# STATE OF CALIFORNIA
# CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
# CENTRAL COAST REGION

## MONITORING AND REPORTING PROGRAM NO. R3-2006-0067
## GENERAL NPDES PERMIT NO. CAG993002
## FOR
## DISCHARGES OF HIGHLY TREATED GROUNDWATER TO SURFACE WATERS
## MODIFIED: XX XX, 20XX

Discharges regulated under General National Pollutant Discharge Elimination System (NPDES) Permit for Highly Treated Groundwater to Surface Waters (General Permit) shall be subject to the following requirements unless such requirements are modified or waived by the Central Coast Regional Water Quality Control Board's (Central Coast Water Board) Executive Officer. **Additional requirements may be added by the Executive Officer if needed to adequately ensure compliance with the General Permit. This Monitoring and Reporting Program (MRP No. R3-2006-0067) may be revised, as necessary, by the Executive Officer.** Revisions may include addition of priority pollutants that exceed effluent limits (see Attachment D) in influent samples. Exceeded priority pollutants will be added to MRP No. R3-2006-0067 and are subject to sampling requirements as specified in Section G.2.b.

## A. GENERAL

Specific waste discharger reporting responsibilities are found in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and the Environmental Protection Agency's (EPA) Discharge Monitoring Report (Form 3320-1).

The principal purposes of a monitoring program by a waste discharger are: (1) to document compliance with waste discharge requirements and prohibitions established by the Central Coast Water Board; (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge; (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and (4) to prepare water quality inventories.

## B. DEFINITION OF TERMS

1. A *grab sample* is an individual sample collected in a short period of time not exceeding 15 minutes. The Discharger will collect grab samples during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. Analytical laboratory results of the grab sample typically determine compliance with annual effluent limits. Grab samples represent only the condition that exists at the time the discharge water is collected.

2. A *flow rate* is defined as an estimated or accurate measurement of the average daily flow rate using supportable mass transfer calculations or properly calibrated and maintained flow-measuring device.

3. A *duly authorized representative* is one whose:

a. Authorization is made in writing by a principal executive officer or ranking elected official;

b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity. Examples of this individual or position include a general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

4. A *discharge volume* is the total effluent throughput occurring within a specified time frame.

5. Abbreviations:

*GPD* = Gallons per day
*mg* = milligrams
*µg* = micrograms
*L* = liters
*°F* = degrees Fahrenheit
*NTU* = Nephelometric Turbidity Unit
*MPN* = most probable number

## C. ANALYTICAL METHODS

All groundwater extraction, treatment and discharge system samples shall be analyzed for all applicable groundwater pollutants specific to the discharge. All samples shall be collected, preserved, and analyzed in accordance with the most recent edition of *Test Methods for Evaluating Solid Wastes* (SW-846, EPA). Samples shall be submitted under chain of custody and analyzed by a California DHS certified laboratory.

A laboratory approved by the State Department of Health Services (DHS) or a laboratory waived by the Executive Officer from obtaining a certification by the DHS for specified analyses in this monitoring and reporting program shall conduct water and waste analyses. The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control (QA/QC) procedures in his or her laboratory and shall sign all reports of such work submitted to the Central Coast Water Board.

Proper calibration and maintenance of all monitoring instruments and equipment shall occur to ensure accuracy of measurements.

## D. TREATMENT SYSTEM DEFINED

The groundwater extraction and treatment system consists of [*Central Coast Water Board Staff: define the proposed treatment system and sampling location descriptions as described in the approved Notice of Intent*].

## E. DESCRIPTION OF SAMPLING STATIONS

1. Influent I-1: At a point after the extraction well(s) or a designated sampling port prior to the treatment system,

2. Midpoint: M-1, M-2, etc.: At a point or points between treatment systems to evaluate treatment system efficiency and monitor for contaminant breakthrough.

3. Effluent E-1: At a point in the discharge line immediately exiting the facility or site boundary but before discharge water mixes with any receiving water following treatment and before it joins or is diluted by any other waste stream, body of water, or substance.

4. Receiving Waters RU-1: At a point 50 feet upstream or up coast from the point of discharge into the receiving water, or if access is limited, at the first point upstream/coast which is accessible.

5. Receiving Waters RD-1: At a point 50 feet downstream or down coast from the point of discharge into the receiving water, or if access is limited, at the first point downstream/coast which is accessible.

## F. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The discharger is required to perform sampling and analyses according to the schedule in Section G of this MRP No. R3-2006-0067. Sampling and analysis shall be in accordance with the following:

1. If laboratory analyses result in an exceedance of effluent limits, collection of a confirmation sample shall occur within 24 hours and results known within 24 hours of the sampling. If the confirmation sample results in a constituent limit exceedance then the discharge shall terminate until the Discharger determines the cause of the violation and takes corrective measures. In this case, both the initial and confirmed exceedances are violations. Otherwise, only the initial exceedance is a violation.

2. If results of any single acute toxicity test indicate a threatened violation (i.e., the percentage of surviving test organisms is less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater, latest edition), a new test will begin and the Discharger shall investigate the cause of the mortalities and report the finding in the next self-monitoring report.

3. Collection of weekly samples shall occur on a representative day of each week.

4. Collection of monthly samples shall occur on a representative day of the month.

5. Collection of quarterly samples shall occur on a representative day of the respective quarter.

6. Collection of annual samples shall occur at the initiation of the discharge for the first sample and thereafter collected during the third quarter.

## G. MONITORING FREQUENCY & SAMPLING PROTOCOLS

The following shall constitute the monitoring program unless the Executive Officer modifies or waives the protocols. The Executive Officer may require additional monitoring if needed to adequately assure compliance with the General Permit.

1. Start Up Phase Monitoring: The Discharger shall notify the Executive Officer in writing of the start up date within 7 to 14 days before start up begins. During the initial effluent discharge, sampling of the effluent must occur on the first day. The discharger shall adhere to the following during startup:

   a. On the first day, the treatment system effluent shall run until at least three consecutive readings for pH, conductivity, and temperature are within five percent of each other. After attainment of consecutive readings for pH, conductivity, and temperature, the Discharger will collect and submit an effluent sample to a certified laboratory. Prior to receipt of the results of the initial samples, all effluent shall be discharged into a holding tank (that is contained, not discharged to the receiving water) until the results of the analyses show the discharge to be within the effluent limits established in this Order and/or in the authorization letter. Shut down of the treatment system may occur after the first day's sampling to await the laboratory analytical results and, thereby, reduce the amount of storage needed. For the stored effluent, if the results of the analyses show the discharge to be in violation, the effluent shall: 1) be treated until the treated effluent is in compliance, or 2) be disposed in accord with the provisions of Chapter 15, Title 23, California Code of Regulations.

   b. If the first day's sampling shows compliance with effluent limits, then the Discharger may discharge into the receiving water. If the Discharger is required to shut down the treatment system for more than 8 days following initial start up (awaiting analyses results, etc.), the Discharger must repeat the original sampling and start up procedures.

   c. The Discharger shall present the results of the laboratory analyses, flow rates, chain of custody forms, and descriptions of any changes or modifications to the treatment system in the start up report.

2. Treatment System Monitoring (Influent, Midpoint(s), Effluent): The Discharger shall conduct treatment system monitoring in accordance with the following requirements:

   a. The treatment system shall be sampled at the influent (I-1), midpoint(s) (M-1, M-2, M-3, etc.), and effluent (E-1) locations 1) at startup as described in Section G.1, 2) weekly during the first month of operation, and 3) monthly thereafter for the constituents listed in Table 1.

   b. If the Discharger detects any constituent in the influent above the water quality criteria (effluent limit) as listed in Attachment D [as required in the General Permit Section A.1.b.(3)] or Ocean Plan Table B, the discharger shall analyze the influent (I-1), midpoint(s) (M-1, M-2, M-3, etc.), and effluent (E-1) locations for each exceeded constituent **startup then monthly**. See Attachment D for priority polluant reporting minimum levels and acceptable analytical methods.

c. If the Discharger detects any priority pollutant or Ocean Plan Table B constituent in the influent above the reporting limit, but not above the water quality criteria, the discharger shall analyze the influent (I-1), midpoint(s) (M-1, M-2, M-3, etc.), and effluent (E-1) locations for each detected constituent **start up then quarterly**. See Attachment D for priority pollutant reporting minimum levels and acceptable analytical methods.

d. If the Discharger does not detect priority pollutants or Ocean Plan Table B constituents in the influent above the reporting limit, no additional sampling is required.

e. Representative samples collected from between and after the treatment systems shall be submitted under a two-week turn around time to evaluate for potential treatment system breakthrough, or for replacement of the treatment system media and rotation of the treatment vessels (if applicable).

f. Requests for changes in monitoring frequency and analyte analysis shall be submitted in writing for Central Coast Water Board staff review and Executive Officer approval.

g. At a minimum, sampling and analysis of the groundwater extraction, treatment, and discharge system for cleanup of petroleum hydrocarbon related spills shall be conducted in accordance with the following analytical methods:

Table 1. Monitoring Requirements

| Constituent | Units | Sample Type | EPA Method | Practical Quantification Limit (µg/L) | Frequency |
|---|---|---|---|---|---|
| Benzene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| Toluene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| Ethylbenzene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| Xylenes | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| TPH | µg/L | Grab | 8015B (modified) | 50.0 | Startup; weekly for first month; monthly thereafter |
| MTBE | µg/L | Grab | 8260B | 1.0 | Startup; weekly for first month; monthly thereafter |
| TBA | µg/L | Grab | 8260B | 10.0 | Startup; weekly for first month; monthly thereafter |

**OR** (as applicable to specific groundwater constituents)

g. At a minimum, sampling and analysis of the groundwater extraction, treatment and discharge system for the cleanup of volatile organic compound related spills shall be conducted in accordance with the following analytical methods:

Table 1. Monitoring Requirements

| Constituent | Units | Sample Type | EPA Method | Practical Quantification Limit (µg/L) | Frequency |
|---|---|---|---|---|---|
| tetrachloroethene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| trichloroethene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| cis-1,2-dicholorethene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| trans-1,2-dichloroethene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| vinyl chloride | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| 1,2-dichloroethane | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| 1,1-dichloroethene | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |
| 1,1,1-trichloroethane | µg/L | Grab | 8260B | 0.5 | Startup; weekly for first month; monthly thereafter |

3. Effluent (E-1) Monitoring:

a. The Discharger shall analyze representative samples of the effluent at location E-1 at **startup then annually** during the third quarter as follows:

Table 2. Effluent Sampling

| Constituent | Units | Minimum Frequency |
|---|---|---|
| pH | pH Units | Start-up then Annually |
| Total Suspended Solids | mg/L | Start-up then Annually |
| Total Dissolved Solids | mg/L | Start-up then Annually |
| Temperature | $^0$F | Start-up then Annually |
| Turbidity | NTU | Start-up then Annually |
| Dissolved Oxygen | mg/L | Start-up then Annually |
| Acute Toxicity[1] | % survival | Start-up then Annually |

[1] Collect samples and analyze according to EPA Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002 (EPA-821-R-02-012)

4. Flow Rate Monitoring: The Discharger shall continuously measure the volume and flow rate of water extracted from the well(s) and discharged to the storm drain system or surface water during treatment system operation. You shall monitor the flow at the influent (I-1) and the effluent (E-1) locations. A treatment system operational log shall be maintained documenting periods of system operation, shut down, and maintenance.

5. Receiving Water Monitoring: In addition to the monitoring requirements stated above, the Discharger shall keep a log of the receiving water conditions throughout the reach bounded by stations RU-1 and RD-2. At a minimum of quarterly, the discharger shall record the visual observations made of the receiving water for the presence or absence of:

Table 3. Receiving Water Monitoring

| Observation | Minimum Frequency |
|---|---|
| Floating or suspended matter in the water | Start-up then Quarterly |
| Discoloration of the water | Start-up then Quarterly |
| Bottom deposits | Start-up then Quarterly |
| Visible films, sheens, or coatings | Start-up then Quarterly |
| Fungi, slimes, or objectionable growths | Start-up then Quarterly |
| Potential nuisance conditions | Start-up then Quarterly |

## H. REPORTING

The Discharger shall provide the Central Coast Water Board with the following reports.

1. Start-up Report: A report on the start-up phase shall be submitted to the Central Coast Water Board no more than fifteen days after the end of the start-up phase. This report shall include field logs of observations and measurements, laboratory results, and a certification that a professional engineer or geologist certified in California oversees the treatment system operation and maintenance activities.

2. Quarterly Monitoring Reports: The Discharger shall submit hard copy quarterly reports by the **30th day of the month** following each calendar quarter (i.e., **January, April, July, and October**). The Discharger shall include annual sampling results by the 30th day of October. In addition, the Discharger shall submit electronic copies of reports and analytical data to the State Water Board's GeoTracker database by the dates listed above (California Code of Regulations Sections 3890-3895). The quarterly reports shall contain, at a minimum:

   a. Results from the monitoring specified in Section G above. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, constituents, and concentrations are readily discernible. The Discharger shall summarize the data to clearly illustrate whether the discharge complies with the General Permit and MRP No. R3-2006-0067 requirements.

   b. A treatment system operation log including system operation and shut-down periods, maintenance, and any non-routine operational changes made to the groundwater extraction, treatment and discharge system during the reporting period.

c. A table and description of the treatment system flow rate and mass removed including: quarterly and cumulative extraction and discharge water volumes and flow rates, quarterly and cumulative contaminant removal estimates.

d. A detailed discussion of treatment system performance, including recommended modifications.

e. A site map showing extraction wells, monitoring wells, and the storm drain, or surface water, discharge location.

f. A treatment system diagram/schematic showing system configuration and associated piping, flow path, and sampling locations.

g. A letter signed in accordance with section G.13 of the General Permit, certifying compliance with this General Permit.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Monitoring and Reporting Program, the results of such monitoring shall be included in the monitoring reports. In addition, the Discharger shall report all constituents detected above the method detection limit.

The monitoring reports are required pursuant to Section 13267 of the California Water Code. Pursuant to Section 13268 of the Water Code, a violation of a request made pursuant to Section 13267 may subject you to civil liability assessment of up to $1,000 per day.

Ordered By: _____
Executive Officer

_____
Date

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