California Regional Water Quality Control Board
Santa Ana Region

Staff Report

December 2, 2022

ITEM: ***7**

SUBJECT: Renewal of Waste Discharge Requirements for the City of San Bernardino Municipal Water Department's Geothermal Facility, Order No. R8-2022-0049, NPDES No. CA8000015, San Bernardino County

DISCUSSION:

See attached Fact Sheet (Attachment F) of WDRs Tentative Order No. R8-2022-0049.

RECOMMENDATIONS:

Adopt Order No. R8-2022-0049, NPDES Permit No. CA8000015, as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency (WTR-5), Region 9 – Elizabeth Sablad Sablad.Elizabeth@epa.gov
U.S. Environmental Protection Agency (WTR-2-3), Region 9 – Julie Song Song.Julie@epa.gov
U.S. Army Corps of Engineers, Los Angeles District – Mark McLarty Mark.W.Mclarty@usace.army.mil
U.S. Fish and Wildlife Service, Carlsbad – Christine Medak Christine_Medak@fws.gov
U.S. Fish and Wildlife Service – Jonathan Snyder Jonathan_D_snyder@fws.gov
State Water Resources Control Board, Office of the Chief Counsel – Katharine Bramble Katharine.Bramble@Waterboards.ca.gov
State Water Resources Control Board, DWQ – Afrooz Farsimadan Afrooz.Farsimadan@waterboards.ca.gov
State Department of Fish and Wildlife, Ontario – Ali Aghili Ali.Aghili@wildlife.ca.gov
State Department of Water Resources, Glendale – Brian Moniz Brian.Moniz@water.ca
Orange County Water District – Jason Dadakis JDadakis@ocwd.com
San Bernardino County Transportation/Flood Control District – Annesley Ignatius Aignatius@dpw.sbcounty.gov
San Bernardino County Environmental Health Services – Josh Dugas Joshua.Dugas@dph.sbcounty.gov
City of San Bernardino, Municipal Water Department – Jennifer Shepardson Jennifer.Shepardson@sbmwd.org
Inland Empire Waterkeeper – Meagan Brousseau Megan@iewaterkeeper.org
Orange County Coastkeeper – Garry Brown Garry@coastkeeper.org
Natural Resources Defense Council – Anne Hawke ahawke@nrdc.org

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TENTATIVE ORDER NO. R8-2022-0049
NPDES NO. CA8000015

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT GEOTHERMAL FACILITY SAN BERNARDINO, SAN BERNARDINO COUNTY

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger/Operator	City of San Bernardino Municipal Water Department
Name of Facility	Geothermal Facility, San Bernardino
Facility Address	1350 South E Street
	San Bernardino, CA 92408
	San Bernardino County

The discharge by the City of San Bernardino Municipal Water Department from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Non-contact heated water discharged to lined Lytle Creek Channel	34°5’45”N	117°18’0”W	Lytle Creek Channel
002	Non-contact heated water discharged to lined East Twin Creek Channel	34°6’15”N	117°16’15”W	Lined East Twin Creek Channel
002A	Non-contact heated water discharged to lined East Twin Creek Channel	34°6’15”N	117°16’15”W	Lined East Twin Creek Channel
003	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	34°6’15”N	117°17’0”W	Warm Creek Channel
003A	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	34°6’15”N	117°17’15”W	Warm Creek Channel
004A	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	34º6’30”N	117º17’30”W	Warm Creek Channel
004B	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	34°6’15”N	117°17’30”W	Warm Creek Channel
004C	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	34º6’15”N	117º17’30”W	Warm Creek Channel
004D	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	34°5’15”N	117°17’30”W	Warm Creek Channel
007	Non-contact heated water discharged to Warm Creek Channel, natural channel to Santa Ana River	34°3’45”N	117°17’0”W	Warm Creek Channel

Table 3. Administrative Information

This Order was adopted by on:	**December 2, 2022**
This Order shall become effective on:	**January 1, 2023**
This Order shall expire on:	**December 31, 2027**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Santa Ana Region have classified this discharge as follows:	**Minor**

I, Jayne Joy, Executive Officer, do hereby certify that this Order No. R8-2022-0049 with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on December 2, 2022.

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Jayne Joy, P.E., Executive Officer

Table of Contents

List of Tables

List of Attachments

I. FACILITY INFORMATION

Information describing the City of San Bernardino Municipal Water Department and its Geothermal Facility is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Santa Ana Water Board), finds:

A. Legal Authorities. This Order serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of California Water Code (CWC) commencing with Section 13260. This Order shall also serve as an NPDES permit pursuant to Section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the CWC for point source discharges from this facility to the surface waters.

B. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through I are also incorporated into this Order.

C. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

D. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes and rescinds Order No. R8-2015-0007, except for purposes of enforcement of the previous order, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Santa Ana Water Board from taking enforcement action for violations of the previous order.

III. DISCHARGE PROHIBITIONS

The discharge of any substance in concentrations toxic to human, animal, plant, or aquatic life is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001 to 007

1. The discharge shall be limited to extracted and cooled geothermal groundwater that complies with the requirements of this Order.

2. There shall be no visible oil and grease in the discharge.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. The discharge shall not cause any of the following:

   a. The increase in the temperature of the receiving waters above 90^0F (32^0C) from June through October or above 78^0F (26^0C) during the rest of the year.

   b. The undesirable discoloration of the receiving waters, which causes or adversely affects beneficial uses.

   c. Deposition of oil, grease, wax or other materials in the receiving waters in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or affect beneficial uses.

   d. An increase in the amounts of suspended or settleable solids of the receiving waters, which will cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

   e. Taste or odor-producing substances in the receiving waters at concentrations, which cause a nuisance or adversely affect beneficial uses.

   f. The presence of radioactive materials in concentrations which are deleterious to human, plant or animal life.

   g. The depletion of the dissolved oxygen concentration below 5.0 mg/l in those creeks, tributaries, and the Reaches 4 and 5 of Santa Ana River. In addition, the waste discharge shall not cause the median dissolved oxygen concentration to fall below 85% of saturation or the 95th percentile concentration to fall below 75% of saturation within a 30-day period.

2. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Santa Ana Water Board or State

Water Board, as required by the Clean Water Act and regulations adopted thereunder.

3. Pollutants not specifically mentioned and limited in this Order shall not be discharged at levels that will bioaccumulate in aquatic resources to levels, which are harmful to human health.

4. The Discharger must not cause or contribute to toxics in toxic amounts in the receiving water.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

   b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Santa Ana Water Board by telephone (951) 782-4130 or by email at info8@waterboards.ca.gov within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, and/or email within 24 hours. The email notifications allow for proper documentation and can help to outline the issue that has occurred, unless the Santa Ana Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

   c. The discharge of pollutants shall not create a pollution, contamination, or nuisance as defined by Section 13050 of the CWC.

   d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order,

including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of this Order;

(2) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;

(3) In addition to any other grounds specified herein, this Order may be modified or revoked at any time if, on the basis of any data, the Santa Ana Water Board determines that continued discharges may cause unreasonable degradation of water quality.

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

g. The Discharger shall file with the Regional Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

(1) Adding a major industrial waste discharge to a discharge of essentially domestic sewage or adding a new process or product by an industrial facility resulting in a change in the character of the waste.
(2) Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.
(3) Significantly changing the method of treatment.
(4) Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality objectives.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

d. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened, if necessary and appropriate, to specify revised waste discharge requirements based on the results of the investigation required.

2. Best Management Practices and Pollution Prevention

a. **Pollutant Minimization Program**

(1) The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

i. A sample result is reported as DNQ and the effluent limitation is less than the RL; or

ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section VIII.B.3.

(2) The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Santa Ana Water Board:

i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

v. By April 1st of each year an annual status report shall be sent to the Santa Ana Water Board that includes the following:

(a) All PMP monitoring results for the previous year;

(b) A list of potential sources of the reportable priority pollutant(s);

(c) A summary of all actions undertaken pursuant to the control strategy; and

(d) A description of actions to be taken in the following year.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge or when applicable, the median determined by subsection B above for multiple sample data of a daily discharge exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

E. Compliance Determination

Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e. g., monthly or weekly average), that sample shall serve to characterize the discharge for the entire interval. If quarterly sample results show noncompliance with the average monthly limit and that sample result is used for compliance determinations for each month of the quarter, then three separate violations of the average monthly limit shall be deemed to have occurred.

Compliance with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), based on a single sample shall be determined by considering the concentrations of individual members of the group to be zero if the analytical response for the individual chemical falls below the method detection limit (MDL) for that chemical.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Best Management Practices (BMPs) are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Criteria Continuous Concentration (CCC) equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

Criteria Maximum Concentration (CMC) equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Dilution Ratio is the critical low flow of the upstream receiving water divided by the flow of the effluent discharged.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Existing Discharger means any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., an existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after the effective date of this Policy).

Infeasible means not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Load Allocation (LA) is the portion of receiving water's total maximum daily load that is allocated to one of its nonpoint sources of pollution or to natural background sources.

Maximum Daily Flow is the maximum flow sample of all samples collected in a calendar day.

MEC: Maximum Effluent Concentration.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (*n*) is odd, then the median = $X_{(n+1)/2}$. If *n* is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the *n*/2 and *n*/2+1).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

New Discharger includes any building, structure, facility, or installation from which there is, or may be, a discharge of pollutants, the construction of which commenced after the effective date of this Policy.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Objectionable Bottom Deposits are an accumulation of materials or substances on or near the bottom of a water body, which creates conditions that adversely impact aquatic life, human health, beneficial uses, or aesthetics. These conditions include, but are not limited to, the accumulation of pollutants in the sediments and other conditions that result in harm to benthic organisms, production of food chain organisms, or fish egg development. The presence of such deposits shall be determined by RWQCB(s) on a case-by-case basis.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if

required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

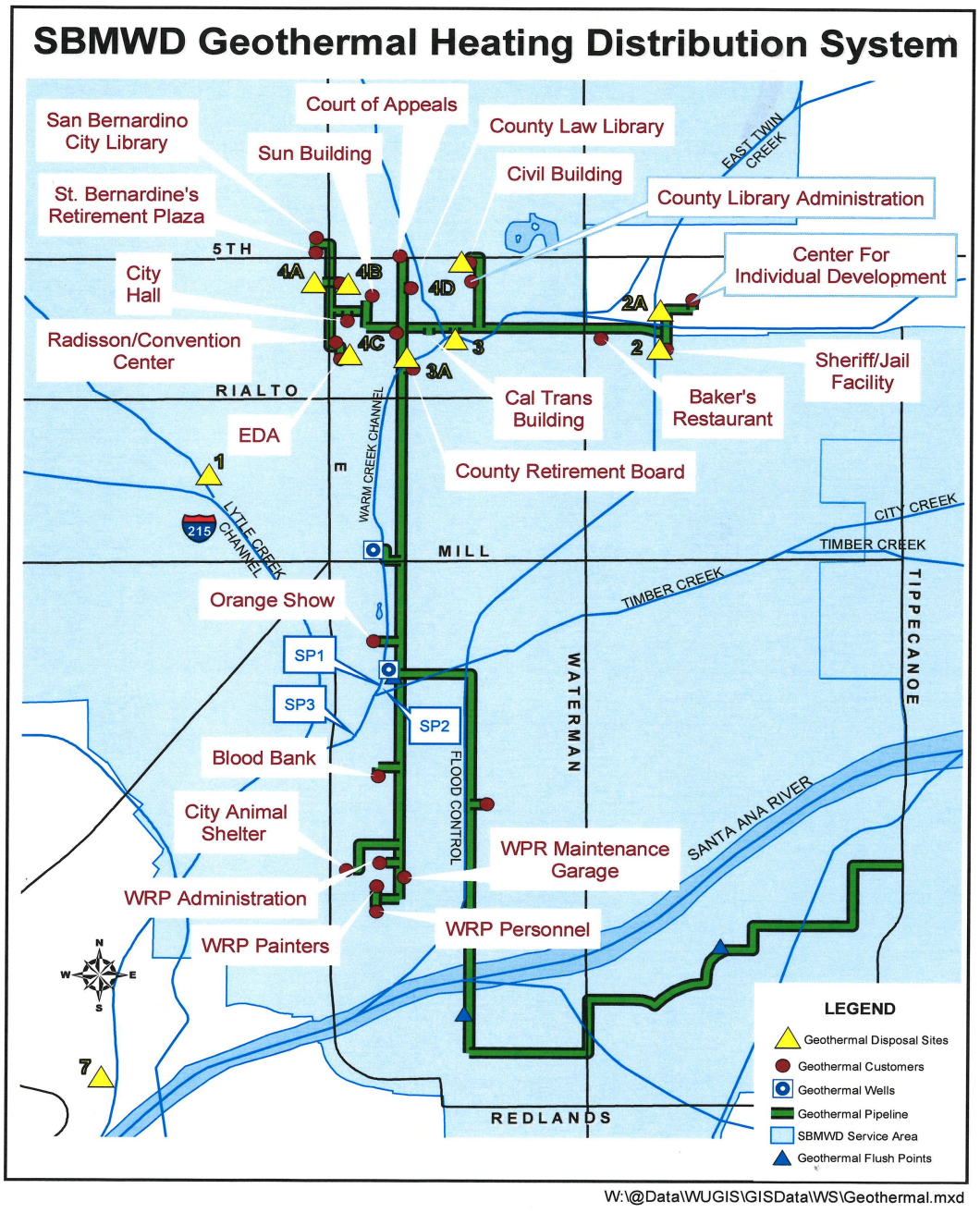
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Use Attainability Analysis is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological and economic factors as described in 40 CFR 131.10(g) (40 CFR 131.3, revised as of July 1, 1997).

Water Effect Ratio (WER) is an appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

Attachment B – Location MAP and Geothermal heating system



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 CFR § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Santa Ana Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 CFR § 122.41(i); Water Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 CFR § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 CFR § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 CFR § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 CFR § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass – Not Applicable

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Santa Ana Water Board. The Santa Ana Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 CFR part 136 for the analyses of pollutants unless another method is required under 40 CFR chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter 1, subchapter N for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or otherwise required under 40 CFR chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 CFR §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Santa Ana Water Board's Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Santa Ana Water Board, State Water Board, or USEPA within a reasonable time, any information which the Santa Ana Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Santa Ana Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Water Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Santa Ana Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Santa Ana Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as 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.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Santa Ana Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Santa Ana Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Santa Ana Water Board or State Water Board.

As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Santa Ana Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   As of December 21, 2025, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Santa Ana Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The Santa Ana Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Santa Ana Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(ii)(B).)

F. Planned Changes

The Discharger shall give notice to the Santa Ana Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Santa Ana Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. The Santa Ana Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Santa Ana Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 CFR part 127 to the initial

recipient defined in 40 CFR section 127.2(b). USEPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 CFR section 127.2(c)]. USEPA will update and maintain this listing. (40 CFR § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Santa Ana Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268,13350, 13385, 13386, and 13387.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

List of Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Santa Ana Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements pursuant to the authority of these federal and California laws and/or regulations.

The purpose of this MRP is to determine and ensure Discharger's compliance with effluent limitations and other requirements established in the Order, assess treatment efficiency, characterize effluents, characterize the receiving water and the effects of the discharge on the receiving water, and assess the impacts to all forms of aquatic life. This MRP also specifies requirements concerning the proper use, maintenance, and installation of monitoring equipment and methods, and the monitoring type intervals and frequency necessary to yield data that are representative of the activities and discharges regulated under this Order.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association) or 40 CFR part 136 *"Guidelines Establishing Test Procedures for the Analysis of Pollutants,"* promulgated by the United States Environmental Protection Agency (USEPA).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR part 136 *"Guidelines Establishing Test Procedures for the Analysis of Pollutants,"* promulgated by USEPA, unless otherwise specified in this MRP. In addition, the Santa Ana Water Board and/or USEPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR part 136. For priority pollutants, the test methods must meet the lowest minimum levels (MLs) specified in Attachment H of this Order and achievable by an Environmental Laboratory Accreditation Program (ELAP) certified commercial laboratory (or laboratories); where no methods/MLs are specified in Attachment I, then monitoring is to be conducted in accordance with methods/MLs approved by the Santa Ana Water Board or the State Water Resources Control Board (State Water Board) consistent with the State Water Board's Quality Assurance (QA) Program.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Water Board's Division of Drinking Water in accordance with the provision of Water Code section 13176, or conducted at a laboratory certified for such analyses by the USEPA or at laboratories approved by the Santa Ana Water Board's Executive Officer.

4. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

5. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For chromium (VI), the dissolved method in conformance with 40 CFR part 136 may be used to measure compliance with the chromium (VI) monitoring requirements.

6. For effluent wastewater monitoring:

   a. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[1] specified in Attachment "H" for priority pollutants, unless an alternative minimum level is approved by the Santa Ana Water Board's Executive Officer. When there is more than one ML value for a given substance, the discharger shall use the ML values, and their associated analytical methods listed in Attachment H that are below the effluent limitation. For analysis of priority pollutants without effluent limitations, the Discharger shall use an ML value that is below the trigger values listed in Attachment I. If no ML value is below the effluent limitation, or the trigger value listed in Attachment I, then the lowest ML and associated analytical method shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Santa Ana Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

   b. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

      (1) Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

      (2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[2], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

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1 *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.*

2 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B.*

(3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

c. The Discharger shall submit to the Santa Ana Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment "G" – Priority Pollutant Lists. The Discharger shall report with each sample result:

(1) The minimum level achieved by the testing laboratory; and

(2) The laboratory's current MDL, as determined by the procedure found in 40 CFR part 136.

d. For receiving water monitoring and for those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR part 136. In situations where the most stringent applicable receiving water objective (freshwater or human health (consumption of organisms only)), as specified for that pollutant in 40 CFR 131.38[3] is below the minimum level value specified in Attachment "H" and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

7. All analytical data shall be reported with identification of practical quantitation levels and with MDLs, as determined by the procedure found in 40 CFR part 136.

8. The Discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Santa Ana Water Board or USEPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

9. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Santa Ana Water Board by letter when compliance with the time schedule has been achieved.

10. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supercedes

[3] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Santa Ana Water Board at any time. Records of monitoring information shall include:

a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;

b. The laboratory which performed the analyses;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The modification(s) to analytical techniques or methods used;

f. All sampling and analytical results, including

   (1) Units of measurement used;

   (2) Minimum reporting level for the analysis (minimum level);

   (3) Results less than the reporting level but above the method detection limit (MDL);

   (4) Data qualifiers and a description of the qualifiers;

   (5) Quality control test results (and a written copy of the laboratory quality assurance plan);

   (6) Dilution factors, if used; and

   (7) Sample matrix type.

g. All monitoring equipment calibration and maintenance records;

h. All original strip charts from continuous monitoring devices;

i. All data used to complete the application for this Order; and,

j. Copies of all reports required by this Order.

k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

11. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

12. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as

necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the Discharger shall obtain a representative grab sample each day the equipment is out of service. The Discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. In its monitoring report, the Discharger shall specify the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the Discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

13. Monitoring and reporting shall be in accordance with the following:

    a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

    b. The monitoring and reporting of influent and effluent shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this Order.

    c. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR) specified by the Santa Ana Water Board's Executive Officer.

    d. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

    e. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

    f. Daily samples shall be collected on each day of the week.

    g. Monthly samples shall be collected on any representative day of each month.

    h. Quarterly samples: A representative grab sample shall be taken on any representative day of January, April, July, and October.

    i. Semi-annual samples shall be collected in January and July.

14. Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Board's Division of Drinking Water, in accordance with the provision of Water Code section 13176 and must include quality assurance/quality control data with their reports.

15. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 1 Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description	Latitude	Longitude
--	M-INF 001	Well water pump station Mill and D	34°5'33.74" N	117°17'30.95" W
		Well water pump station Meeks and Daley	34°5'10.43" N	117°17'23.55" W
001, 002, 002A, 003, 003A, 004A, 004B, 004C, & 004D	AIR1	Ambient air temperature taken at wells.	34°5'33.74" N 34°5'10.43" N	117°17'30.95" W 117°17'23.55" W
	R-001U (Former UP1)	Ambient water temperature of upstream (Lytle Creek Flood Control Channel) not influenced by geothermal water.	34°4'54.92" N	117°17'46.89" W
003, 003A, & 004C	R-001D (Former SP1)	Noncontact geothermal water discharged to Warm Creek Channel.	34°5'9.99" N	117°17'27.02" W
002, 002A	R-002D (Former SP2)	Noncontact geothermal water discharged to lined East Twin Creek Channel.	34°5'9.02" N	117°17'26.04" W
001, 002, 002A, 003, 003A, 004A, 004B, 004C, & 007	R-003D (Former SP3)	Downstream of the junction of East Twin Creek and Warm Creek	34°5'7.86" N	117°17'27.36" W

III. INFLUENT MONITORING REQUIREMENTS

Table 2 Geothermal Influent Monitoring M-INF 001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	mgd	Recorder/ Totalizer	Monthly Reading	--
Temperature	°F	Recorder, or manual grab (see IV.A.4, below)	Monthly	--
pH	pH units	Grab	Annually	See Sections I.A.2., I.A.3. above of this MRP
Total Hardness	mg/L	Grab	"	See Sections I.A.2., I.A.3., I.A.5

Table 2 Geothermal Influent Monitoring M-INF 001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
				above of this MRP
Total Dissolved Solids	mg/L	Grab	"	"
Selenium	µg/L	Grab	"	"
Mercury	µg/L	Grab	"	"
Arsenic	µg/L	Grab	"	"
Remaining EPA Priority Pollutants (See Attachment "G")[1]	µg/L	Grab	Once, during the first year	"

[1] The monitoring frequency for those priority pollutants that are detected during the required annual monitoring at a concentration greater than the concentration specified for that pollutant in Attachment I shall be accelerated to quarterly for one year. To return to the monitoring frequency specified, the Discharger shall request and receive approval from the Santa Ana Water Board's Executive Officer or designee.

IV. EFFLUENT MONITORING REQUIREMENTS TO SURFACE WATER

Monthly, effluent temperatures shall be monitored at all discharge points that are being used.

V. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location R-001U for Surface Waters

Upstream receiving water temperature shall be measured, once per month, at a point not influenced by the geothermal discharge at a distance of not more than 500 feet from the point of discharge.

B. Monitoring Location R-001D though R-003D for Surface Waters

Temperature shall be monitored at the receiving waters, once per month, within five to ten feet downstream from the discharge point after the discharge has been mixed with the receiving water. Also, any significant changes in the ambient temperatures that may have an impact on the receiving water temperatures must be reported in the next monitoring report following the monitoring period.

VI. OTHER MONITORING REQUIREMENTS

Ambient air temperature shall be monitored at the geothermal wells once per month.

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. All analytical data shall be reported with method detection limit[4] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs).
3. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Santa Ana Water Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.
4. Discharge monitoring data shall be submitted in a format acceptable by the Santa Ana Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Santa Ana Water Board and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.
5. The Discharger shall tabulate the monitoring data to clearly illustrate compliance and/or noncompliance with the requirements of the Order.
6. The Discharger shall submit to the Santa Ana Water Board reports necessary to determine compliance with effluent limitations in this Order and shall follow the chemical nomenclature and sequential order of priority pollutant constituents shown in Attachment “G” – Priority Pollutant Lists. The Discharger shall report with each sample result:
   a. The reporting level achieved by the testing laboratory; and
   b. The laboratory’s current MDL, as determined by the procedure found in 40 CFR part 136.
   c. For those priority pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136. In situations where the trigger value listed in Attachment I is below the minimum level value specified in Attachment H and the Discharger cannot achieve an MDL value for that pollutant below or equal to the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.
7. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify

[4] *The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, 'Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.*

the Santa Ana Water Board by letter when compliance with the time schedule has been achieved.

8. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

Table 3 Reporting Requirements

Parameter	Measurement/Unit	Reporting Frequency
Flow	Monthly total flow, million gallons; and Last 12-month average daily flow as mgd of production and discharged.	Quarterly, On the 1st day of second month following each quarter.
Temperature at R-001U (Lytle Creek Flood Control Channel)	°F	"
Temperature of Ambient Air Taken at Wells	°F	"
Temperature of Effluent	°F	"
Temperature of Receiving Water at R-001D through R-003D	°F	"
Influent Monitoring per Table 2, pH and Temperature	pH units and °F	"
All Other Table 2 Parameters	µg/L, mg/L	April 1 of each year

B. Self Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website <http://www.waterboards.ca.gov/water_issues/programs/ciwqs/>. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 4 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	The effective day of this Order	All	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit date if that date is first day of the month	1st day of calendar month through last day of calendar month	first day of the second month following the reporting period, submit as monthly SMR
Quarterly	Closest of January 1, April 1, July 1, or October 1 following	January 1 through March 31, samples are colleted in January; April 1 through June 30; samples are	first day of the second month following the reporting period, submit

Table 4 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
	permit effective date	colleted in April; July 1 through September 30; samples are colleted in July; October 1 through December 31; samples are colleted in October	with monthly SMR
Annually	The effective day of this Order	January 1 through December 31	April 1 each year including report requirements in Attachments

3. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

4. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and Attachment A. For purposes of reporting and administrative enforcement by the Santa Ana Water Board and State Water Board, the Discharger shall be deemed out of

compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

5. Multiple Sample Data. When determining compliance with an AMEL for priority pollutants and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. By April 1 of each year, the Discharger shall submit an annual report to the Regional Water Board. The annual report shall include the following:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous year;

   b. A discussion of the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements;

   c. A summary of the quality assurance (QA) activities for the previous year; and

d. For priority pollutant constituents that do not have effluent limitations but are required to be monitored, the Discharger shall evaluate the monitoring data obtained during the previous year and determine whether detected constituents are at levels that would warrant reopening the permit to include effluent limitations for such constituent(s). To conduct this evaluation, the concentration of detected constituents shall be compared to the most stringent applicable receiving water objectives (freshwater or human health (consumption of organisms only) as specified for that pollutant in 40 CFR 131.38[5]). The Discharger shall include a discussion of the corrective actions taken or planned to address values above receiving water objectives.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are USEPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at: http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

5 *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

ATTACHMENT F – FACT SHEET

Table of Contents

List of Tables

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) incorporates this Fact Sheet as findings of the Santa Ana Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID	8 362233001
Discharger/Operator	City of San Bernardino Municipal Water Department
Name of Facility	Geothermal Facility, San Bernardino
Facility Address	1350 South E Street San Bernardino, CA 92408 San Bernardino County
Facility Contact, Title and Phone	Jennifer L. Shepardson, Director of Environmental and Regulatory Compliance, (909) 453-6020
Authorized Person to Sign and Submit Reports	Jennifer L. Shepardson, Director of Environmental and Regulatory Compliance, (909) 453-6020
Mailing Address	1350 South E Street San Bernardino, CA 92408 San Bernardino County
Billing Address	1350 S. E Street, San Bernardino, CA 92408
Type of Facility	Industrial-geothermal facility
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	N
Reclamation Requirements	N
Facility Permitted Flow	2.88 million gallons per day (MGD)
Facility Design Flow	2.88 MGD
Watershed	Santa Ana River watershed
Receiving Water	Tributaries to Reach 4 and 5 of Santa Ana River
Receiving Water Type	Inland Surface Water

A. The City of San Bernardino, Municipal Water Department (hereinafter SBMWD or Discharger) is the owner and operator of the Geothermal Facility (hereinafter Facility).

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges geothermal wastewater to creeks and storm drainage systems that are tributaries to Reaches 4 and 5 of the Santa Ana River. The creeks and the Santa Ana River are waters of the United States. On May 1, 2015 the Santa Ana Water Board issued waste discharge requirements (WDRs) Order No. R8-2015-0007 and National Pollutant Discharge Elimination System (NPDES) permit authorizing the SBMWD to discharge geothermal wastewater to Reaches 4 and 5 of the Santa Ana River. Order No. R8-2015-0007 expired on April 30, 2020. Since the Discharger filed a timely application for renewal of its permit, the terms and conditions of Order No. R8-2015-0007 have been automatically continued and remain in effect until new WDRs, which also serve as an NPDES permit, are adopted pursuant to this Order. Attachment B provides a map of the area around the Facilities and the geothermal heating distribution system.

C. On January 30, 2020, the Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit. A site visit was conducted on March 2, 2022, to observe operations and collect additional data to develop permit limitations and conditions. The application was deemed complete on July 19, 2022.

D. Regulations at 40 CFR § 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to CCR's title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits (See also 40 CFR § 122.6(d)).

II. FACILITY DESCRIPTION

A. Description of Facility Background

The Discharger owns and operates two geothermal production wells. One well, known as "Meeks and Daley No. 66", is located at Central Avenue and South Arrowhead Avenue and the other is located at "D" Street and Mill Street. Both wells are in the City of San Bernardino. The wells are pumped alternately and produce up to 2.88 million gallons per day of geothermal water from within the San Jacinto Fault system.

Geothermal water is extracted and delivered through insulated pipes to heat various municipal buildings, including City Hall and other buildings in the downtown area of the City of San Bernardino. The pipeline has a total length of about 18 miles. The geothermal water is coursed through non-contact heat exchanger systems where the geothermal heat is transferred to domestic water. The domestic water temperature is

raised from 62ºF to 86ºF, while the geothermal water temperature of up to 112ºF is cooled to various temperatures, the lowest to 56ºF.

B. Discharge Points and Receiving Waters

The following table shows the well production and discharge flow.

Table 2. Summary of Extraction Rate and Discharge Flow from Each Well

Well No.	Extraction Rate Max Daily	Discharged Flow to Creeks From Heating System Max Daily
"D"	1.175 MGD in Oct. 2021	0.96 MGD in Sep. 2021
#66	1.197 MGD in Apr. 2021	0.932 MGD in Jul. 2021

Table 3. Summary of Total Extracted Flow and Discharge Flow

Years	Average Extracted Flow		Discharged Flow to Creeks from Heating System		Discharged to Sewer	
2015- 2021	mg/month[1]	MGD[2]	mg/month	MGD	mg/month	MGD
	29.7	0.99	22.15	0.74	7.55	0.25

[1] mg/month = million gallons per month.
[2] MGD = million gallons per day.

The cooled geothermal wastewater is discharged into either the local sanitary sewer or through 10 outfalls. These outfalls feed into storm channels/lined creeks that drain to tributaries of Reaches 4 and 5 of the Santa Ana River. The receiving waters include Warm Creek, Twin Creek, Lytle Creek (a potential running stream receiving water), and Santa Ana River. From 2015 through 2021, six outfalls were in use.

A summary of discharge points and receiving waters is shown in Table 4, below.

Table 4. Summary of Discharge Points and Receiving Waters

Discharge Serial No.	Latitude	Longitude	Description and Receiving Water	Flow Monthly average (MGD) & Frequency
001	34°5'45" N	117°18'0" W	Non-contact heated water discharged to lined Lytle Creek Channel	not in use 2015-2021
002	34°6'15" N	117°16'15" W	Non-contact heated water discharged to lined East Twin Creek Channel	Variable up to 0.748 MGD
002A	34°6'15" N	117°16'15" W	Non-contact heated water discharged to lined East Twin Creek Channel	Variable up to 0.05 MGD

Table 4. Summary of Discharge Points and Receiving Waters

Discharge Serial No.	Latitude	Longitude	Description and Receiving Water	Flow Monthly average (MGD) & Frequency
003	34°6'15" N	117°17'0" W	Non-contact heated water discharged to Warm Creek Channel (natural channel to Blood bank, then lined to the Santa Ana River)	Variable up to 0.326 MGD
003A	34°6'15" N	117°17'15" W	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	Not in use in 2015-2021
004A	34º6'30" N	117º17'30" W	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	Variable up to 0.195 MGD
004B	34°6'15" N	117°17'30" W	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	Not in use in 2015-2021
004C	34º6'15" N	117º17'30" W	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	Variable up to 0.098 MGD
004D	34°5'15" N	117°17'30" W	Non-contact heated water discharged to Warm Creek Channel, natural channel to Blood bank, then lined to the Santa Ana River	Metered at 003
007	34°3'45" N	117°17'0" W	Non-contact heated water discharged to Warm Creek Channel, natural channel to Santa Ana River	Not in use in 2015-2021

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2015-0007 for geothermal wastewater discharges and representative monitoring data from the terms of the previous Order are as follows:

Table 5. Historic Effluent Monitoring Data at Well Mill & D Street[1]

Chemical Constituents	Reporting Units	DLR[2]	2017	2018	2019	2020	2021
Total Hardness	mg/L	3.0	28	23	26	24	10
Calcium	mg/L	1.0	11	8.8	9.9	9.4	4.1
Magnesium	mg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.1
Sodium	mg/L	1.0	92	97	96	110	92
Chloride	mg/L	1.0	78	94	95	110	70

[1] *The geothermal well water quality data is considered to be representative of the discharge quality.*

[2] *DLR: Detection Level for Reporting.*

Table 5. Historic Effluent Monitoring Data at Well Mill & D Street[1]

Chemical Constituents	Reporting Units	DLR[2]	2017	2018	2019	2020	2021
Sulfate	mg/L	0.5	24	25	26	27	28
Nitrate as N	mg/L	0.5	<2.0	<2.0	<2.0	<2.0	0.25
Fluoride	mg/L	2.0	3.8	4.5	4	4.9	3.4
pH	su	1.0	8.6	8.6	8.6	8.7	8.8
Temperature	C						
TDS	mg/L	20.0	290.0	330.0	310.0	340	260
Boron	µg/L	100	1700	1900	1900	2300	1400
Arsenic	µg/L	2.0	60	44	54	45	70
Mercury	µg/L	1.0	<1.0	<1.0	<1.0	<0.2	<0.3
Selenium	µg/L	5.0	<5.0	<5.0	<0.5	0.5	0.5

Table 6. Historic Effluent Monitoring Data at Well #66

Chemical Constituents	Reporting Units	DLR[2]	2017	2018	2019	2020	2021
Total Hardness	mg/L	3.0	9.0	9.2	9.2	9.1	26
Calcium	mg/L	1.0	3.6	3.6	3.6	3.6	10
Magnesium	mg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.1
Sodium	mg/L	1.0	85	77	88	78	110
Chloride	mg/L	1.0	57	33	65	39	100
Sulfate	mg/L	0.5	26	28	27	29	28
Nitrate as N	µg/L	0.5	<1.0	<1.0	<2.0	<0.2	<0.3
Fluoride	mg/L	2.0	2.8	1.8	3.1	2.0	4.5
pH	s.u.	1.0	8.9	8.8	8.9	8.9	8.5
Temperature	C						
TDS	µg/L	20.0	250	230	270	230	310
Boron	µg/L	100	1100	700	1200	760	2300
Arsenic	µg/L	2.0	85	98	76	110	44
Mercury	µg/L	1.0	<1.0	<1.0	<1.0	<0.2	<0.3
Selenium	µg/L	5.0	<5.0	<5.0	0.6	<0.5	<0.6

D. Compliance Summary

Based on a review of geothermal well water quality data which is representative of the discharge quality and receiving water monitoring data submitted by the Discharger for the 2015 through 2021 periods, there were no violations of effluent or receiving water limitations.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with Section 13260). This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with Section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code section 21000 et seq. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, mod. (Nov. 6, 2006, B184034) 50 Cal.Rptr.3d 619, 632-636.)

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Santa Ana Water Board adopted an updated Water Quality Control Plan for the Santa Ana Basin (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 (Sources of Drinking Water Policy) requires that, with certain exceptions, the Santa Ana Water Board assign the municipal and domestic water supply use to water bodies. Based on the exception criteria specified in Resolution No. 88-63, the Santa Ana Water Board excepted Reach 5 (starting from Orange Avenue in Redlands) of the Santa Ana River and downstream reaches from the municipal and domestic supply beneficial use.

   On January 22, 2004, the Santa Ana Water Board adopted Resolution No. R8-2004-0001, amending the Basin Plan to incorporate revised boundaries for groundwater sub-basins, now termed “management zones”, new nitrate-nitrogen and TDS objectives for the new management zones, and new nitrogen and TDS management strategies applicable to both surface and ground waters. As previously discussed, the Facility discharges wastewater from several discharge points. The designated beneficial uses of receiving waters affected by the discharge from the Facility are as follows:

Table 7. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001 to 007	City Creek, Lytle Creek, East Twin Creek	Intermittent beneficial uses: Municipal and Domestic Supply, Groundwater Recharge, Water Contact Recreation, Non-Contact

Table 7. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
		Water Recreation, Warm Freshwater Habitat, and Wildlife Habitat
	Warm Creek	Creek not listed in Basin Plan
	Reach 4 of Santa Ana River	Present or Potential: Groundwater recharge, water recreation, non-contact water recreation, warm freshwater habitat, and wildlife habitat.
	Reach 5 of Santa Ana River	Present or Potential: Agricultural Supply, Groundwater Recharge, Water Recreation, Non-Contact Water Recreation, Warm Freshwater Habitat, Wildlife Habitat, and Rare, Threatened or Endangered Species
001-007	Bunker Hill-A Groundwater Management Zone	Present or Potential: Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Santa Ana Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being

used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Santa Ana Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16. This Order renews waste discharge requirements for ongoing discharges of geothermal wastewater to surface waters of the United States. No change in the nature of these discharges has occurred. Therefore, the ongoing discharges will not result in a lowering of water quality and are thus consistent with state and federal antidegradation policies.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[3] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The limitations in this Order are at least as stringent as the effluent limitations in the prior Order.

7. **Stormwater Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from industrial operation sites. There is no storm water discharge from this Facility

8. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Santa Ana Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.

9. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of

[3] *All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.*

waters of the state, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

10. **Toxicity Provisions.** The State Water Board adopted the State Policy for Water Quality Control: Toxicity Provisions (Toxicity Provisions) on December 1, 2020, which were revised on October 5, 2021. The Toxicity Provisions include statewide numeric WQOs for both acute and chronic toxicity and a program of implementation to control toxicity. The provisions provide consistent protection of aquatic life beneficial uses in inland surface waters, enclosed bays, and coastal lagoons and estuaries throughout the state, and protect aquatic habitats and life from the effects of known and unknown toxicants. Section IV.B.2.k. (Exemptions) of the Toxicity Provisions, authorizes the permitting authority to exempt certain non-storm water NPDES dischargers from some or all the provisions in section IV.B.2 if the permitting authority makes a finding that the discharge will have no reasonable potential to cause or contribute to an exceedance of the numeric aquatic toxicity water quality objectives. Also, it clarifies that the reasonable potential conclusion necessary to exempt insignificant dischargers need not be based on the reasonable potential analysis method set forth in section IV.B.2.c. The Santa Ana Water Board has determined that based on its own reasonable potential analysis, based on the Basin Plan, the discharge poses a very low threat to water quality and also fits the definition of insignificant discharge per the Toxicity Provisions (See Whole Effluent Toxicity discussion in section IV.C.4 of this Fact Sheet, below). This Order implements the Toxicity Provisions once it becomes effective.

D. Impaired Water Bodies on the CWA section 303(d) List

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Santa Ana Water Board plans to develop and adopt TMDLs that will specify waste load allocations (WLA) for point sources and load allocations (LAs) for non-point sources, as appropriate.

The U.S. EPA approved the state's 2014 and 2016 CWA section 303(d) list of impaired water bodies on April 6, 2018. The 303(d) list identifies water bodies where water quality standards are not expected to be met after implementation of TBELs by point sources (water quality-limited water bodies). Reach 4 of the Santa Ana River and Warm Creek are listed due to indicator bacteria, however, "unknown nonpoint sources" are believed to be the cause and not discharges from point sources such as geothermal wastewater that originates from naturally occurring hot springs in the City of San Bernardino area.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in

the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

The discharge prohibitions are based on the Federal Clean Water Act, Basin Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and previous permit Order No. R8-2015-0007 provisions and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by the Santa Ana Water Board.

B. Technology-Based Effluent Limitations – Not Applicable

C. Water Quality-Based Effluent Limitations (WQBELs) for DPs 001 to 004D

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The National Toxics Rule, California Toxics Rule (CTR) and State Implementation Policy (SIP) specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent

limitations for priority and non-priority pollutants.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Santa Ana Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Santa Ana Water Board analyzed effluent data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR, and when applicable, water quality objectives specified in the Basin Plan.

Sufficient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Santa Ana Water Board to conduct the RPA. Upon review of the data, and if the Santa Ana Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification. Although under Order No. R8-2015-007 there was no requirement for the monitoring of priority pollutants other than selenium, arsenic, and mercury, during previous permitting cycles the Discharger did provide priority pollutant scans and no reasonable potential was determined based on the data provided by the Discharger. Through several permitting cycles the water quality of the discharge has been consistent with low mineral content and the detection of low levels of copper, lead, selenium, and arsenic.

The geothermal well water quality data is considered to be representative of the discharge quality. The RPA was performed for the priority pollutants for which effluent data were available. Based on the review of data provided by the Discharger, no priority pollutants indicate reasonable potential to exceed water quality objectives. Consequently, no effluent limits for any priority pollutant are included in the Order.

Table 8. RPA Evaluation for DP-001 through DP-007

Parameter	Unit	MEC[1]	Selected Criteria	Source of Criteria	Is Effluent Limit Required?
Arsenic	µg/L	110	150	CTR-CCC[2]	No
Mercury	µg/L	<0.2	0.051	CTR-HH[3]	No
Selenium	µg/L	0.6	5	CTR-HH	No

[1] MEC means Maximum Effluent Concentration and the data set used corresponds to monitoring location M-INF 001, which sample the groundwater discharged from the two geothermal extraction wells # 66 and Mill & D Street. The geothermal well water quality data is considered to be representative of the discharge quality.

[2] CTR-CCC means CTR's Criterion Continuous Concentration for Freshwater.

[3] CTR-HH means CTR's Human Health for Consumption of Organisms Only.

4. Whole Effluent Toxicity (WET)

The Basin Plan establishes a narrative WQO for toxicity which states that the concentrations of toxic pollutants in the water column, sediments or biota shall not adversely affect beneficial uses. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The source of the wastewater effluent is from natural hot springs in the City of San Bernardino area that are being used as a geothermal water for heating application through non-contact heat exchangers and no chemicals are added. The water quality of the extracted groundwater has been very consistent through several permitting cycles and no reasonable potential has been determined for all priority pollutants while the analytical data was required and made available by the Discharger. Therefore, based on the Basin Plan, the Santa Ana Water Board considers the discharge of the geothermal wastewater to Reaches 4 and 5 of the Santa Ana River and its tributaries to be a very low threat to water quality of the receiving waters (insignificant discharge), which is also consistent with Section IV.B.2.k., Exemptions, of the Toxicity Provisions, therefore, this Order does not include aquatic acute or chronic toxicity testing requirements and/or toxicity effluent limitations. However, this Order does include a narrative receiving water limitation (See Section V.A.4. of this Order) that is consistent with Sections III.B.2. and IV.B.2.k. of the Toxicity Provisions.

D. Final Effluent Limitations Considerations for DPs 001 to 007

There are no numeric effluent limitations in the Order. However, this Order may be reopened to include effluent limitations for arsenic, mercury, and selenium if its

concentrations exceeds target limits. On the other hand, this Order includes narrative effluent limitations based on the prior permit.

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

2. Antidegradation Policies

Discharges in conformance with the requirements of this Order will not result in a lowering of water quality and therefore conform to antidegradation requirements specified in Resolution No. 68-16, which incorporates the federal antidegradation policy at 40 CFR section 131.12. This Order renews waste discharge requirements for ongoing discharges of geothermal wastewater to surface waters of the United States. No change in the nature of these discharges has occurred. Therefore, the ongoing discharges will not result in a lowering of water quality and are thus consistent with state and federal antidegradation policies.

3. Stringency of Requirements for Individual Pollutants

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. The surface water limitations in this Order are based upon the water quality objectives contained in the Basin Plan.

2. The previous Order No. R8-2015-0007 specified that the discharge shall not cause an increase in the temperature of the receiving waters above 90 ^{o}F (32 ^{o}C) during the warm season, normally June through October, or above 78 ^{o}F (26 ^{o}C) during the rest of the year. In addition, as required under Section IV.B.2.k. of the Toxicity Provisions this Order includes the water quality objectives in Section III.B.2., of the Toxicity Provisions, as a narrative receiving water limitation.

B. Groundwater

There are no groundwater limitations in the Order because the geothermal wastewater that is discharged is returned to the same groundwater management zones from which it came or where it would normally recharge.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Santa Ana Water Boards to require technical and monitoring reports. The MRP, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

The geothermal water is extracted from two wells, then delivered to heating system. The extracted well water is considered the influent flow and it is assumed that influent water quality is representative of the effluent water quality since there are no chemical added to the geothermal water, except for temperature. The effluent temperature is expected to be lower than the influent due to heat loss when passing through non-contact heat exchangers to heat cold water. This Order requires the Discharger to monitor for all priority pollutants once during the first year to have enough data for reasonable potential analysis for all priority pollutants in accordance with the SIP.

B. Effluent Monitoring

Only temperature measurements are required at the discharge point. See the discussion above regarding influent monitoring.

C. Whole Effluent Toxicity Testing Requirements

The Santa Ana Water Board considers the discharge of the geothermal wastewater to Reaches 4 and 5 of the Santa Ana River and its tributaries to be a very low threat to water quality of the receiving waters (insignificant discharge), which is consistent with Section IV.B.2.k., *Exemptions*, of the Toxicity Provisions, therefore, this Order does not include aquatic acute or chronic toxicity testing requirements (See also sections III.C.10. and IV.C.4. of this Fact Sheet, above).

D. Receiving Water Monitoring

1. Surface Water

Receiving water monitoring is required to determine the increase in the temperature of the receiving water and limits are included consistent with the Basin Plan.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

Reopener Provisions

The provisions are based on 40 CFR Parts 122.44(c) and 123. The Santa Ana Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations or adoption of new regulations by the State Water Board or Santa Ana Water Board, including revisions to the Basin Plan.

VIII. PUBLIC PARTICIPATION

The Santa Ana Water Board has considering the issuance of waste discharge requirements (WDRs) that will serve as a NPDES permit for the City of San Bernardino Municipal Water Department, Geothermal Facility, San Bernardino, San Bernardino County. As a step in the WDR adoption process, the Santa Ana Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Santa Ana Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided an opportunity to submit written comments and recommendations. Notification was provided through posting of a Notice of Public Hearing on the Santa Ana Water Board's website.

The public had access to the agenda and any changes in dates and locations through the Santa Ana Water Board's website at http://www.waterboards.ca.gov/santaana.

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Officer at the Santa Ana Water Board at the address on the cover page of this Order, by fax to (951) 320-6362, or by email to Najah Amin at Najah.Amin@waterboards.ca.gov.

To be fully responded to by staff and considered by the Santa Ana Water Board, the written comments were due at the Santa Ana Water Board offices by 5:00 p.m. on November 14, 2022.

Najah N. Amin
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

C. Public Hearing

The Santa Ana Water Board held a public hearing, on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	December 2, 2022
Time:	9:00 A.M.
Location:	City of Anaheim 200 S. Anaheim Blvd. Anaheim, CA 92805

Interested persons were invited to attend. At the public hearing, which was a video, teleconference and physical meeting, the Santa Ana Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, extensive testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements Petitions

Any person aggrieved by this action of the Santa Ana Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320

and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Or by email at waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition for review, see: http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Santa Ana Water Board by calling (951) 782-4130.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Santa Ana Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Najah Amin at (951) 320-6362 or Najah.Amin@waterboards.ca.gov.

ATTACHMENT G - EPA PRIORITY POLLUTANT LIST

EPA PRIORITY POLLUTANT LIST		
Metals	**Acid Extractables**	**Base/Neutral Extractables (continuation)**
1. Antimony	45. 2-Chlorophenol	91. Hexachloroethane
2. Arsenic	46. 2,4-Dichlorophenol	92. Indeno (1,2,3-cd) Pyrene
3. Beryllium	47. 2,4-Dimethylphenol	93. Isophorone
4. Cadmium	48. 2-Methyl-4,6-Dinitrophenol	94. Naphthalene
5a. Chromium (III)	49. 2,4-Dinitrophenol	95. Nitrobenzene
5b. Chromium (VI)	50. 2-Nitrophenol	96. N-Nitrosodimethylamine
6. Copper	51. 4-Nitrophenol	97. N-Nitrosodi-N-Propylamine
7. Lead	52. 3-Methyl-4-Chlorophenol	98. N-Nitrosodiphenylamine
8. Mercury	53. Pentachlorophenol	99. Phenanthrene
9. Nickel	54. Phenol	100. Pyrene
10. Selenium	55. 2, 4, 6 – Trichlorophenol	101. 1,2,4-Trichlorobenzene
11. Silver	**Base/Neutral Extractables**	**Pesticides**
12. Thallium	56. Acenaphthene	102. Aldrin
13. Zinc	57. Acenaphthylene	103. Alpha BHC
Miscellaneous	58. Anthracene	104. Beta BHC
14. Cyanide	59. Benzidine	105. Delta BHC
15. Asbestos (not required unless requested)	60. Benzo (a) Anthracene	106. Gamma BHC
16. 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	61. Benzo (a) Pyrene	107. Chlordane
Volatile Organics	62. Benzo (b) Fluoranthene	108. 4, 4' - DDT
17. Acrolein	63. Benzo (g,h,i) Perylene	109. 4, 4' - DDE
18. Acrylonitrile	64. Benzo (k) Fluoranthene	110. 4, 4' - DDD
19. Benzene	65. Bis (2-Chloroethoxy) Methane	111. Dieldrin
20. Bromoform	66. Bis (2-Chloroethyl) Ether	112. Alpha Endosulfan
21. Carbon Tetrachloride	67. Bis (2-Chloroisopropyl) Ether	113. Beta Endosulfan
22. Chlorobenzene	68. Bis (2-Ethylhexyl) Phthalate	114. Endosulfan Sulfate
23. Chlorodibromomethane	69. 4-Bromophenyl Phenyl Ether	115. Endrin
24. Chloroethane	70. Butylbenzyl Phthalate	116. Endrin Aldehyde
25. 2-Chloroethyl Vinyl Ether	71. 2-Chloronaphthalene	117. Heptachlor
26. Chloroform	72. 4-Chlorophenyl Phenyl Ether	118. Heptachlor Epoxide
27. Dichlorobromomethane	73. Chrysene	119. PCB 1016

28. 1,1-Dichloroethane	74. Dibenzo (a,h) Anthracene	120. PCB 1221
29. 1,2-Dichloroethane	75. 1,2-Dichlorobenzene	121. PCB 1232
30. 1,1-Dichloroethylene	76. 1,3-Dichlorobenzene	122. PCB 1242
31. 1,2-Dichloropropane	77. 1,4-Dichlorobenzene	123. PCB 1248
32. 1,3-Dichloropropylene	78. 3,3'-Dichlorobenzidine	124. PCB 1254
33. Ethylbenzene	79. Diethyl Phthalate	125. PCB 1260
34. Methyl Bromide	80. Dimethyl Phthalate	126. Toxaphene
35. Methyl Chloride	81. Di-n-Butyl Phthalate	
36. Methylene Chloride	82. 2,4-Dinitrotoluene	
37. 1,1,2,2-Tetrachloroethane	83. 2-6-Dinitrotoluene	
38. Tetrachloroethylene	84. Di-n-Octyl Phthalate	
39. Toluene	85. 1,2-Dipenylhydrazine	
40. 1,2-Trans-Dichloroethylene	86. Fluoranthene	
41. 1,1,1-Trichloroethane	87. Fluorene	
42. 1,1,2-Trichloroethane	88. Hexachlorobenzene	
43. Trichloroethylene	89. Hexachlorobutadiene	
44. Vinyl Chloride	90. Hexachlorocyclopentadiene	

ATTACHMENT H – MINIMUM LEVELS

MINIMUM LEVELS IN PPB (µg/l)

Table 1- VOLATILE SUBSTANCES[1]	GC	GCMS
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromomethane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Dichlorobromomethane	0.5	2
1,1 Dichloroethane	0.5	1
1,2 Dichloroethane	0.5	2
1,1 Dichloroethylene	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichloropropylene (volatile)	0.5	2
Ethylbenzene	0.5	2
Methyl Bromide (*Bromomethane*)	1.0	2
Methyl Chloride (*Chloromethane*)	0.5	2
Methylene Chloride (*Dichloromethane*)	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
Tetrachloroethylene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
Trichloroethylene	0.5	2
Vinyl Chloride	0.5	2
1,2 Dichlorobenzene (volatile)	0.5	2
1,3 Dichlorobenzene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2

SELECTION AND USE OF APPROPRIATE ML VALUE:

ML Selection: When there is more than one ML value for a given substance, the discharger may select any one of those ML values, and their associated analytical methods, listed in this Attachment that are below the calculated effluent limitation for compliance determination. If no ML value is below the effluent limitation, then the discharger shall select the lowest ML value, and its associated analytical method, listed in the PQL Table.

[1] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

ML Usage: The ML value in this Attachment represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique. Common analytical practices sometimes require different treatment of the sample relative to calibration standards.
Note: chemical names in parenthesis and italicized is another name for the constituent.

MINIMUM LEVELS IN PPB (µg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	

1,4 Dichlorobenzene (semivolatile)	2	1	
3,3' Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2 Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (µg/l)

Table 2 - SEMI-VOLATILE SUBSTANCES[2]	**GC**	**GCMS**	**LC**	**COLOR**
Pentachlorophenol	1	5		
Phenol [3]	1	1		50
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
N-Nitroso diphenyl amine	10	1		
Phenanthrene		5	0.05	
Pyrene		10	0.05	

[2] *With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standards concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.*

[3] *Phenol by colorimetric technique has a factor of 1.*

Table 3– INORGANICS[4]	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Lead	20	5	5	0.5	2				10000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000
Cyanide								5	

[4] *The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.*

MINIMUM LEVELS IN PPB (µg/l)

Table 4- PESTICIDES – PCBs[5]	GC
Aldrin	0.005
alpha–BHC (*a-Hexachloro-cyclohexane*)	0.01
beta–BHC (*b-Hexachloro-cyclohexane*)	0.005
Gamma–BHC (*Lindane; g-Hexachloro-cyclohexane*)	0.02
Delta-BHC (*d-Hexachloro-cyclohexane*)	0.005
Chlordane	0.1
4,4'-DDT	0.01
4,4'-DDE	0.05
4,4'-DDD	0.05
Dieldrin	0.01
Alpha-Endosulfan	0.02
Beta-Endosulfan	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry

[5] *The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.*

SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetri

ATTACHMENT I – TRIGGERS FOR MONITORING PRIORITY POLLUTANTS

	CONSTITUENT	µg/L
1	Antimony	7
2	Arsenic	75
3	Beryllium	--
4	Cadmium	1.9
5a	Chromium III	65
5b	Chromium VI	5.7
6	Copper	7.2
7	Lead	4.1
8	Mercury	0.026
9	Nickel	16
10	Selenium	2.5
11	Silver	0.8
12	Thallium	3.2
13	Zinc	37
14	Cyanide	2.6
15	Asbestos	--
16	2,3,7,8-TCDD (Dioxin)	0.000000007
17	Acrolein	160
18	Acrylonitrile	0.03
19	Benzene	0.6
20	Bromoform	2.2
21	Carbon Tetrachloride	0.13
22	Chlorobenzene	340
23	Chlorodibromomethane	0.22
24	Chloroethane	--
25	2-Chloroethyl vinyl ether	--
26	Chloroform	--
27	Dichlorobromomethane	0.28
28	***1,1-Dichloroethane***	***5***
29	1,2-Dichloroethane	0.19
30	1,1-Dichloroethylene	0.029
31	1,2-Dichloropropane	0.26
32	1,3-Dichloropropylene	5

	CONSTITUENT	µg/L
38	Tetratchloroethylene	0.4
39	***Toluene***	***150***
40	***1,2,-Trans-dichloroethylene***	***10***
41	***1,1,1-Trichloroethane***	***200***
42	1,1,2-Trichloroethane	0.3
43	Trichloroethylene	1.35
44	***Vinyl Chloride***	***0.5***
45	2-Chlorophenol	60
46	2,4-Dichlorophenol	46.5
47	2,4-Dimethylphenol	270
48	2-Methy-4,6-Dinitrophenol	6.7
49	2,4-Dinitrophenol	35
50	2-Nitrophenol	--
51	4-Nitrophenol	--
52	3-Methyl-4-Chlorophenol	--
53	Pentachlorophenol	0.14
54	Phenol	10500
55	2,4,6-Trichlorophenol	1.05
56	Acenapthene	600
57	Acenapthylene	--
58	Anthracene	4800
59	Benzidine	0.00006
60	Benzo (a) anthracene	0.0022
61	Benzo (a) pyrene	0.0022
62	Benzo (b) fluoranthene	0.0022
63	Benzo (g,h,i) pyrylene	--
64	Benzo (k) fluorantene	0.0022
65	Bis (2-Chloroethoxy) methane	--
66	Bis (2-Chloroethyl) ether	0.016
67	Bis (2-Chloroisopropyl) ether	700
68	Bis (2-ethyhexyl) phthalate	0.9
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	1500

	CONSTITUENT	µg/L
33	***Ethylbenzene***	***300***
34	Methyl Bromide	24
35	Methyl Chloride	--
36	Methylene Chloride	2.4
37	1,1,2,2-Tetratchloroethane	0.085

	CONSTITUENT	µg/L
71	2- Chloronapthalene	850
72	4-Chlrorphenyl phenyl ether	--
73	Chrysene	0.0022
74	Dibenzo (a,h) anthracene	0.0022
75	***1,2-Dichlorobenzene***	***600***

See notes below for italicized constituents.

ATTACHMENT I. -CONTINUED

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	200
77	***1,4-Dichlorobenzene***	***5***
78	3,3-Dichlorobenzidine	0.02
79	Diethyl phthalate	11,500
80	Dimethyl phthalate	156,500
81	Di-N-butyl phthalate	1,350
82	2,4-Dinitrotoluene	0.055
83	2,6-Dinitrotoluene	--
84	Di-N-octyl phthalate	--
85	1,2-Diphenylhydrazine	0.02
86	Fluoranthene	150
87	Fluorene	650
88	Hexachlorobenzene	0.00038
89	Hexachlorobutadiene	0.22
90	***Hexachlorocyclopentadiene***	***50***
91	Hexachloroethane	0.95
92	Indeno (1,2,3-cd) pyrene	0.0022
93	Isophorone	4.2
94	***Naphthalene***	***17***
95	Nitrobenzene	8.5
96	N-Nitrosodimethylamine	0.00035
97	N-Nitrosodi-N-propylamine	0.0025
98	N-Nitrosodiphenylamine	2.5
99	Phenantrene	--

	CONSTITUENT	µg/L
100	Pyrene	480
101	***1,2,4 -Trichlorobenzene***	***5***
102	Aldrin	0.00007
103	BHC Alpha	0.0020
104	BHC Beta	0.007
105	BHC Gamma	0.010
106	BHC Delta	--
107	Chlordane	0.00029
108	4,4-DDT	0.0003
109	4,4-DDE	0.0003
110	4,4-DDD	0.00042
111	Dieldrin	0.00007
112	Endosulfan Alpha	0.028
113	Endosulfan Beta	0.028
114	Endosulfan Sulfate	55
115	Endrin	0.018
116	Endrin Aldehyde	0.38
117	Heptachlor	0.00011
118	Heptachlor Epoxide	0.00005
119	PCB 1016	0.000085
120	PCB 1221	0.000085
125	PCB 1260	0.000085
126	Toxaphene	0.00037

Notes:

1. For constituents not shown italicized, the values shown in the Table are fifty percent of the most stringent applicable receiving water objectives (freshwater or human health (consumption of water and organisms) as specified for that pollutant in 40 CFR 131.38[1]).
2. For constituents shown bold and italicized, the values shown in the Table are based on the California Department of Health Services maximum contaminant levels (MCLs) or Notification Level. Notification Level based trigger is underlined.

[1] *See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.*

3. For hardness dependent metals, the 5th percentile value of hardness, 57 mg/L, in receiving water--Santa Ana River is used and for pentachlorophenol, the pH value used is 7.5 standard units.