

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2010-0807
FOR
U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE
SEQUOIA-KINGS CANYON NATIONAL PARK
BUCKEYE WASTEWATER TREATMENT FACILITY
TULARE COUNTY

This monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) Section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample locations shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with ***Standard Provisions and Reporting Requirements for Waste Discharge Requirements*** (Standard Provisions), dated 1 March 1991 and attached hereto.

Field test instruments (such as pH) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program (ELAP). The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on [page 7](#).

INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks of the WWTF. Time of collection of the sample shall be recorded. Influent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	µmhos/cm	Grab
Monthly	BOD ₅	mg/L	24-hour composite
Monthly	TSS	mg/L	24-hour composite
Monthly ¹	Total Nitrogen	mg/L	24-hour composite

¹ Samples shall be collected monthly for the first year of monitoring, after which the Discharger may cease monitoring influent for total nitrogen.

EFFLUENT MONITORING

Effluent samples shall be collected at a point in the system following treatment and before discharge to the spray fields. Time of collection of the sample shall be recorded. Effluent monitoring shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	µmhos/cm	Grab
Weekly ¹	Chlorine Residual	mg/L	Grab ²
Weekly ¹	Coliform Organisms	mg/L	Grab ²
Monthly	BOD ₅	mg/L	Grab
Monthly	TSS	mg/L	Grab
Monthly	Total Nitrogen	mg/L	Grab
Quarterly/Annually ³	General Minerals	mg/L	Grab

¹ Weekly or with each discharge, whichever is less frequent.

² Samples shall be collected at a point in the system following the chlorine contact tank and before discharge to the spray fields.

³ Samples shall be collected quarterly for the first year of monitoring and annually thereafter.

POND AND SLUDGE MONITORING

A permanent marker (e.g., staff gage) shall be placed in the pond. The marker shall have calibrations indicating water level at the design capacity and available operational freeboard. Effluent treatment or storage pond monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Daily/Monthly ¹	DO	mg/L	Grab
Daily/Monthly ¹	Freeboard	Feet ²	Grab
Weekly	EC	µmhos/cm	Grab

¹ Daily during periods of WWTF operation; otherwise monthly.

² To nearest tenth of a foot.

The Discharger shall visually inspect the condition of the disposal and/or effluent storage ponds weekly and record observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether grease, dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark sparkling green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log shall be included in the subsequent monitoring report.

SPRAY FIELD MONITORING

During the operational season, the Discharger shall monitor and visually inspect the spray fields daily and record visual observations in a bound logbook. Notations shall include observations of malfunctioning spray nozzles, vegetation, soil moisture (e.g. dry, moist, or saturated), ponding, precipitation, and surface drainage.

SOURCE WATER MONITORING

For each source (whether well or surface water supply), the Discharger shall calculate the flow-weighted average concentrations for the specified constituents utilizing monthly flow data and the most recent chemical analysis conducted in accordance with Title 22 drinking water requirements. Alternatively, the Discharger may establish representative sampling stations within the distribution system serving the same area as is served by the WWTF.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Monthly	EC	µmhos/cm	Computed average
Annually	General Minerals	mg/L	Computed average

SLUDGE MONITORING

The Discharger shall monitor the level of accumulated sludge in the treatment and storage units of the WWTF monthly and keep records of the amount of sludge removed. Sludge shall be removed by a qualified waste hauler to a facility permitted to accept domestic sludge.

REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports** which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

- First Quarter Monitoring Report: **1 May**
- Second Quarter Monitoring Report: **1 August**
- Third Quarter Monitoring Report: **1 November**
- Fourth Quarter Monitoring Report: **1 February**

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory. If no discharges have occurred for the monitoring period, a letter stating that fact should be submitted with the appropriate signatory statement.

The following information is to be included on all monitoring and annual reports, as well as report transmittal letters, submitted to the Central Valley Water Board:

USDI NPS Sequoia-Kings Canyon National Park
Buckeye Wastewater Treatment Facility
Monitoring and Reporting Program No. R5-2010-0807
Current Contact Information (telephone number and email)

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. Monitoring data or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. If the chief plant operator is not in direct line of

supervision of the laboratory function for a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater reporting

1. The results of influent and effluent monitoring specified on [page 2](#).
2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.
3. For each month of the quarter, calculation of the 12-month rolling average EC of the discharge using the EC value for that month averaged with the EC values for the previous 11 months. Months with no data shall not be counted as zero values.
4. For each month of the quarter, calculation of the monthly average effluent BOD and TSS concentrations, and calculation of the percent removal of BOD and TSS compared to the influent.
5. For each month of the quarter, calculation of the maximum and average chlorine dosage (concentration of free chlorine multiplied by the estimated contact time).
6. If samples were not collected or analyzed, a detailed explanation (e.g. no samples were analyzed for coliform organisms because there was no discharge to the spray fields).

Pond reporting, including a table of freeboard, dissolved oxygen, and EC monitoring results, and a summary of the notations made in the pond monitoring log during each quarter. Copies of log pages covering the quarterly reporting period shall not be submitted unless requested by Central Valley Water Board staff.

Spray field reporting, including a summary of the notations made in the spray field monitoring log during each quarter specified on [page 3](#). Copies of log pages covering the quarterly reporting period shall not be submitted unless requested by Central Valley Water Board staff.

Sludge reporting, including a table of monthly sludge thickness monitoring results.

B. Fourth Quarter Monitoring Reports, in addition to the above, shall include the following:

Wastewater treatment facility information

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal.
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations.
3. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).
4. A statement whether the current operation and maintenance manual, sampling plan, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.
5. The results of an annual evaluation conducted pursuant to Standard Provision E.4 and a figure depicting monthly average discharge flow for the previous five calendar years.

Source Water reporting, including the results of EC monitoring specified on [page 3](#), and supporting calculations. The Discharger may submit a copy of its annual drinking water quality report rather than an additional annual source water analysis for general minerals.

Solids/Sludge monitoring, including the volume removed and the results of any additional monitoring required by the disposal facility. The report should include the name and location of the facility receiving the sludge, and the Order number of Waste Discharge Requirements that regulate the site.

The Discharger shall implement the above monitoring program by 1 July 2010.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

SJP/WDH: 6/7/2010

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand
CBOD	Carbonaceous BOD
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-Hour Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected at least every day.
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week.
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.
Monthly	Samples shall be collected at least once per month.
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months.
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
mL/L	milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
General Minerals	Analysis for General Minerals shall include at least the following:

Alkalinity	Chloride	Sodium
Bicarbonate	Hardness	Sulfate
Calcium	Magnesium	TDS
Carbonate	Potassium	

General Minerals analyses shall be accompanied by documentation of cation/anion balance.