

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2011-0810
FOR
MAXWELL PUBLIC UTILITIES DISTRICT AND FRANCIS CRINELLA
BIOSOLIDS LAND APPLICATION PROJECT
COLUSA COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring biosolids and biosolids land application areas. 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. Specific sampling locations shall be approved by Central Valley Water Quality Control Board (Central Valley Water Board) staff prior to implementation of sampling activities.

All samples shall be representative of the volume and nature of the material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

BIOSOLIDS MONITORING

Biosolids shall be sampled and analyzed as follows prior to land application. Results for all chemical constituents shall be reported in mg/Kg on a dry weight basis. Composite samples that are representative of the full mass being sampled may be used in lieu of grab samples if all required sample holding times are met.

<u>Constituent(s)</u>	<u>Number of Samples Required</u>
Metals (total) ¹	1 per 200 dry tons or 1 composite sample per 750 dry tons
PCB arochlors, aldrin, dieldrin ²	1 grab sample per 500 dry tons or 1 composite sample per 1,000 dry tons
Semi-volatile organics ³	1 grab sample per 500 dry tons or 1 composite sample per 1,000 dry tons
Percent moisture	1 grab sample per 200 dry tons or 1 composite sample per 750 dry tons
Total nitrogen	1 grab sample per 200 dry tons or 1 composite sample per 750 dry tons
Ammonia nitrogen	1 grab sample per 200 dry tons or 1 composite sample per 750 dry tons
Nitrate nitrogen	1 grab sample per 200 tons or 1 composite sample per 750 dry tons
Total phosphorus	1 grab sample per 200 tons or 1 composite sample per 750 dry tons
Total potassium	1 grab sample per 200 tons or 1 composite sample per 750 dry tons

¹ Include at least the following metals: arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc.

² Using SW 846 Method 8080.

³ Using EPA Method 8270.

ROUTINE FIELD MONITORING

The Discharger shall establish and implement an inspection and application oversight program to monitor and control biosolids application rates and ensure compliance with State Water Resources Control Board Order No. 2004-0012-DWQ (the General Order). Each discrete application field shall be managed and monitored as follows:

1. Pre-application Oversight:
 - a. Calculate allowable loading rate based on crop to be planted, soil nitrogen residual data, and plant available nitrogen (PAN) and moisture content data for the biosolids.
 - b. Document communication of allowable loading rates to spreader operator.
2. Pre-application Inspection:
 - a. Verify that setbacks are clearly delineated.
 - b. Verify that runoff controls are in place and functional.
 - c. Verify that culverts are blocked (where applicable).
3. Application Oversight:
 - a. Verify compliance with setbacks and allowable loading rate.
 - b. Verify compliance with soil incorporation requirements.
4. Post-application Oversight:
 - a. Confirm with irrigation manager requirements to control runoff for the specified period after application.
 - b. Calculate actual biosolids and PAN loading rates.
 - c. Note anticipated dates of planting, irrigation, and harvest.

CROP TISSUE MONITORING

Upon completion of each harvest event, representative samples of plant tissue from the harvested crop shall be sampled and analyzed as follows. Results for all chemical constituents shall be reported in mg/Kg on a dry weight basis.

<u>Constituent(s)</u>	<u>Number of Samples Required</u>
Molybdenum	1 composite sample per harvest event
Copper	1 composite sample per harvest event
Selenium	1 composite sample per harvest event

These analytical data shall be made available to any party that purchases the material for livestock feed.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form using the format provided in the example tables, which are part of this MRP, or in another approved format so that the date, sample type (e.g., biosolids), 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.

A. First (Post-Application) Annual Monitoring Report

An Annual Monitoring Report shall be submitted to the Central Valley Water Board after completion of all land application activities by **1 February 2012**. The First Annual Monitoring Report shall include the following:

1. A scaled site map depicting each discrete field, property boundaries, roads, on-site structures, surface water bodies, drainage features, and runoff controls (as applicable);
2. The results of all biosolids monitoring. Specifically, tabulated data shall be provided using the attached Biosolids Monitoring Results form (or approved revision thereof). Laboratory analytical reports must be attached.
3. The results of routine field monitoring. Specifically, tabulated information for each discrete application field used during the month shall be provided using the attached Field Monitoring Results form (or approved revision thereof).
4. For each discrete application field, a chronological log of dates of biosolids application, irrigation, precipitation, and runoff control operations. Specifically, tabulated information for each discrete application field shall be provided using the attached Field Activities Summary form (or approved revision thereof).
5. For each discrete application field:
 - a. Total cumulative metals loading rates as of the end of the land application project (include calculations);
 - b. Calculation of the total metals and nitrogen loading rates for the year;
 - c. The cumulative metals loading rates to date as a percentage of the cumulative metals loading limits.
6. For each discrete application field, a comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements.
7. A copy of the generator's monitoring report submitted to the U.S. EPA to comply with 40 CFR Part 503.

B. Subsequent Annual Monitoring Reports

An Annual Monitoring Report shall be submitted to the Central Valley Water Board by **1 February 2013 and by 1 February each subsequent year** until a Notice of Termination has been approved by the Executive Officer.¹

The Annual Monitoring Report shall include the following:

1. Dates of planting and harvest;
2. Crop harvested;
3. Mass harvested for each harvest event (tons);
4. The results of plant tissue testing for each harvest event;
5. Analytical laboratory reports; and
6. A copy of the test result disclosure document provided to each purchaser.

GENERAL REPORTING REQUIREMENTS

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall clearly indicate the Discharger's name, facility or site name, county, monitoring period, and type of report (i.e., monthly, quarterly, or annual). **The letter shall include a discussion of any requirement violations during the reporting period and actions taken or planned for correcting noted violations, such as operation or facility modifications.** If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to the Standard Provisions and Reporting Requirements, the transmittal letter shall contain a statement by the Discharger or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge, the report is true, accurate, and complete.

1. The collection, preservation and holding times of all samples shall be in accordance with U.S. Environmental Protection Agency approved procedures. A laboratory certified by the California Department of Health Services to perform the required analyses shall conduct all analyses, except soil nitrogen and plant tissue samples for selenium, copper and molybdenum. Analysis for soil nitrogen and plant tissue concentrations of selenium and molybdenum shall participate in a program similar to the North American Proficiency Testing Program (NAPT) operated by the Soil Science of America. The Executive Officer may allow use of an uncertified laboratory in accordance with Provision 18 of the General Order.
2. Each report shall be signed and contain the following certification:

¹ In accordance with Provision D.1.b of the General Order, termination cannot be approved until 38 months after the last Class B biosolids application.

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments 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 fine and imprisonment”.

3. 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
 - c. The written authorization is submitted to the Executive Officer.

4. The Discharger shall immediately (within 24 hours) report to the Central Valley Water Board and Director of County Environmental Health by telephone, with a follow-up letter, any discharge which threatens the environment or human health. During non-business hours, the Discharger shall report such discharges to the Office of Emergency Services by telephone at 1-800-852-7550.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: Original signed by Frederick Moss
PAMELA C. CREEDON, Executive Officer
27 June 2011
(Date)

Attachments: Biosolids Monitoring Results form
Field Monitoring Results form
Field Activities Summary form