CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 5-01-147

FOR
THEODORE COOK
COOK VALLEY RANCH WASTEWATER TREATMENT PLANT
CALAVERAS COUNTY

This Revised Monitoring and Reporting Program (MRP) describes requirements for monitoring of wastewater influent, effluent, storage ponds, spray irrigation areas, groundwater, biosolids, and water supply. 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.

This MRP is effective upon date of signature; however, monitoring of influent, effluent, storage pond, spray irrigation areas, biosolids, groundwater, and water supply need only be conducted once discharge of wastewater into the treatment and disposal system commences. In the meantime, the Discharger shall submit monthly status reports as described in the "Reporting" section of this MRP.

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.

## INFLUENT MONITORING

Influent flow monitoring shall be performed at the headworks. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent. Influent monitoring shall include the following:

| Constituent | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| $BOD_5$ | mg/L | Grab | Monthly | Monthly |

[1] 5-day biochemical oxygen demand.

## EFFLUENT MONITORING

Effluent samples shall be collected prior to discharge to the storage pond or sprayfield. At a minimum, effluent monitoring shall consist of the following:

| Constituent/Parameter | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Flow | gallons | Cumulative | Daily | Monthly |
| Total Coliform Organisms [2] | MPN/100 m | Grab | Weekly | Monthly |
| pH | pH units | Grab | Weekly | Monthly |
| BOD[1] | mg/l | Grab | Weekly | 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 |
| Standard Minerals [3] | mg/L | Grab | Annually | Annually |

[1] 5 Day, $20^0$ Celsius Biochemical Oxygen Demand
[2] Using a minimum of 15 tubes or three dilutions
[3] Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, magnesium, sodium, potassium, chloride, nitrogen, sulfate, total alkalinity (including alkalinity series), and hardness.

## STORAGE POND MONITORING

The Discharger shall monitor the storage pond as follows. If the reservoir is empty on the scheduled monitoring date, the Discharger shall report the freeboard monitoring result as "dry".

| Constituent/Parameter | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Freeboard | 0.1 Feet | Measurement | Weekly | Monthly |
| Dissolved Oxygen[1] | mg/l | Grab | Weekly | Monthly |
| Odors | -- | Observation | Weekly | Monthly |
| Levee condition[2] | -- | Observation | Weekly | Monthly |
| pH | pH units | Grab | Weekly | Monthly |

[1] Samples shall be collected at a depth of one foot, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.
[2] Containment levees shall be observed for signs of seepage or surfacing water along the exterior toe of the levees. If surfacing water is found, then a sample shall be collected and tested for total dissolved solids.

## SPRAY DISPOSAL AREA MONITORING

Monitoring of the spray disposal areas shall be conducted **daily** when the disposal areas are used, and the results shall be included in the monthly monitoring report. Evidence of erosion, saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in the report. Monitoring of the spray disposal areas shall include the following:

| Constituent | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Rainfall | Inches | Observation | Daily | Monthly |
| Acreage Applied [1] | Acres | Calculated | Daily | Monthly |
| Water Application Rate [2] | gal/acre/day | Calculated | Daily | Monthly |

[1] Land application areas shall be identified.
[2] For each disposal field area.

At least **once per week** when the spray disposal areas are being used, the entire sprayfield area shall be inspected to identify any equipment malfunction or other circumstances that might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the Waste Discharge Requirements. A log of each inspection shall be kept at the facility and be submitted with the monthly monitoring reports. If the spray disposal areas are not used, then the monthly monitoring reports shall state so.

## BIOSOLIDS MONITORING

The Discharger shall keep records regarding the quantity of biosolids generated by the treatment processes; any sampling and analytical data; the quantity of biosolids stored on site; and the quantity removed for disposal. The records shall also indicate any steps taken to reduce odor and other nuisance conditions. Records shall be stored onsite and available for review during inspections.

If biosolids are transported off-site for disposal, then the Discharger shall submit records identifying the hauling company, the amount of biosolids transported, and the location of disposal. If biosolids are disposed of onsite, then the Discharger shall submit the annual report information as contained in the Statewide General Order for the Discharge of Biosolids (Water Quality Order No. 2000-10-DWQ) (or any subsequent document which replaces Order No. 2000-10-DWQ).

All records shall be submitted as part of the Annual Monitoring Report.

## GROUNDWATER MONITORING

There are currently four groundwater monitoring wells at the facility (MW 1 through MW-4) This monitoring program applies to the four existing wells and to any new wells installed in response to the WDRs. Prior to construction 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, groundwater elevations shall be measured and the wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Depth to groundwater shall

be measured to the nearest 0.01 feet. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

| Constituent | Units | Type of Sample | Sampling and Reporting Frequency |
|---|---|---|---|
| Groundwater Elevation[1] | 0.01 Feet | Measurement | Quarterly |
| Depth to Groundwater | 0.01 Feet | Calculated | Quarterly |
| Gradient | Feet/Feet | Calculated | Quarterly |
| Gradient Direction | Degrees | Calculated | Quarterly |
| Total Coliform Organisms | MPN/100ml[2] | Grab | Quarterly |
| pH | Standard Units | Grab | Quarterly |
| Total Dissolved Solids | mg/l | Grab | Quarterly |
| Nitrates as Nitrogen | mg/l | Grab | Quarterly |
| Total Kjeldahl nitrogen | mg/l | Grab | Quarterly |
| Standard Minerals[3] | mg/l | Grab | Annually |

[1] Groundwater elevation shall be based on depth-to-water using a surveyed measuring point elevation on the well and a surveyed reference elevation.
[2] Using a minimum of 15 tubes or three dilutions
[3] Standard Minerals shall include, at a minimum, the following elements and compounds: Boron, Calcium, Iron, Magnesium, Manganese, Sodium, Potassium, Chloride, Sulfate, Total Alkalinity (including alkalinity series), and Hardness.

## WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following for each water source used during the previous year. As an alternative to annual water supply monitoring, the Discharger may submit results of the most current DHS water supply monitoring data.

| Constituents | Units | Sampling Frequency | Reporting Frequency |
|---|---|---|---|
| Total Dissolved Solids | mg/L | Annually | Annually |
| Standard Minerals [1] | mg/L | Annually | Annually |

[1] Standard Minerals shall include, at a minimum, the following elements/compounds: barium, boron, calcium, magnesium, sodium, potassium, chloride, nitrogen, sulfate, 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, 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 by the **1st 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. If the WWTP is not yet operational, then a status report shall be submitted stating that it is not yet operational and providing a timeline for anticipated start-up of the WWTP.

2. Once the WWTP is operational, then the report shall include the following:

    a. Results of influent, effluent, storage pond, and effluent spray disposal area monitoring;

    b. 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;

    c. If requested by staff, copies of laboratory analytical report(s);

    d. Copies of field inspection logs; and

    e. Date(s) on which the monitoring instruments were calibrated.

**B. Quarterly Monitoring Reports**

Submittal of quarterly monitoring reports to the Regional Board shall recommence within three months of the WWTP beginning operation. The Discharger shall establish a quarterly sampling schedule for groundwater and effluent monitoring (for constituents that require quarterly sampling) such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1st) each year. The Quarterly Report shall include the following:

1. Results of groundwater monitoring. The results of regular monthly monitoring reports for March, June, September and December may be incorporated into their corresponding quarterly monitoring report.

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. Field logs shall support the narrative 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 media and 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 discharge specifications, groundwater limitations and effluent limitations, and explanation of any violation of those requirements.

6. Summary of 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 reports(s) for groundwater water monitoring.

**C. Annual Monitoring Reports**

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** of each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of a regular quarterly monitoring report for the last quarter of the year.

2. If requested by staff, tabular and graphical summaries of all monitoring data collected during the year.

3. An evaluation of the performance of the wastewater treatment system, spray disposal field, and storage reservoir, as well as a forecast of the flows anticipated in the next year.

4. A summary of all wastewater collection system improvements completed during the year. The summary should also include any scheduled improvements in the next year.

5. An evaluation of the groundwater quality beneath the wastewater treatment facility.

6. A scaled map showing relevant structures and features of the facility, the locations of monitoring and sampling locations.

7. Summary of information on the disposal of biosolids including volume removed, location of disposal, and analytical data.

8. If biosolids were disposed onsite, then the annual report information as contained in the Statewide General Order for the Discharge of Biosolids (Water Quality Order No. 2000-10-DWQ) (or any subsequent document which replaces Order No. 2000-10-DWQ).

9. Whether the Discharger anticipates removing biosolids in the coming year, and if so, an anticipated schedule for cleaning, drying, and disposal.

10. The results of the water supply monitoring.

11. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

12. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found 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. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

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

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

_____
(Date)

JSK: 9/28/04