

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

NOTICE OF PUBLIC HEARING
For
WASTE DISCHARGE REQUIREMENTS
(National Pollutant Discharge Elimination System Permit)
Order No. R8-2008-0007, NPDES No. CA8000015
For
City of San Bernardino Municipal Water Department
Geothermal Facility
San Bernardino, San Bernardino County

On the basis of preliminary staff review and application of lawful standards and regulations, the California Regional Water Quality Control Board, Santa Ana Region, proposes to renew waste discharge requirements for the discharge of non-contact waste thermal water from the City of San Bernardino Municipal Water Department's Geothermal Facility to Creeks and storm drains system that are tributaries to Reaches 4 and 5 of the Santa Ana River in San Bernardino County.

The Board is seeking comments concerning the proposed waste discharge requirements and the potential effects of the discharge on the water quality and beneficial uses of the affected receiving waters.

The Board will hold a public hearing to consider adoption of the proposed waste discharge requirements as follows:

DATE: June 6, 2008
TIME: 9:00 a.m.
PLACE: City Council Chambers of Santa Ana
22 Civic Center Plaza
City of Santa Ana

The Board's proposed Order, related documents, and all comments and petitions received may be inspected and copied at the Regional Board office, 3737 Main Street, Suite 500, Riverside, CA 92501-3348 (phone 951-782-4130) by appointment scheduled between the hours of 9:00 a.m. and 3:00 p.m., Monday through Friday. Copies of the proposed Order will be mailed to interested persons upon request to Jane Qiu at (951) 320-2008. The proposed Order can also be downloaded from our website at http://www.waterboards.ca.gov/santaana/html/tentative_orders.html, starting May 7, 2008.

Interested persons are invited to submit written comments on the proposed Order No. R8-2008-0007. Interested persons are also invited to attend and express their views on issues relating to the proposed Order. Oral statements will be heard, but should be brief to allow all interested persons time to be heard. For the accuracy of the record, all testimony (oral statements) should be submitted in writing.

Although all comments that are provided up to and during the public hearing on this matter will be considered, receipt of comments by May 19, 2008 would be appreciated so that they can be used in the formulation of the draft Order that will be transmitted to the Board two weeks prior to the hearing. To view or download a copy of the tentative Order that the Board will consider at its meeting, please access our website at <http://www.waterboards.ca.gov/santaana/html/2008agendas.html> on or after May 26, 2008.

Any person who is physically challenged and requires reasonable accommodation to participate in this Regional Board Meeting should contact Felipa Carrillo at (951) 782-3285 no later than May 26, 2008. Please bring the foregoing to the attention of any persons known to you who would be interested in this matter.

California Regional Water Quality Control Board
Santa Ana Region

June 6, 2008

ITEM: *

SUBJECT: Renewal of Waste Discharge Requirements for the City of San Bernardino Municipal Water Department's Geothermal Facility, Order No. R8-2008-0007, NPDES No. CA8000015, San Bernardino County

DISCUSSION:

See attached Fact Sheet

RECOMMENDATIONS:

Adopt Order No. R8-2008-0007, NPDES No. CA8000015 as presented.

COMMENT SOLICITATION:

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt

U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch

U.S. Fish and Wildlife Service, Carlsbad

State Water Resources Control Board, Office of the Chief Counsel – David Rice

State Water Resources Control Board, Division of Water Quality – Phil Isorena

State Department of Fish and Game, Ontario

State Department of Water Resources - Glendale

State Department of Fish and Game - Long Beach

Orange County Water District - Nira Yamachika

San Bernardino County Flood Control – Naresh Varma

City of San Bernardino – City Manager

Inland Empire Waterkeeper – Lee Reeder

Orange County Coastkeeper - Garry Brown

Lawyers for Clean Water C/c San Francisco Baykeeper

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REGION

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**ORDER NO. R8-2008-0007
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	300 North D Street
	San Bernardino, CA 92402
	San Bernardino County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

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	34°6'30"N	117°17'30"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	34°6'15"N	117°17'30"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 Santa Ana River	34°3'45"N	117°17'0"W	Santa Ana River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	June 6, 2008
This Order shall become effective on:	June 6, 2008
This Order shall expire on:	June 1, 2013
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:	December 3, 2012

IT IS HEREBY ORDERED, that this Order supercedes Order No. R8-2003-0004 except for enforcement purposes, 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 federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order 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 June 6, 2008.

Gerard J. Thibeault, Executive Officer

TENTATIVE

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger/ Operator	City of San Bernardino Municipal Water Department
Name of Facility	Geothermal Facility, San Bernardino
Facility Address	300 North D Street
	San Bernardino, CA 92402
	San Bernardino County
Facility Contact, Title, and Phone	Matthew H. Litchfield, P.E., Director, (909) 384-5291
Mailing Address	P.O. Box 710, San Bernardino, CA 92402
Type of Facility	Industrial-geothermal facility
Facility Design Flow	2.88 million gallons per day

II. FINDINGS

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

A. Background. The City of San Bernardino, Municipal Water Department (hereinafter Discharger) is currently discharging pursuant to Order No. R8-2003-0004 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA8000015. The Discharger submitted a Report of Waste Discharge (ROWD), dated October 1, 2007, and applied for a NPDES permit renewal to discharge up to 2.88 million gallons per day (mgd) of geothermal wastewater from its Geothermal Facility (hereinafter Facility) to tributaries of Reach 4 and Reach 5 of the Santa Ana River.

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. Facility Description.** The Discharger is the owner and operator of the Facility. The Facility consists of two geothermal production wells. 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 in the downtown area of the City of San Bernardino. The geothermal water is coursed through non-contact heat exchanger systems where the geothermal heat is transferred to domestic water. After heat exchange, waste geothermal water is then discharged into either the sanitary sewer line or to one or more of 10 outfalls. Seven outfalls feed into storm channels that drain to tributary creeks of the Santa Ana River. These creeks include Lytle Creek, Warm Creek, City Creek, and East Twin Creek. These creeks 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. Attachment B provides a map of the area around the Facility.
- C. Legal Authorities.** 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 California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, Division 7 of the Water Code (commencing with section 13260).
- D. 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.
- E. 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).
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. There are no applicable technology-based effluent limitations for this discharge.

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

G. Water Quality-Based Effluent Limitations. 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).

H. Water Quality Control Plans. The Regional Water Board adopted a revised Water Quality Control Plan for the Santa Ana Region (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 in the Santa Ana Region addressed through the plan. More recently, the Basin Plan was amended significantly to incorporate revised boundaries for groundwater subbasins, 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.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

Based on the criteria specified in the State Water Board Resolution, the Basin Plan specifies that Reach 5 of the Santa Ana River, beginning at the intersection of Orange Avenue in the City of Redlands, and downstream reaches are excepted from the municipal and domestic supply beneficial use. As discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the tributaries and Reach 4 and 5 of the Santa Ana River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001-007	Warm Creek	Creek not listed in Basin Plan.
	City Creek, Lytle Creek, East Twin Creek	<u>Intermittent beneficial uses:</u> Municipal and Domestic Supply, Groundwater Recharge, Water Contact Recreation, Non-Contact Water Recreation, Warm Freshwater Habitat, and Wildlife Habitat
	Reach 4 of Santa Ana River	<u>Present or Potential:</u> Groundwater recharge, water recreation, non-contact water recreation, warm freshwater habitat, and wildlife habitat.
	Reach 5 of Santa Ana River	<u>Present or Potential:</u> 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	<u>Present or Potential:</u> Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Requirements of this Order implement the Basin Plan.

- I. **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.

- J. **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 Regional 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.

- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations and/or discharge specifications.
- L. 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. section 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.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains only water quality-based effluent limitations for individual pollutants. Water quality-based effluent limitations have been scientifically 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 section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA 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 USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1).
- N. 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 quality of waters be maintained unless degradation is justified based on specific

findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations 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. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.
- P. 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 sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Standard and Special 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. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. 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.

T. 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.

III. DISCHARGE PROHIBITIONS

A. 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. Final Effluent Limitations – Discharge Points 001 to 007

- a. The discharge shall be limited to extracted and cooled geothermal groundwater that complies with the requirements of this Order.
- b. There shall be no visible oil and grease in the discharge.

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

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 90⁰F (32⁰C) June through October or above 78⁰F (26⁰C) during the rest of the year.
 - b. The undesirable discoloration of the receiving waters.
 - c. The presence of visible oil, grease scum, floating or suspended material or foam in the receiving waters.
 - d. The 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. The presence of objectionable odor in the receiving water.
 - 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 Regional 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.

B. Groundwater Limitations – Not Applicable

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:
 - 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, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional 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 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 Regional Water Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

- 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.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

By August 1, 2008, the Discharger shall submit a proposed plan and schedule for an investigation of sources of copper and lead in the discharge and a determination of representative sample locations for monitoring of the discharges. The plan and schedule shall be implemented upon approval by the Executive Officer.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications – Not Applicable

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

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:

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

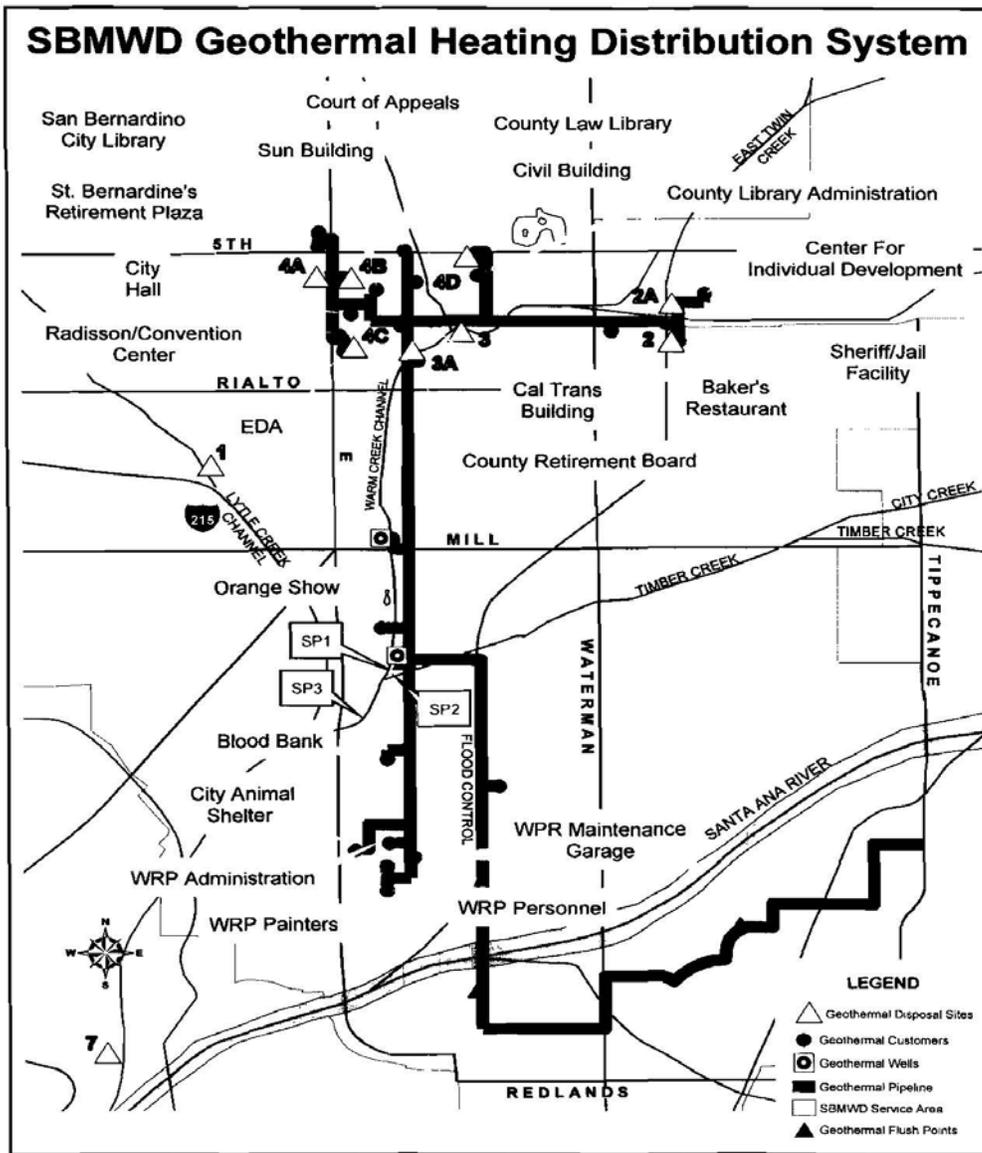
n is the number of samples.

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



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the 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, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA 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 or sludge use or disposal 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 includes 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 C.F.R. § 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 Regional 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 (40 C.F.R. § 122.41(i); Wat. Code, § 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 (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); 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. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

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 Regional Water Board. The Regional 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 results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), 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 Regional Water Board 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 Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional 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 Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional 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, and V.B.5 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 Regional 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 Regional 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 Regional 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).)

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 Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (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 Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional 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 that 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 written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission 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. (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 Regional 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 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional 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).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order 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. (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 Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

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 40CFR136. (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA).
2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.
3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with the provision of Water Code Section 13176, and must include quality assurance/quality control data with their reports, or EPA or at laboratories approved by the Regional Water Board's Executive Officer.
4. 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.

5. 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 with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional 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 calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value and its associated analytical method, listed in Attachment “H” shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional 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.
 - (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 Regional 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 reporting level achieved by the testing laboratory; and
 - (2) The laboratory’s current MDL, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).

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, revised as of April 11, 2007.*

- 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 136 (revised as of April 11, 2007). 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 131.38³ 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.
6. For non-priority pollutants monitoring, all analytical data shall be reported with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).
7. 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 Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.
8. 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 Regional Water Board by letter when compliance with the time schedule has been achieved.
9. 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 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 Regional Water Board at any time. Records of monitoring information shall include, as appropriate:
 - 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.\
10. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.
11. 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 specified by the 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.

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 and Longitude
--	M-INF 001	Well water pump station, Well #66 or Well D	--
001, 002, 002A, 003, 003A, 004A, 004B, 004C, 004D & 007	M-001	Representative discharge outfall to receiving surface water	--
001, 002, 002A, 003, 003A, 004A, 004B, 004C, 004D & 007	R-001D	Representative monitoring location for receiving surface water station downstream of outfalls	--

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	Continuous	See Section I.A.3. above, of this MRP
Temperature	°F	Recorder, or manual grab (see IV.A.4)	Monthly	See Section I.A.3. above, of this MRP
Selenium	µg/L	Grab	Annually (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP
Mercury	µg/L	Grab	Annually (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP
Arsenic	µg/L	Grab	Annually (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP
Total Recoverable Copper	µg/L	Grab	Quarterly for the first year only and Annually thereafter (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP and RL ⁴ 5 µg/L

Table 2 Geothermal Influent Monitoring M-INF 001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Total Recoverable Lead	µg/L	Grab	Quarterly for the first year only and Annually thereafter (See IV. A.2.)	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L

IV. EFFLUENT MONITORING REQUIREMENTS TO SURFACE WATER

A. Effluent Monitoring Locations M-001

1. The Discharger shall monitor effluent for DP 001 to DP 007 at Monitoring Locations M-001 as follows.

Table 3 Geothermal Effluent Monitoring M-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Flow	mgd	Recorder/ Totalizer	Continuous	See Section I.A.3. above, of this MRP
Temperature	°F	Recorder, or manual grab (see IV.A.4)	Monthly	See Section I.A.3. above, of this MRP
pH	pH units	Recorder	Annually	"
Total Hardness	mg/L	Grab	Annually	See Section I.A.3. above
Total Dissolved Solids	mg/L	Grab	"	"
Chloride	mg/L	Grab	"	"
Sodium	mg/L	Grab	"	"
Boron	mg/L	Grab	"	"
Fluoride	mg/L	Grab	Annually	"
Selenium	µg/L	Grab	Annually (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP
Mercury	µg/L	Grab	Annually (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP
Arsenic	µg/L	Grab	Annually (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP
Total Recoverable Copper	µg/L	Grab	Quarterly for the first year only and Annually thereafter (See IV. A.2.)	See Sections I.A.2., I.A.3., above of this MRP and RL ⁵ 5 µg/L

Table 3 Geothermal Effluent Monitoring M-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and Minimum Level, units, respectively
Total Recoverable Lead	µg/L	Grab	Quarterly for the first year only and Annually thereafter (See IV. A.2.)	See Sections I.A.2., I.A.3. above of this MRP and RL 2 µg/L
Volatile organic portion of remaining EPA Priority Pollutants (See Attachment “G”)	µg/L	Grab	First year of this order (See IV. A.2., below)	See Sections I.A.2., I.A.3., above of this MRP
Remaining EPA Priority Pollutants (See Attachment “G”)	µg/L	Grab	First year of this order (See IV. A.2., below)	See Sections I.A.2., I.A.3., above of this MRP

2. The monitoring frequency for those priority pollutants that are detected during the required 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 Regional Water Board’s Executive Officer or designee.
3. Temperature data may be recorded manually or with automated recorders. Chart recorder locations shall be established downstream of the heat exchangers, where a representative temperature may be measured near the outfall prior to the discharge mixing with the receiving waters.

V. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VI. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location R-001D for Surface Water

1. Quarterly, for each utilized outfall directly discharging into receiving water, such as Santa Ana River or its tributaries, the temperature must be measured near the outfall after the discharge has mixed with the receiving waters using a chart recorder or by manual measurement.
2. Any discerned pattern of unusual rise or fall in temperature, aside from routine compliance reporting, must be reported to the Regional Board in the required monitoring report following the monitoring period.

B. Monitoring Requirements for Groundwater – Not Applicable

VIII. OTHER MONITORING REQUIREMENTS- NOT APPLICABLE

IX. 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 limit⁶ (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 Regional 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 Regional 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 Regional 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 Regional 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 136 (revised as of April 11, 2007).
7. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

⁶

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.

Table 4 Reporting Requirements

Parameter	Measurement
Flow	Monthly total flow, million gallons; and Last 12-month average daily flow as mgd of production and discharged
pH	Daily High and daily low

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. 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 5 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	1 st 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 permit effective date	January 1 through March 31, samples are collected in January; April 1 through June 30; samples are collected in April; July 1 through September 30; samples are collected in July; October 1 through December 31; samples are collected in October	first day of the second month following the reporting period, submit 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. 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 "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:
- 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.

5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above 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.
 - 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.
 - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

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

7. 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.

8. 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 131.38⁷). 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. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
- 2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

Table 6 Monitoring Reporting Submittal

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

- 3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

Regional Administrator
 U. S. Environmental Protection Agency
 Region 9 – Attention WTR – 7
 75 Hawthorne Street
 San Francisco, CA 94105

D. Other Reports

The Discharger shall submit the findings of the required copper and lead source investigation study in accordance with the schedule approved by the Executive Officer.

⁷ See Federal Register/ Vol. 65, No. 97 / Thursday, May 18, 2000 / Rules and Regulations.

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ATTACHMENT F – FACT SHEET

As described in section II 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	300 North D Street
	San Bernardino, CA 92402
	San Bernardino County
Facility Contact, Title and Phone	Matthew H. Litchfield, P.E., Director, (909) 384-5291
Authorized Person to Sign and Submit Reports	Matthew H. Litchfield, P.E., Director, (909) 384-5291
Mailing Address	P.O. BOX 710
	San Bernardino, CA 92402
	San Bernardino County
Billing Address	Same
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 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. The discharge is currently regulated by Order No. R8-2003-0004, which was adopted on April 4, 2003 and expired on April 1, 2008. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.
- C.** The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on October 1, 2007. A site visit was conducted on January 10, 2008, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

A. Description of Facility Background

1. 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 the Discharger’s office at 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 62⁰F to 98⁰F, while the geothermal water temperature (113⁰F to 115⁰F) is cooled to various temperatures, the lowest to 90⁰F.

B. Discharge Points and Receiving Waters

1. Discharge Points and Receiving Waters

The Discharger extracts groundwater from the following wells, then delivers to heating systems, finally discharges to creeks for disposal. 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 Monthly	Discharged Flow to Creeks From Heating System Max Monthly
"D"	2.86 mgd in Dec. 2004	1.35 mgd in June 2006
#66	1.95 mgd in Jan. 2007	1.06 mgd in Jan. 2007

Table 3. Summary of Total Extracted Flow and Discharge Flow

Years	Average Extracted Flow		Discharged Flow to Creeks from Heating System		Discharged to Sewer	
	mg/month	mgd	mg/month	mgd	mg/month	mgd
2003- 2007	56.6	1.9	28.7	0.96	27.9	0.94

After heat exchange, waste geothermal water is then discharged into either the sanitary sewer line or to 10 outfalls. These outfalls feed into storm channels/lined creeks that drain to tributaries of the Santa Ana River. The receiving waters include Warm Creek, City Creek, Twin Creek, Lytle Creek, and Santa Ana River. These creeks are tributaries to Reaches 4 and 5 of the Santa Ana River. From 2003 through 2007, seven 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 2003-2007
002	34°6'15"N	117°16'15"W	Non contact heated water discharged to lined East Twin Creek Channel	Variable up to 0.12 mgd

Table 4. Summary of Discharge Points and Receiving Waters

Discharge Serial No.	Latitude	Longitude	Description and Receiving Water	Flow Monthly average (mgd) & Frequency
002A	34°6'15"N	117°16'15"W	Non contact heated water discharged to lined East Twin Creek Channel	Variable up to 0.07 mgd
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 0.13 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 2003-2007
004A	34°6'30"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 4C
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	Metered at 4C
004C	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	Variable up to 1.1 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 4C
007	34°3'45"N	117°17'0"W	Non contact heated water discharged to Santa Ana River	Not in use in 2003-2007

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

1. Effluent limitations/Discharge Specifications contained in the previous Order No. R8-2003-0004 for geothermal waste water discharges and representative monitoring data from the terms of the previous Order are as follows:

Table 5. Historic Effluent Monitoring Data at Effluent of Well Mill & D Street

Chemical Constituents	Reporting Units	DLR ¹	2003	2004	2005	2006	2007
Chloride	mg/L		70	65	56	57	29
Sulfate	mg/L	0.5	22.9	22	25	23.7	19
Nitrate	mg/L	2.0	2.08	<2.0	2.2	2.2	2.5
Sodium	mg/L		103	93	88	91	71
Total Hardness	mg/L		16	17	18.5	21	28

¹ DLR: Detection Level for Reporting.

Table 5. Historic Effluent Monitoring Data at Effluent of Well Mill & D Street

Chemical Constituents	Reporting Units	DLR ¹	2003	2004	2005	2006	2007
TDS	mg/L		276	290	270	276	224
Boron	mg/L	0.1	ND	1.7	1.4	1.5	0.83
Fluoride	mg/L	0.1	4.13	3.99	3.5	3.1	2.6
Arsenic	µg/L	2.0	57.2	67	64	62	45
Selenium	µg/L	5.0	1.19	<5.0	<5.0	<5.0	<5.0
Lead	µg/L	1.0	ND	<1.0	<1.0	<1.0	<1.0
Copper	µg/L	0.5	ND				
Lead	µg/L	0.5	ND				

Table 6. Historic Effluent Monitoring Data at Effluent of Well #66

Chemical Constituents	Reporting Units	DLR	2003	2004	2005	2006	2007
Chloride	mg/L		32	22	17	28	24
Sulfate	mg/L	0.5	20	19	31	26	22
Nitrate	mg/L	2.0	2.3	<2.0	2.6	<2.0	<2.0
Sodium	mg/L		83	77	80	78	74
Total Hardness	mg/L		6.0	6.5	6.74	8.0	6.2
TDS	mg/L		209	230	220	352	212
Boron	mg/L	0.1	ND	0.67	0.62	0.59	0.67
Fluoride	mg/L	0.1	2.4	1.95	1.8	1.9	2.2
Arsenic	µg/L	2.0	92	100	86	79	46
Selenium	µg/L	5.0	1.19	<5.0	<5.0	<5.0	<5.0
Lead	µg/L	1.0	ND	<1.0	<1.0	<1.0	<1.0
Copper	µg/L	0.5	63.6				
Lead	µg/L	0.5	5.1				

D. Compliance Summary

Based on a review of effluent monitoring data submitted by the Discharger for the 2003 through 2007 periods, the receiving water temperature exceeded the temperature limits. The Discharger justified such occurrences as a result of high ambient air temperatures. The Discharger has no control over the natural heating of receiving waters as a result of increased air temperatures.

E. Planned Changes

No planned changes.

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 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 California Water Code (commencing with Section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260).

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 Regional 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 Regional 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 Regional 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 Regional Water Board adopted Resolution No. R8-2004-0001, amending the Basin Plan to incorporate revised boundaries for groundwater subbasins, 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	<u>Intermittent beneficial uses:</u> Municipal and Domestic Supply, Groundwater Recharge, Water Contact Recreation, Non-Contact Water Recreation, Warm Freshwater Habitat, and Wildlife Habitat
	Warm Creek	Creek not listed in Basin Plan
	Reach 4 of Santa Ana River	<u>Present or Potential:</u> Groundwater recharge, water recreation, non-contact water recreation, warm freshwater habitat, and wildlife habitat.
	Reach 5 of Santa Ana River	<u>Present or Potential:</u> 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	<u>Present or Potential:</u> 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 Regional 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 Regional 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 Regulations² 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 Regional 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.

D. Other Plans, Policies and Regulations – Not Applicable

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. R8-2003-0004 provisions and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by the Regional Water Board.

B. Technology-Based Effluent Limitations – Not Applicable

² All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

C. Water Quality-Based Effluent Limitations (WQBELs) for DPs 001 to 007

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

- a. CTR and SIP. The National Toxics Rule, California Toxics Rule (CTR) and State Implementation Policy 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 Regional 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 Regional 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 Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

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. The monitoring data for copper and lead shown in Table 8 and Table 9 below were not considered in this analysis since the data appear to be questionable. This Order requires the Discharger to conduct quarterly monitoring of copper and lead in discharges at all discharge outfalls for one year and to conduct studies to determine the possible sources of copper and lead. The data will be used to reassess reasonable potential.

4. WQBEL Calculations – Not Applicable

D. Summary of Final Effluent Limitations for DPs 001 to 007

1. Summary of Final Effluent Limitations for DPs 001 to 007:

There are no numeric effluent limitations in the Order. However, if the accelerated monitoring for copper and lead shows reasonable potential and the study conducted by the Discharger determines that the source of copper and lead is from piping systems, this Order will be reopened to include effluent limitations for copper and lead.

However, this Order includes narrative effluent limitations based on the prior permit.

E. Interim Effluent Limitations--not Applicable

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. R8-2003-0004 specified that the discharge shall not cause an increase in the temperature of the receiving waters above 90 °F (32 °C) during the warm season, normally June through October, or above 78 °F (26 °C) during the rest of the year.

B. Groundwater

There are no groundwater limitations in the Order because the geothermal wastewater that is discharged is returned to the same management zones whence 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 Regional 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. The Discharger is required to monitor copper and lead at the wellheads on a quarterly basis for one year for the first year of the Order and annually thereafter. The intent is to determine baseline copper and lead conditions in the influent.

B. Effluent Monitoring

1. The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The monitoring and reporting program also contains sampling program specific for the Discharger's Geothermal Facility. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.
2. Order No. R8-2003-0004 did not specify effluent sampling locations. The Discharger collected samples at wellheads on the presumption that extracted geothermal water would be representative of the discharge since there are no chemicals being added

into the geothermal water. The Discharger did not collect effluent samples at discharge outfalls until January 2008. To determine a representative effluent sampling location(s), this Order requires the Discharger monitor for copper and lead, both at the wellheads and at the discharge outfalls. This is intended to determine whether there is a difference between extracted geothermal water and discharged geothermal wastewater with respect to these constituents. If there is no difference observed, then the sample location at the wellhead can be considered as representative for the effluent discharged.

3. This Order requires the Discharger to conduct accelerated monitoring for those constituents that are detected in the annual priority pollutant scan.

C. Receiving Water Monitoring

1. Surface Water

- a. Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.

2. Groundwater - Not Applicable

D. Other Monitoring Requirements – Not Applicable

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

1. Reopener Provisions

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

2. Special Studies and Additional Monitoring Requirements

This Order requires the Discharger to conduct quarterly monitoring of copper and lead at the wellheads and in discharges to evaluate the presence of these constituents, and to conduct an investigation of possible sources of copper and lead measured in the discharges. If copper and lead are found at concentrations of concern and if it is determined that the source of copper and lead in the discharge is the piping system used to transport the geothermal water, the discharger shall propose a plan and schedule to avoid/minimize the discharge of copper and lead in the discharges.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications – Not applicable

5. Other Special Provisions – Not Applicable

6. Compliance Schedules-Not Applicable

VIII.PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (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 Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. 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. Notification was provided through the posting of Notice of Public Hearing at the San Bernardino City Hall, the City Library and at the Regional Water Board website: <http://www.waterboards.ca.gov/santaana> on May 7, 2008.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on May 19, 2008.

Jane Qiu
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: June 6, 2008
Time: 9:00 A.M.
Location: City Council Chambers of Santa Ana
22 Civic Center Plaza
City of Santa Ana, CA

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/santaana> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information 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 Regional Water Board by calling (951) 320-2008.

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 Regional 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 Jane Qiu at (951) 320-2008.

ATTACHMENT G - EPA PRIORITY POLLUTANT LIST

EPA PRIORITY POLLUTANT LIST		
Metals	Acid Extractibles	Base/Neutral Extractibles (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 Extractibles	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 (<i>Bromomethane</i>)	1.0	2
Methyl Chloride (<i>Chloromethane</i>)	0.5	2
Methylene Chloride (<i>Dichloromethane</i>)	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.

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.

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.*

MINIMUM LEVELS IN PPB (µg/l)

Table 2 – Semi-Volatile Substances²	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) Fluoranthene (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 SUBSTANCES²	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	

Table 3– INORGANICS⁴	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	

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.

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 – PCBs⁵	GC
Aldrin	0.005
alpha-BHC (<i>a-Hexachloro-cyclohexane</i>)	0.01
beta-BHC (<i>b-Hexachloro-cyclohexane</i>)	0.005
Gamma-BHC (<i>Lindane; g-Hexachloro-cyclohexane</i>)	0.02
Delta-BHC (<i>d-Hexachloro-cyclohexane</i>)	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

SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)

DCP - Direct Current Plasma

COLOR - Colorimetric

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.*

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	<i>1,1-Dichloroethane</i>	5
29	1,2-Dichloroethane	0.19
30	1,1-Dichloroethylene	0.029
31	1,2-Dichloropropane	0.26
32	1,3-Dichloropropylene	5
33	<i>Ethylbenzene</i>	300
34	Methyl Bromide	24
35	Methyl Chloride	--
36	Methylene Chloride	2.4
37	1,1,2,2-Tetrachloroethane	0.085

	CONSTITUENT	µg/L
38	Tetrachloroethylene	0.4
39	<i>Toluene</i>	150
40	<i>1,2-Trans-dichloroethylene</i>	10
41	<i>1,1,1-Trichloroethane</i>	200
42	1,1,2-Trichloroethane	0.3
43	Trichloroethylene	1.35
44	<i>Vinyl Chloride</i>	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	Acenaphthene	600
57	Acenaphthylene	--
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-ethylhexyl) phthalate	0.9
69	4-Bromophenyl phenyl ether	--
70	Butyl benzyl phthalate	1500
71	2- Chloronaphthalene	850
72	4-Chlorophenyl phenyl ether	--
73	Chrysene	0.0022
74	Dibenzo (a,h) anthracene	0.0022
75	<i>1,2-Dichlorobenzene</i>	600

See notes below for italicized constituents.

ATTACHMENT I. -Continued

	CONSTITUENT	µg/L
76	1,3-Dichlorobenzene	200
77	<i>1,4-Dichlorobenzene</i>	<u>5</u>
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	<i>Hexachlorocyclopentadiene</i>	<u>50</u>
91	Hexachloroethane	0.95
92	Indeno (1,2,3-cd) pyrene	0.0022
93	Isophorone	4.2
94	<i>Naphthalene</i>	<u>17</u>
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	<i>1,2,4-Trichlorobenzene</i>	<u>5</u>
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 131.38¹).
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.
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.

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