Summary Monitoring Report.

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Standard Minerals ¹	mg/l	Grab	Annually
Specific Conductivity	µmhos/cm	Grab	Annually

¹ Standard Minerals shall include, at a minimum, the following elements/compounds: Barium, Calcium, Magnesium, Sodium, Potassium, Chloride, Nitrate, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

INFLUENT MONITORING

Samples of influent wastewater shall be collected at approximately the same time as effluent samples and should be representative of the influent flow to the treatment plant. At a minimum, influent monitoring shall consist of the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	mgd	Meter	Continuous	Monthly
BOD ₅ at 20° C	mg/L	Grab	Monthly	Monthly
Total Suspended Solids	mg/L	Grab	Monthly	Monthly

EFFLUENT MONITORING

Samples of effluent shall be taken at the point of discharge to the disposal facility. At a minimum, effluent monitoring shall consist of the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Coliform Organisms	MPN/100 ml	Grab	Monthly	Monthly
BOD ₅ at 20° C	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Nitrates as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/l	Grab	Monthly	Monthly
pH	pH units	Grab	Monthly	Monthly

LEACHFIELD MONITORING

Leachfield monitoring will consist of a visual inspection of the leachfield and the downslope areas. When wastewater is discharged to the leachfields, these areas will be monitored on a weekly basis for the presence of surfacing effluent, seepage, objectionable odors, any areas of saturation, and signs of erosion. In addition, the leachfields observation ports will be monitored for the presence of water on a weekly basis when the leachfields are used. If water is observed, then the depth to water will be reported. Leachfield monitoring results shall be included with all monthly monitoring reports.

SPRAY DISPOSAL AREA MONITORING

Inspections of the spray disposal areas shall be conducted daily (during operation) and the results shall be included in the monthly monitoring report. Evidence of erosion, field saturation, runoff, presence of nuisance, and other field conditions shall be noted in the report. Daily rainfall data, discharge volumes, and total acres irrigated shall also be noted in the monthly monitoring reports.

GROUNDWATER MONITORING

Groundwater samples shall be collected from each groundwater monitoring well in accordance with an approved groundwater monitoring workplan. Prior to sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 feet. The wells shall then be purged of at least three well volumes until pH and electrical conductivity have stabilized. Sample collection and analysis shall follow standard EPA procedures. Each groundwater monitoring well shall be monitored at least for the following:

<u>Constituents/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency²</u>
Groundwater Elevation	0.01 feet	Measurement	Quarterly
Depth to groundwater	± 0.01 feet	Measured	Quarterly
Gradient	feet/feet	Calculated	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly
Manganese	mg/L	Grab	Quarterly
Sodium	mg/L	Grab	Quarterly
Boron	mg/L	Grab	Quarterly
Iron	mg/L	Grab	Quarterly
Nitrate as Nitrogen	mg/l	Grab	Quarterly
Chloride	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly
pH	pH units	Grab	Quarterly
Standard Minerals ¹	mg/l	Grab	Annually

1 Standard Minerals shall include the following compounds: Calcium, Magnesium, Sodium, Chloride, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

2 Quarterly groundwater sampling to begin the 2nd quarter 2003.

BIOSOLIDS MONITORING

At a minimum, one composite sample of biosolids shall be collected annually in accordance with the U.S. EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following constituents:

<u>Constituents/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency*</u>
Cadmium	mg/Kg	Grab	Annually
Lead	mg/Kg	Grab	Annually
Chromium	mg/Kg	Grab	Annually
Nickel	mg/Kg	Grab	Annually
Copper	mg/Kg	Grab	Annually
Zinc	mg/Kg	Grab	Annually

* A sampling program, consistent with the required Solids Management Plan specified in Provision G. 1.d, shall be implemented and reported 90 days prior to handling, storage, and/or disposal. A log shall be kept to document biosolids quantities generated; sampling dates; analytical reports; and actual handling, storage and disposal practices. Sampling records shall be retained for a minimum of five years.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., water supply, influent, effluent, groundwater well, disposal facilities, 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 in the next scheduled monitoring report.

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 California Registered Professional Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the reporting period (i.e., the January monthly report is due by 1 March). At a minimum the reports shall include:

1. Results of influent, effluent, leachfield, and spray disposal field 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;
3. If requested by staff, copies of laboratory analytical report(s); and

4. A calibration log verifying calibration of all monitoring instruments and devices used to fulfill the prescribed monitoring program.

B. Quarterly Monitoring Reports

Quarterly Monitoring Reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the quarter (i.e. the January-March quarterly report is due by May 1st). Monthly reports for the months of March, June, September, and December may be submitted as part of the Quarterly Monitoring Report, if desired. The Quarterly Report shall include the following:

1. 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 WDRs, 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 the casing volume; and total volume of water purged.
2. Calculation of groundwater elevations, an assessment of the groundwater flow direction and gradient on the date of measurement, comparison to previous flow direction and gradient data, and discussion of seasonal trends, if any.
3. A narrative discussion of the analytical results for all media and locations monitored, including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).
4. A comparison of monitoring data to the discharge specifications, groundwater limitations and surface water limitations, and explanation of any violation of those requirements.
5. Summary data tables of historical and current water table elevations and analytical results.
6. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and other sampling stations, and groundwater elevation contours referenced to mean sea level datum.
7. Copies of laboratory analytical report(s).

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 Quarterly Monitoring Report for the last quarter of the year;
2. The results from annual monitoring of groundwater wells, water supply, and supplemental

water supply;

3. If requested by staff, tabular and graphical summaries of all data collected during the year;
4. Data for monitoring and analysis performed on an annual basis (i.e., standard minerals and biosolids);
5. An evaluation of the performance of the wastewater treatment system, as well as a forecast of the flows anticipated in the next year;
6. An evaluation of the groundwater quality beneath the wastewater treatment facility;
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
8. 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;
9. The results from any sludge monitoring required by the disposal facility;
10. Summary of information on the disposal of sludge and/or solid waste;
11. A forecast of influent flows, as described in Standard Provision No. E.4; and
12. 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.

The Discharger shall implement the above monitoring program as of **1 March 2003**.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

6 February 2003
(Date)