CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

1685 "E" Street
Fresno, CA 93706-2007
Phone: (559) 445-5116 • FAX (559) 445-5910
http://www.waterboards.ca.gov/centralvalley

ORDER NO. R5-2009-XXXX
NPDES NO. CA0081833

WASTE DISCHARGE REQUIREMENTS FOR THE GENERAL ELECTRIC COMPANY AND WELLMADE PRODUCTS COMPANY GROUNDWATER CLEANUP SYSTEM MERCED COUNTY

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

Table 1. Discharger Information

Discharger	General Electric Company and Wellmade Products Company
Name of Facility	Groundwater Cleanup System
Facility Address	1715 Kibby Road
	Merced, CA 95340
	Merced 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 General Electric Company and Wellmade Products Company from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Groundwater	37º, 17', 28.81" N	120º, 25', 28.39" W	Hartley Lateral Canal
002	Treated Groundwater	37º, 17', 16.14" N	120º, 25', 39.30" W	Hartley Lateral Canal
003	Treated Groundwater	37º, 17', 28.82" N	120º, 25', 28.23" W	Hartley Lateral Canal

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**<Adoption Date> 2009**
This Order shall become effective on:	**<Effective Date> 2009**
This Order shall expire on:	**<Expiration Date> 2014**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**

IT IS HEREBY ORDERED, that Order No. **R5-2004-0065** is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code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, PAMELA C. CREEDON, 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, Central Valley Region, on **<Adoption Date>**.

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PAMELA C. CREEDON, Executive Officer

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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	General Electric Company and Wellmade Products Company
Name of Facility	Groundwater Cleanup System
Facility Address	1715 Kibby Road
	Merced, CA 95340
	Merced County
Facility Contact, Title, and Phone	Lisa A. Hamilton, Manager, MidAtlantic/Southeast/Western Regions (610) 992-7885
Mailing Address	640 Freedom Business Center King of Prussia, PA 19406
Type of Facility	Groundwater extraction and cleanup facility
Facility Design Flow	0.15 million gallons per day (mgd) at Discharge Point 001, 1.0 mgd at Discharge Point 002, and 1.6 mgd at Discharge Point 003

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. Background. General Electric Company and Wellmade Products Company (hereinafter Discharger) is currently discharging pursuant to Order No. R5-2004-0065 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0081833. The Discharger submitted a Report of Waste Discharge, dated 6 November 2008, and applied for a NPDES permit renewal to discharge up to 0.15 mgd, 1.0 mgd, and 1.6 mgd at Discharge Points 001, 002, and 003, respectively, of treated groundwater from the Groundwater Cleanup System, 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. Facility Description. The Discharger owns and operates the Facility equipment. The Facility treatment systems consist of an air stripping system, up to 12 extraction wells, two off-site Granular Activated Carbon (GAC) treatment systems, 16 monitoring wells on property owned by Wellmade Products Company (WLMD), 12 additional monitoring wells outside WLMD’s property, and three discharge points. Treated groundwater is discharged from Discharge Points 001, 002, and 003 (see table on cover page) to the Merced Irrigation District (MID), Hartley Lateral Canal (Hartley Canal), a water of the United States (and a tributary to Miles Creek, a tributary of the San Joaquin River from Sack Dam to the mouth of Merced River) within the San Joaquin Valley Floor

Hydrological Unit, Merced Hydrologic Area (No. 535.80). Treated groundwater is also used to install new monitoring and extraction wells, to wash site equipment, and for similar maintenance related uses. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of 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 California 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 H are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA).** Under California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. **Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations in Title 40, Code of Federal Regulations (CFR), Part 122.44 (40 CFR 122.44), 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. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 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 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan does not specifically identify beneficial uses for Hartley Canal.

Hartley Canal discharges to Miles Creek, a tributary of the San Joaquin River from Sack Dam to the mouth of the Merced River. Hartley Canal is an effluent dominated water body. Discharges from the groundwater cleanup system to the Hartley Canal must be protective of the beneficial uses of Miles Creek, and downstream waters.

The Basin Plan identifies beneficial uses for San Joaquin River from Sack Dam to the mouth of Merced River as follows: municipal and domestic supply (MUN); agricultural supply (AGR); industrial process supply (PRO); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD). These uses apply to Miles Creek pursuant to the Basin Plan's tributary rule.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The Hartley Canal is also a water of the U.S., and the quality of water in the canal must be maintained to meet the federal Clean Water Act threshold of "swimable and fishable."

The beneficial uses of the groundwaters of the San Joaquin Valley Basin are municipal and domestic supply (MUN), industrial service supply (IND), industrial process supply (PRO), and agricultural supply (AGR).

Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to the receiving waters are:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002, and 003	Hartley Lateral Canal	
	Miles Creek and the San Joaquin River	MUN, AGR, PRO, REC-1, REC-2, WARM, MIGR, SPWN, WILD
	Groundwater	MUN, IND, PRO, AGR

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 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 13 February 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On 2 March 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 28 April 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 18 May 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 24 February 2005 that became effective on 13 July 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.** This Order does not include compliance schedules and interim effluent limitations.

L. **Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21; 65 Fed. Reg. 24641 (27 April 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 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 30 May 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. **Stringency of Requirements for Individual Pollutants.** This Order contains technology-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on volatile organic compounds. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. This Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

N. **Antidegradation Policy.** 40 CFR 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 is consistent with 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 detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of 40 CFR 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 40 CFR 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. Effluent limitations for carbon tetrachloride were removed in this Order. As discussed in detail in the Fact Sheet, the relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code sections 13267 and 13383 authorize 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.

Q. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 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.

R. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections V.B, VI.A.2.t, and VI.C.4 of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

S. Notification of Interested Parties. The Regional Water Board 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. Discharge of wastes or pollutants at a location or in a manner different from that described in the Findings is prohibited.

B. The by-pass or overflow of untreated or partially treated groundwater, including polluted purge water is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

D. Discharge of waste classified as 'hazardous' as defined is Section 2521(a) of Title 23, California Code of Regulations (CCR), et seq., or 'designated', as defined in Section 13173 of the California Water Code, is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001, 002, and 003

1. Final Effluent Limitations – Discharge Points 001, 002, and 003

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001, 002, and 003, with compliance measured at Monitoring Locations EFF-001, EFF-002, EFF-003, respectively, as described in the attached MRP (Attachment E):

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 6:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations
		Maximum Daily
Chloroform	µg/L	<0.5
cis-1,2-Dichloroethylene	µg/L	<0.5
trans-1,2-Dichloroethylene	µg/L	<0.5
Tetrachloroethylene	µg/L	<0.5
Trichloroethylene	µg/L	<0.5
Other VOCs[1]	µg/L	<0.5

[1] Other typical Volatile Organic Compounds listed in Appendix 4 of the SIP

b. The maximum daily flow of Discharge Point 001 shall not exceed 0.15 mgd.

c. The maximum daily flow of Discharge Point 002 shall not exceed 1.0 mgd.

d. The maximum daily flow of Discharge Point 003 shall not exceed 1.6 mgd.

e. The additive toxicity of chloroform, tetrachloroethylene, and trichloroethylene in the discharge from the facility shall not exceed 1.0. The calculations shall be based on the maximum limits and the following formula as described in the Basin Plan at IV-18.00:

$$\sum_{i=1}^{n} \frac{[\text{Concentration of Toxic Substance}]_i}{[\text{Toxicological Limit for Substance in Water}]_i} < 1.0$$

f. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, for any one bioassay, and
ii. 90%, for the median of any three or more consecutive bioassays.

2. Interim Effluent Limitations

Not Applicable

B. Land Discharge Specifications

Not Applicable

C. Reclamation Specifications

Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge, alone or in combination with other sources, shall not cause the following in Hartley Canal:

1. **Bacteria**. The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL

2. **Biostimulatory Substances**. Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

3. **Chemical Constituents**. Chemical constituents to be present in concentrations that adversely affect beneficial uses.

4. **Color**. Discoloration that causes nuisance or adversely affects beneficial uses.

5. **Dissolved Oxygen**:

   a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
   b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; and
   c. The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.

6. **Floating Material**. Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.

7. **Oil and Grease**. Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.

8. **pH**. The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5 units

9. **Pesticides**:

   a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
   b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
   c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;
   d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR 131.12);
   e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
   f. Pesticides to be present in concentrations in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15; and
   g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **Radioactivity**:

   a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
   b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments**. The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

12. **Settleable Material**. Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

13. **Suspended Material**. Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

14. **Taste and Odors**. Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

15. **Temperature**. The natural temperature to be increased by more than 5°F.

16. **Toxicity**. Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **Turbidity**. The turbidity to increase as follows:

    a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
    b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
    c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
    d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to contain concentrations of waste constituents that exceed background water quality.

VI. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the following provisions:

    a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.

b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   i. violation of any term or condition contained in this Order;

   ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

   iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

   iv. a material change in the character, location, or volume of discharge.

   The causes for modification include:

   - *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

   - *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

   - *Change in sludge use or disposal practice.* Under 40 CFR 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

   The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

   The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.

i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

j. Safeguard to electric power failure:

i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.

ii. Upon written request by the Regional Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.

iii. Should the Facility not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are

inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

k. The Discharger, upon written request of the Regional Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under Regional Water Board Standard Provision VI.A.2.j.

   The technical report shall:

   i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

   ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

   iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   The Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

l. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional(s) responsible for the work.

m. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.

n. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.

o. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

p. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.

q. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.

r. 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. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

s. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13268, 13385, 13386, and 13387.

t. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (559) 445-5116 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 include the information required by Attachment D, Section V.E.1 [40 CFR 122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. This Order requires the Discharger to conduct monitoring of the effluent for arsenic (Discharge Points 001, 002, and 003), manganese (Discharge Points 001, 002, and 003) mercury (Discharge Points 001, 002, and 003), and selenium

(Discharge Points 001 and 002). After collecting at least one year of data, the Discharger shall complete a reasonable potential analysis consistent with the methodology in the SIP for arsenic, manganese, mercury, and selenium. Based on a review of the reasonable potential analysis, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.

b. 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.

c. This Order may be reopened to address conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, including:

   i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

   ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Arsenic, Manganese, Mercury, and Selenium Study**. The Discharger shall submit, **within six months** following the adoption of this Order, a work plan with a proposed time schedule to conduct a reasonable potential analysis consistent with the methodology in the SIP for arsenic, manganese, mercury, and selenium.

b. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to

initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan. Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at minimum:

   a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;

   b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and

   c. A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (i.e., an in-house expert or outside contractor).

ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger during accelerated monitoring demonstrate a pattern of toxicity and require the Discharger to initiate a TRE to address the effluent toxicity.

iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is > **1 TUc** (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.

iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of a single chronic toxicity test using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

a) If the results of the single accelerated monitoring test does not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

b) If the source(s) of the toxicity is easily identified (i.e. temporary facility upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring at a frequency of one test per month (1/month) until an accelerated test does not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within **sixty (60) days** of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must include an implementation schedule and must be developed in accordance with USEPA guidance[1].

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to address sources of salinity from the Facility. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the adoption date of this Order** for approval by the Executive Officer.

4. Construction, Operation and Maintenance Specifications

a. The Discharger is currently operating under the *Operation and Maintenance Plan, General Electric Company, Former Kendall Site, Merced, California* (O&M Plan), dated 4 August 2004, and approved by the Executive Officer. The O&M Plan outlines the ways in which groundwater extraction well rehabilitation and maintenance, GAC treatment system maintenance, and air stripper tower maintenance are conducted at the Facility, including ways to minimize impacts of maintenance operations on surface water. The Discharger must maintain the

[1] See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of USEPA guidance documents that must be considered in development of the TRE Work Plan.

Executive Officer approved O&M Plan, and, in accordance with the Monitoring and Reporting Program, submit annually any changes to the O&M Plan. Any changes to the O&M Plan are subject to Executive Officer approval.

b. All purged well water shall be treated and disposed of by the methods described in the *Work Plan for Treatment of Purge Water*, dated 2 July 2004, and approved by the Executive Officer. Any changes to the methods described in the work plan shall be reported to the Regional Water Board and are subject to Executive Officer approval.

c. Waste generated during cleaning of the air stripper tower shall be treated and disposed of by the methods described in the *Work Plan for Treatment and Disposal of Waste Generated by Air Stripper Tower Cleaning*, dated 2 September 2004, and approved by the Executive Officer. Any changes to the methods described in the work plan shall be reported to the Regional Water Board and are subject to Executive Officer approval.

d. Spent carbon and other residual solids removed from liquid wastes or used to treat liquid wastes shall be recycled or disposed of in a manner that is consistent with Division 3, Title 27; Chapter 15, Division 3, Title 23; and Division 4.5, Title 22 of the CCR and approved by the Executive Officer.

e. Any proposed change in filter waste use or solids disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

5. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

6. Other Special Provisions

a. In the event of any change in control or ownership of land or waste discharge facilities 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 immediately forwarded to the Regional Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory and certification requirements in the Federal Standard Provisions (Attachment D, Section V.B.) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without

requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

b. This Order does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control the discharge of treated groundwater subject to their control. Discharges allowed by this Order to local irrigation or storm water collection and conveyance facilities must obtain approval from the agency responsible for operation and maintenance of the facilities.

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. **Volatile Organic Compounds (VOCs) Maximum Daily Effluent Limitation.** VOCs include all typical VOCs listed in Appendix 4 of the SIP. The maximum daily effluent limitation of less than 0.5 µg/L generally applies to each VOC. In the case where the Method Limit is not 0.5 ug/L, the discharge shall be considered compliant if the constituent is not detected above the lowest ML in the SIP for that constituent.

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.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Best Practicable Treatment or Control (BPTC): BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to assure that, *"(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."* Pollution is defined in CWC Section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".

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.

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.

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.

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).

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

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 40 CFR 136, Attachment B, revised as of 3 July 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.

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

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

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.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

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

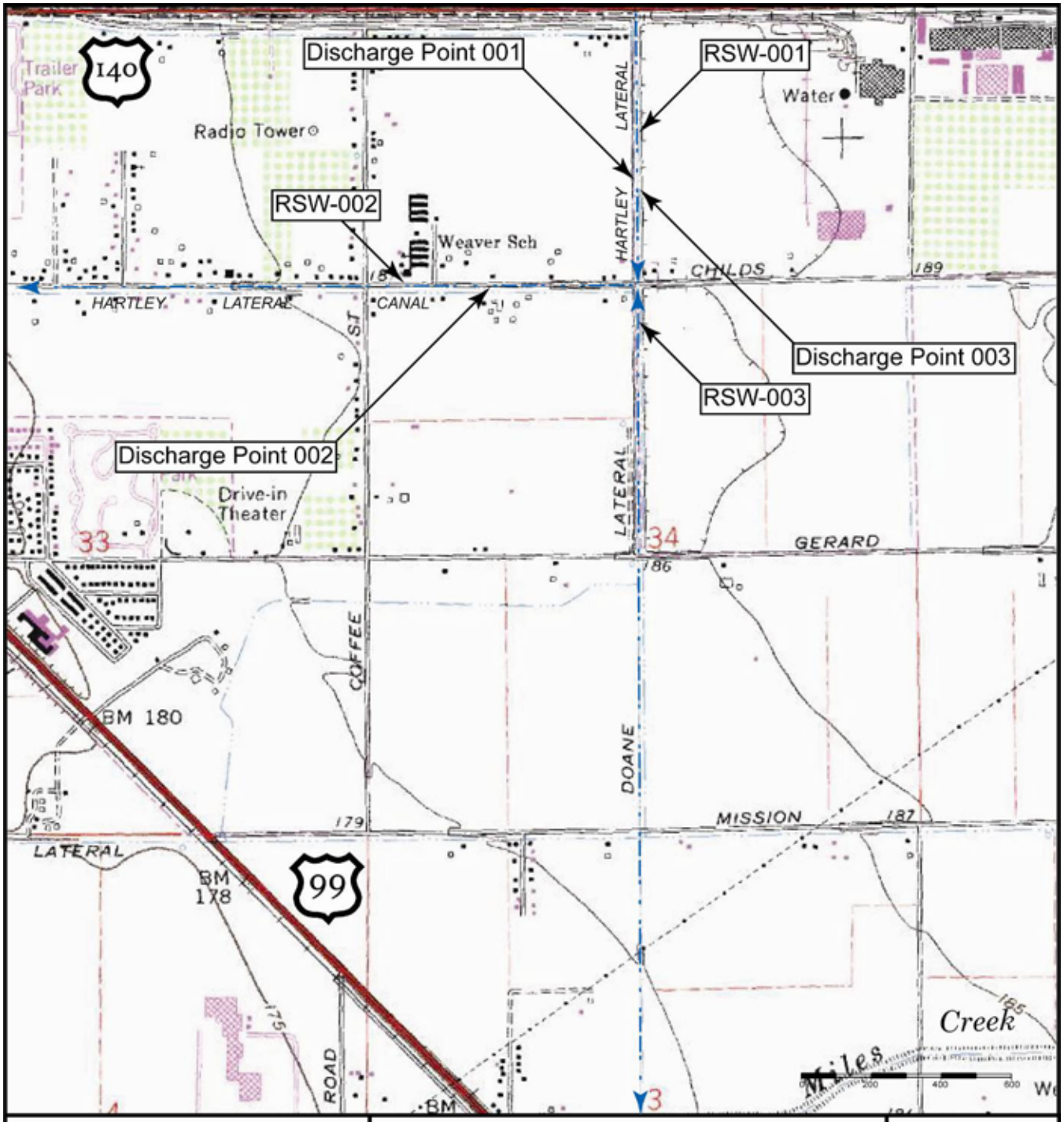
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

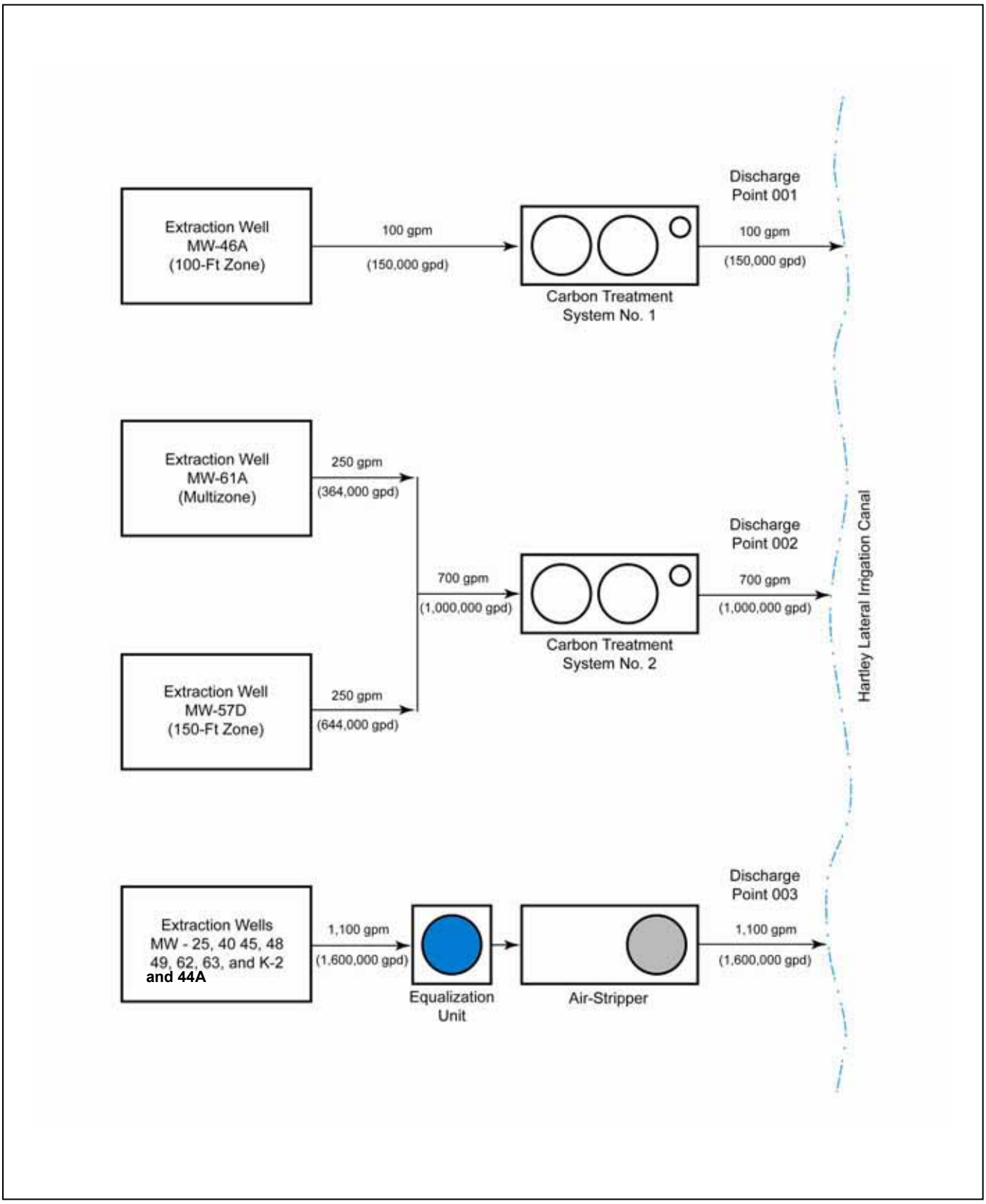
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps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

ATTACHMENT B – MAP



Drawing Reference: MERCED U.S.G.S TOPOGRAPHIC MAP 7.5 MINUTE QUADRANGLE *Topographic Map Dated 7/1/1987*	SITE LOCATION MAP GENERAL ELECTRIC COMPANY AND WELL MADE PRODUCTS COMPANY GROUNDWATER CLEANUP SYSTEM MERCED COUNTY	N W E S

ATTACHMENT C – FLOW SCHEMATIC



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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(n)(3)):

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

   b. The permitted facility was, at the time, being properly operated (40 CFR 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 CFR 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(j)(2).)

B. Records of monitoring information shall include:

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

2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and

6. The results of such analyses. (40 CFR 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 CFR 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 CFR 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 CFR 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR 122.22(a)(1).)

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 CFR 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 CFR 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR 122.41(l)(6)(i).)

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

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

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 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 CFR 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 CFR 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 CFR 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 CFR 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 CFR.§ 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 CFR 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 CFR 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 CFR 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. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 CFR 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR 122.42(a)(1)):

    a. 100 micrograms per liter (µg/L) (40 CFR 122.42(a)(1)(i));

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 CFR 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 CFR 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 CFR 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR 122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

40 CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California 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 state regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Regional Water Board Executive Officer

B. Laboratories that perform sample analyses shall be identified in all monitoring reports. All analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

C. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

D. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

E. Treatment system and discharge monitoring shall not be required during periods when the treatment systems are shut down. The Discharger shall note the periods of shutdown in quarterly self-monitoring reports.

F. Receiving water monitoring shall not be required when the discharge comprises the entire flow in the receiving water.

II. MONITORING LOCATIONS

The Discharger shall monitor the following locations to demonstrate compliance with the effluent limitations and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	A location where a representative sample of the influent into the 100-ft zone treatment system can be collected
--	INF-002	A location where a representative sample of the influent into the multizone treatment system can be collected
--	INF-003	A location where a representative sample of the influent into the air stripper system can be collected
001	EFF-001	A location representative of the final effluent from the 100-ft zone treatment system
002	EFF-002	A location representative of the final effluent from the multizone treatment system
003	EFF-003	A location representative of the final effluent from the air stripper system
--	RSW-001	Approximately 50 to 100 feet upstream of Discharge Points 001 and 003, or the first accessible sampling point upstream of this location
--	RSW-002	Approximately 50 to 100 feet downstream of Discharge Point 002
--	RSW-003	Approximately 50 to 100 feet south of the intersection of Doane Lateral Canal and East Childs Avenue, or the first accessible sampling point south of this location
--	MDT-001	A location between each Granular Activated Carbon (GAC) unit where a representative sample of discharge from the GAC unit of the 100-ft zone treatment system can be collected
--	MDT-002	A location between each GAC unit where a representative sample of discharge from the GAC unit of the multizone treatment system can be collected

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations INF-001, -002, and -003

1. Influent samples shall be collected at approximately the same time as effluent samples; the time of collection of samples shall be recorded.

2. The Discharger shall monitor influent to the Facility for each treatment system at INF-001, INF-002, and INF-003 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloroform	µg/L	Grab	1/quarter	[1]
trans-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
cis-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[2]
Tetrachloroethylene	µg/L	Grab	1/quarter	[1]
Trichloroethylene	µg/L	Grab	1/quarter	[1]
Other VOCs[3,4]	µg/L	Grab	1/quarter	[1]

[1] Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or equivalent method with a practical quantitation limit (PQL) no greater than 0.5 µg/L or no greater than the lowest MLs in the SIP.
[2] Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.
[3] All typical volatile organic constituents listed in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP), or as noted in the approved O&M Plan.
[4] VOCs = Volatile Organic Compounds

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Discharger shall monitor treated groundwater at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/quarter	[2]
Dissolved Oxygen	mg/L	Grab	1/quarter	[2]
pH	Standard Units	Grab	1/quarter	[2]
General Minerals	mg/L	Grab	1/quarter	[2]
Arsenic	µg/L	Grab	1/quarter	[2,3]
Mercury	µg/L	Grab	1/quarter	[2,3]
Selenium	µg/L	Grab	1/quarter	[2,3]
Chloroform	µg/L	Grab	1/quarter	[3,6]
trans-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[3,6]
cis-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[7]
Tetrachloroethylene	µg/L	Grab	1/quarter	[3,6]
Trichloroethylene	µg/L	Grab	1/quarter	[3,6]
Other VOCs[8,9]	µg/L	Grab	1/quarter	[3,6]
Priority Pollutants[10]	µg/L	Grab	4/permit lifecycle[11]	[2,3]

[1] The Discharger may substitute daily average flow when the continuous flow meter is non-operational. The Discharger must clearly indicate when the flow is measured as daily average, and describe when the continuous flow meter is non-operational.
[2] Samples shall be analyzed using the methods and procedures described in 40 CFR 136, or other methods approved and specified by the Executive Officer.
[3] For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the SIP is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
[4] General Minerals shall include alkalinity, bicarbonate, calcium, carbonate, chloride, electrical conductivity at 25 °C, hardness, hydroxide, iron, magnesium, manganese, potassium, sodium, sulfate, total dissolved solids, and all major anions and cations. Analyses should be accompanied by an anion cation balance demonstrating that analyses are complete.
[5] After one year of monitoring and reporting, the Discharger may request the Executive Officer to reduce the monitoring frequency.
[6] Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or equivalent method with a practical quantitation limit (PQL) no greater than 0.5 µg/L or no greater than the lowest MLs in the SIP.
[7] Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.
[8] All typical volatile organic constituents listed in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) or as noted in the approved O&M Plan.
[9] VOCs = Volatile Organic Compounds.
[10] Concurrent with receiving surface water sampling.
[11] Must be sampled during the first year of the permit term.

B. Monitoring Location EFF-002

The Discharger shall monitor treated groundwater at EFF-002 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-4. Effluent Monitoring at Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous[1]	--
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/quarter	[2]
Dissolved Oxygen	mg/L	Grab	1/quarter	[2]
pH	Standard Units	Grab	1/quarter	[2]
General Minerals[4]	mg/L	Grab	1/quarter[5]	[2]
Arsenic	µg/L	Grab	1/quarter[5]	[2,3]
Mercury	µg/L	Grab	1/quarter[5]	[2,3]
Selenium	µg/L	Grab	1/quarter[5]	[2,3]
Chloroform	µg/L	Grab	1/quarter	[3,6]
trans-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[3,6]
cis-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[7]
Tetrachloroethylene	µg/L	Grab	1/quarter	[3,6]
Trichloroethylene	µg/L	Grab	1/quarter	[3,6]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Other VOCs[8,9]	µg/L	Grab	1/quarter	[3,6]
Priority Pollutants[10]	µg/L	Grab	4/permit lifecycle[11]	[2,3]

1 The Discharger may substitute daily average flow when the continuous flow meter is non-operational. The Discharger must clearly indicate when the flow is measured as daily average, and describe when the continuous flow meter is non-operational.
2 Samples shall be analyzed using the methods and procedures described in 40 CFR 136, or other methods approved and specified by the Executive Officer.
3 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the SIP is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
4 General Minerals shall include alkalinity, bicarbonate, calcium, carbonate, chloride, electrical conductivity at 25 °C, hardness, hydroxide, iron, magnesium, manganese, potassium, sodium, sulfate, total dissolved solids, and all major anions and cations. Analyses should be accompanied by an anion cation balance demonstrating that analyses are complete.
5 After one year of monitoring and reporting, the Discharger may request the Executive Officer to reduce the monitoring frequency.
6 Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or equivalent method with a practical quantitation limit (PQL) no greater than 0.5 µg/L or no greater than the lowest MLs in the SIP.
7 Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.
8 All typical volatile organic constituents listed in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) or as noted in the approved O&M Plan.
9 VOCs = Volatile Organic Compounds.
10 Concurrent with receiving surface water sampling.
11 Must be sampled during the first year of the permit term.

C. Monitoring Location EFF-003

The Discharger shall monitor treated groundwater at EFF-003 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-5. Effluent Monitoring at Monitoring Location EFF-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous[1]	--
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/quarter	[2]
Dissolved Oxygen	mg/L	Grab	1/quarter	[2]
pH	Standard Units	Grab	1/quarter	[2]
General Minerals[4]	mg/L	Grab	1/quarter[5]	[2]
Arsenic	µg/L	Grab	1/quarter[5]	[2,3]
Mercury	µg/L	Grab	1/quarter[5]	[2,3]
Chloroform	µg/L	Grab	1/quarter	[3,6]
trans-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[3,6]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
cis-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[7]
Tetrachloroethylene	µg/L	Grab	1/quarter	[3,6]
Trichloroethylene	µg/L	Grab	1/quarter	[3,6]
Other VOCs[8,9]	µg/L	Grab	1/quarter	[3,6]
Priority Pollutants[10]	µg/L	Grab	4/permit lifecycle[11]	[2,3]

[1] The Discharger may substitute daily average flow when the continuous flow meter is non-operational. The Discharger must clearly indicate when the flow is measured as daily average, and describe when the continuous flow meter is non-operational.

[2] Samples shall be analyzed using the methods and procedures described in 40 CFR 136, or other methods approved and specified by the Executive Officer.

[3] For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the SIP is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

[4] General Minerals shall include alkalinity, bicarbonate, calcium, carbonate, chloride, electrical conductivity at 25 °C, hardness, hydroxide, iron, magnesium, manganese, potassium, sodium, sulfate, total dissolved solids, and all major anions and cations. Analyses should be accompanied by an anion cation balance demonstrating that analyses are complete.

[5] After one year of monitoring and reporting, the Discharger may request the Executive Officer to reduce the monitoring frequency.

[6] Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or equivalent method with a practical quantitation limit (PQL) no greater than 0.5 µg/L or no greater than the lowest MLs in the SIP.

[7] Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L.

[8] All typical volatile organic constituents listed in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) or as noted in the approved O&M Plan.

[9] VOCs = Volatile Organic Compounds.

[10] Concurrent with receiving surface water sampling.

[11] Must be sampled during the first year of the permit term.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform **annual** acute toxicity testing,

2. *Sample Types* – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring locations EFF-001, EFF-002, and EFF-003.

3. *Test Species* – Test species shall be fathead minnows (*Pimephales promelas*).

4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. **Chronic Toxicity Testing**. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform **annual** three species chronic toxicity testing.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring locations specified in the Monitoring and Reporting Program.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures sublethal (e.g. reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
   - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
   - The green alga, *Selenastrum capricornutum* (growth test).

5. *Methods* – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition,* EPA/821-R-02-013, October 2002.

6. *Reference Toxicant* – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – The chronic toxicity testing shall be performed using the dilution series identified in Table E-6, below. The laboratory water control shall be used as the diluent.

8. *Test Failure* –The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI.C.2.b.iii.)

Table E-6. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water	0	0	0	0	0	0	0
% Laboratory Water	0	25	50	75	87.5	0	100

C. **WET Testing Notification Requirements**. The Discharger shall notify the Regional Water Board within 24-hrs after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. **WET Testing Reporting Requirements**. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results for those tests that do not exceed the numeric monitoring trigger shall be reported along with the annual operations report required by Section X.C.2 below. Regular chronic toxicity monitoring results for those tests that exceed the numeric monitoring trigger and accelerated monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as $100/LC_{50}$, $100/EC_{25}$, $100/IC_{25}$, and $100/IC_{50}$, as appropriate;

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity monitoring trigger.

   Additionally, the quarterly Discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted 30 days following completion of the test and reported as percent survival.

3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes (if applicable):

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

   c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Locations RSW-001, RSW-002, and RSW-003

1. The Discharger shall monitor Hartley Lateral Canal at RSW-001 and RSW-002 and Doane Lateral Canal at RSW-003 as follows:

Table E-7. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	cfs	Estimate	1/quarter	--
Dissolved Oxygen	mg/L	Grab	1/quarter	[1]
pH	Standard Units	Grab	1/quarter	[1]
Temperature	°F	Grab	1/quarter	[1]
Electrical Conductivity @ 25 °C	µmhos/cm	Grab	1/quarter	[1]
General Minerals[3]	µg/L	Grab	1/quarter[4]	[1]
Priority Pollutants[5,6,7]	µg/L	Grab	4/permit lifecycle[6]	[1,2]

[1] Samples shall be analyzed using the methods and procedures described in 40 CFR 136, or other methods approved and specified by the Executive Officer.
[2] For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the SIP is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
[3] General Minerals shall include alkalinity, bicarbonate, calcium, carbonate, chloride, electrical conductivity at 25 °C, hardness, hydroxide, iron, magnesium, manganese, potassium, sodium, sulfate, total dissolved solids, and all major anions and cations. Analyses should be accompanied by an anion cation balance demonstrating that analyses are complete.
[4] After one year of monitoring and reporting, the Discharger may request the Executive Officer to reduce the monitoring frequency.
[5] Concurrent with effluent sampling.
[6] Must be sampled during the first year of the permit term.
[7] Monitoring required at RSW-001 only.

IX. OTHER MONITORING REQUIREMENTS

A. Mid-Treatment Monitoring

1. **Monitoring Locations MDT-001 and MDT-002**

The time of collection of samples shall be recorded. The Discharger shall monitor mid-treatment of each GAC treatment systems at MDT-001 and MDT-002 as follows:

Table E-8. Mid-Treatment Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloroform	µg/L	Grab	1/quarter	[1]
trans-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[1]
cis-1,2-Dichloroethylene	µg/L	Grab	1/quarter	[2]
Tetrachloroethylene	µg/L	Grab	1/quarter	[1]
Trichloroethylene	µg/L	Grab	1/quarter	[1]
Other VOCs[3,4]	µg/L	Grab	1/quarter	[1]

[1] Test method used shall be EPA Method 601, Standard Method (20th edition) 6200C, EPA Method 8260, or equivalent method with a practical quantitation limit (PQL) no greater than 0.5 µg/L.
[2] Test method used shall be Standard Method (20th edition) 6200B, EPA Method 8260, or an equivalent method with a PQL no greater than 0.5 µg/L or no greater than the lowest MLs in the SIP.
[3] All typical volatile organic constituents listed in Appendix 4 of the SIP or as noted in the approved O&M Plan.
[4] VOCs = Volatile Organic Compounds

X. 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. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 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 RL 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.** Not applicable.

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. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly averages, and medians, shall be determined and recorded as needed to demonstrate compliance.

3. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

4. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

5. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a

report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.

6. 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:

   Regional Water Quality Control Board
   Central Valley Region
   1685 "E" Street
   Fresno, CA 93706-2007

7. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule, unless otherwise noted elsewhere in the Monitoring and Reporting Program:

Table E-9. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with quarterly SMR
1/quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1/permit cycle	Permit effective date	Once during the first year of the permit term.	First day of the second month following sample collection

C. Other Reports

1. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.

2. **Annual Operations Report**. By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

   a. The names and general responsibilities of all persons employed at the Facility.

b. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.

c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the Facility as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

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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 F-1. Facility Information

WDID	5C241008001
Discharger	General Electric Company and Wellmade Products Company
Name of Facility	Groundwater Cleanup System
Facility Address	1715 Kibby Road Merced, CA 95340 Merced County
Facility Contact, Title and Phone	Lisa A. Hamilton, Manager, MidAtlantic/Southeast/Western Regions (610) 992-7885
Authorized Person to Sign and Submit Reports	Lisa A. Hamilton, Manager, MidAtlantic/Southeast/Western Regions (610) 992-7885
Mailing Address	640 Freedom Business Center King of Prussia, PA 19406
Billing Address	SAME
Type of Facility	Groundwater extraction and cleanup facility
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facility Permitted Flow	0.15 million gallons per day (mgd) at Discharge Point 001, 1.0 mgd at Discharge Point 002, and 1.6 mgd at Discharge Point 003
Facility Design Flow	0.15 million gallons per day (mgd) at Discharge Point 001, 1.0 mgd at Discharge Point 002, and 1.6 mgd at Discharge Point 003
Watershed	San Joaquin Valley Floor Hydrological Unit, Merced Hydrologic Area (No. 535.80)
Receiving Water	Hartley Lateral Canal
Receiving Water Type	Canal

A. General Electric Company is the owner and operator of Groundwater Cleanup System (hereinafter Facility) including a groundwater extraction and treatment system consisting mainly of an on-site air stripping system and two off-site Granular Activated Carbon (GAC) treatment systems. General Electric Company previously owned, and Wellmade Products Company (WLMD) currently owns the property at 1715 Kibby Road, on which the air stripping system is located. The City of Merced owns the property 1,560 feet north of East Childs Avenue and 2,640 feet east of Coffee Street on which one of the GAC treatment systems is located. Weaver Union School District owns the property at 3076 East Childs Avenue on which the other GAC treatment system is located. Both GAC treatment systems are on properties impacted by disposal practices at the WLMD property (see Section II of this Fact Sheet). Together General Electric Company and WLMD are hereinafter referred to as Discharger.

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 treated groundwater to Merced Irrigation District (MID) Hartley Lateral Canal (Hartley Canal), a water of the United States, and is currently regulated by Order R5-2004-0065, which was adopted on 4 June 2004.

C. The Discharger filed a Report of Waste Discharge (RWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on 6 November 2008.

II. FACILITY DESCRIPTION

The Facility is in the City of Merced in Section 27, Township 7 South, Range 14 East, Mount Diablo Base and Meridian, as shown in Attachment B, a part of this Order. General Electric Company (GE) owned the property at 1715 Kibby Road from 1965 to 1971. GE's disposal practices (volatile organics discharged to an unlined pond on the property) polluted groundwater and affected local industrial, domestic, and municipal supply wells nearby. GE has accepted responsibility for defining the extent of pollution and for the necessary cleanup. The property was owned by Kendall Company from 1972 to 1981. WLMD, the current property owner, purchased the property in 1989. On 25 March 2002, the San Joaquin Valley Air Pollution Control District issued an "Authority to Construct," (No. 1183-1-1) which allows for the operation of the air stripper.

The Facility includes an on-site air stripping system, up to 12 extraction wells, two off-site GAC treatment systems, 16 monitoring wells on the property owned by WLMD, 12 additional monitoring wells that are outside of WLMD's property boundary, and three discharge points.

A. Description of Wastewater Treatment or Controls

The off-site GAC groundwater remediation systems consist of the 100-foot zone GAC treatment system and the multizone GAC treatment system. The 100-foot zone GAC treatment system is adjacent to the Hartley Canal north of East Childs Avenue. Groundwater extracted from Monitoring Well No. 46A (MW-46A) is treated at the 100-foot zone GAC treatment system using two 2,000-pound GAC units arranged in series. Treated groundwater can be pumped at a maximum design flow of 0.15 mgd (100 gpm) into an adjacent 3-inch pipeline and discharged into the Hartley Canal at Discharge Point 001. In a 25 May 2007 letter, the Regional Water Board authorized the shutdown of the 100-foot zone GAC treatment system to evaluate groundwater conditions and residual trichloroethylene concentrations in groundwater near this location. The 100-foot zone GAC treatment system has not operated since 11 June 2007, except for approximately 24 hours each quarter to facilitate a sample collection for quarterly monitoring events and on 15 April 2008 to conduct a priority pollutant monitoring for the Report of Waste Discharge. On 13 May 2009, the Regional Water Board conditionally authorized by letter the permanent shutdown of the 100-foot zone treatment system. The letter indicates that additional remedial action may be required if VOC concentrations in the target zone increase during shutdown.

The multizone GAC treatment system is on Weaver Union School District property. Groundwater extracted from up to two off-site extraction wells (MW-57D and MW-61A) is treated using two 10,000-pound GAC units arranged in series. Well MW-57D is operated nearly continuously and well MW-61A has been offline since 2005. Treated groundwater is pumped at a maximum design flow of 1.0 mgd (700 gpm) into an adjacent 8-inch pipeline and discharged into the Hartley Canal at Discharge Point 002. In a 24 March 2009 letter, the Regional Water Board also authorized a pilot one-year shutdown of the multi-zone GAC treatment system.

The on-site groundwater remediation system consists of a network of up to nine on-site extraction wells (MW-25, MW-40, MW-44, MW-45, MW-48, MW-49, MW-62, MW-63, and K-2) and an air stripper system. Wells MW-62, MW-63, and K-2 are operated nearly continuously. The other wells are operated during quarterly sampling events to facilitate sample collection. The air stripper system consists of an equalization tank, an anti-scalant mixing tank, and an air stripping tower. Groundwater is pumped from the extraction wells and collected in an equalization tank where it is mixed with a scale inhibitor (Nalco 8357) and emptied into a distributor at the top of the air stripper. The groundwater then flows down through the air stripper packing where it is contacted by air that is being forced upward by a blower. As the water flows downward, volatile organic compounds (VOCs) in the water are volatized and transferred to the air stream. Treated groundwater is pumped at a maximum design flow of 1.6 mgd (1,100 gpm) into an adjacent pipeline which discharges into the Hartley Canal at Discharge Point 003.

B. Discharge Points and Receiving Waters

1. Discharge Point 001 is approximately 1,290 feet north of East Childs Avenue and approximately 2,600 feet east of Coffee Street in the SE ¼ of Section 27, T7S, R14E, MDB&M at a point Latitude 37° 17’ 28.81” N and Longitude 120° 25’ 28.39”

W. Discharge Point 002 is at approximately 1,720 feet east of East Childs Avenue and Coffee Street intersection in the SE ¼ of Section 27, T7S, R14E, MDB&M at a point Latitude 37° 17' 16.14" N and Longitude 120° 25' 39.30" W. Discharge Point 003 is at approximately 1,290 feet north of East Childs Avenue and 2,610 feet east of Coffee Street in the SE ¼ of Section 27, T7S, R14E, MDB&M at a point Latitude 37° 17' 28.82" N and Longitude 120° 25' 28.23" W.

2. The RWD describes the discharge at Discharge Points 001, 002, and 003 as having average flows of 0.03744 mgd, 0.1368 mgd, and 0.50976 mgd, respectively.

3. Hartley Canal is a water of the United States (and a tributary to Miles Creek, a tributary of the San Joaquin River from Sack Dam to the mouth of Merced River) within the San Joaquin Valley Floor Hydrological Unit, Merced Hydrologic Area (No. 535.80). The beneficial uses of the waters to which Hartley Canal is tributary are provided in Section III.C.1 below.

4. The Hartley Canal traverses in a north-south direction upstream of Discharge Points 001 and 003 until it intersects East Childs Avenue. At East Childs Avenue, the Hartley Canal traverses in an east-west direction. The MID Doane Lateral Canal (Doane Canal) intersects the Hartley Canal at East Childs Avenue on the north-south Hartley Canal alignment. Depending on the agricultural supply demands, water can flow both directions in the Doane Canal. Between 1 November and 1 March both canals sometimes function as effluent dominated water bodies. Both canals are owned and operated by MID and flow from the Merced River via Yosemite Lake and terminate at Miles Creek.

5. The Discharger and MID have a signed agreement that defines the terms and conditions under which MID allows discharges into the Hartley Canal.

6. Waste from livestock that are known to occasionally be present in the Hartley Canal may impact some water quality characteristics. However, the presence of livestock in the receiving water should not affect the ability to determine if the ongoing discharge impacts the receiving water quality.

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

Effluent limitations contained in Order R5-2004-0065 for discharges from Discharge Point Nos. 001, 002, and 003 and representative monitoring data from the term of Order No. R5-2004-0065 are provided in Tables F-2, F-3, and F-4 below.

Table F-2. Discharge Point 001 Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data January 2005 – April 2008	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Flow	mgd	--	--	0.15	--	0.05
Carbon Tetrachloride	µg/L	0.20[1]	--	<0.5	ND	ND

Parameter	Units	Effluent Limitation			Monitoring Data January 2005 – April 2008	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Chloroform	µg/L	--	--	<0.5	--	ND
cis-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	ND
trans-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	ND
Tetrachloro-ethylene	µg/L	--	--	<0.5	--	ND
Trichloro-ethylene	µg/L	--	--	<0.5	--	ND
Other VOCs[2]	µg/L	--	--	<0.5	--	ND
Electrical Conductivity @ 25°C	µmhos/cm	--	--	--	--	490

ND = Reported as non-detect.
[1] If approved Minimum Level (ML) is greater than Average Monthly limit, then compliance is met if concentration is below the ML.
[2] Other typical Volatile Organic Compounds listed in Appendix 4 of the State Implementation Policy.

Table F-3. Discharge Point 002 Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data January 2005 – April 2008	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Flow	mgd	--	--	1.0	--	0.4
Carbon Tetrachloride	µg/L	0.20[1]	--	<0.5	ND	ND
Chloroform	µg/L	--	--	<0.5	--	ND
cis-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	ND
trans-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	ND
Tetrachloro-ethylene	µg/L	--	--	<0.5	--	ND
Trichloro-ethylene	µg/L	--	--	<0.5	--	ND
Other VOCs[2]	µg/L	--	--	<0.5	--	ND
Electrical Conductivity @ 25°C	µmhos/cm	--	--	--	--	500

ND = Reported as non-detect.
[1] If approved Minimum Level (ML) is greater than Average Monthly limit, then compliance is met if concentration is below the ML.
[2] Other typical Volatile Organic Compounds listed in Appendix 4 of the State Implementation Policy.

Table F-4. Discharge Point 003 Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data January 2005 – April 2008	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Flow	mgd	--	--	1.6	--	0.6
Carbon Tetrachloride	µg/L	0.20[1]	--	<0.5	ND	ND
Chloroform	µg/L	--	--	<0.5	--	ND
cis-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	ND
trans-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	ND
Tetrachloro-ethylene	µg/L	--	--	<0.5	--	ND
Trichloro-ethylene	µg/L	--	--	<0.5	--	0.34 J[3]
Other VOCs[2]	µg/L	--	--	<0.5	--	ND
Electrical Conductivity @ 25°C	µmhos/cm	--	--	--	--	600

ND = Reported as non-detect.
[1] If approved Minimum Level (ML) is greater than Average Monthly limit, then compliance is met if concentration is below the ML.
[2] Other typical Volatile Organic Compounds listed in Appendix 4 of the State Implementation Policy.
[3] J = Estimated concentration.

D. Compliance Summary

Based on monitoring data from January 2005 through April 2008, the Facility did not exceed any effluent limitations set by Order No. R5-2004-0065.

E. Planned Changes

As stated in Section II.A. of this Fact Sheet, the Regional Water Board authorized the pilot shutdown of the 100-foot zone and multi-zone GAC treatment systems to evaluate groundwater conditions and residual trichloroethylene concentrations in groundwater near these locations. If the results of the shutdown studies indicate that cleanup has been achieved at these locations, the GAC treatment systems can be permanently shutdown with Executive Officer approval.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in Section II of the Limitations and Discharge Requirements

(Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authority

See Limitations and Discharge Requirements - Findings, Section II.C.

B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans**. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (Basin Plan) that 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 Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan.

   The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

   The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. 40 CFR 131.2 and 131.10 require that states, when adopting beneficial uses and water quality objectives for waters, must take into consideration their uses and values for public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 CFR 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. 40 CFR 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected, and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

   The beneficial uses of Hartley Canal are not individually identified in the Basin Plan. Hartley Canal is an effluent dominated water body that discharges to Miles Creek, which flows into the San Joaquin River. The Basin Plan identifies beneficial uses for San Joaquin River from Sack Dam to the mouth of Merced River as follows:

municipal and domestic supply (MUN); agricultural supply (AGR); industrial process supply (PRO); water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD). These uses also apply to Miles Creek pursuant to the Basin Plan's tributary rule.

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

The quality of water in Hartley Canal must be protective of the designated beneficial uses of Miles Creek. Further, Hartley Canal is a water of the United States, and the water therein must be maintained to protect "fishable and swimable" uses, which are rebuttably presumed to exist.

The beneficial uses of the groundwaters of the San Joaquin Valley Basin are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

2. **Antidegradation Policy.** See Limitations and Discharge Requirements – Findings Section II.N. As discussed in detail in Section IV.D.2. of this Fact Sheet the discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16.

3. **Anti-Backsliding Requirements.** See Limitations and Discharge Requirements – Findings Section II.O. Compliance with the Anti-Backsliding requirements specific to this Order are discussed in Section IV.D.1. of this Fact Sheet

4. **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.

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

1. Section 303(d) of the 1972 Clean Water Act requires states, territories, and authorized tribes to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 25 July 2003, USEPA gave final approval to California's 2002 Section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality

Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*"

2. **Total Maximum Daily Loads.** The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination.

   a. The Basin Plan contains a TMDL for salt and boron applicable to the Discharger *(Control Program for Salt and Boron Discharges into the Lower San Joaquin River)* (Salt and Boron TMDL). It identifies existing NPDES point source dischargers as a low priority. Compliance dates for low priority discharges are contained in Table IV-4.3 of the Basin Plan. Low priority dischargers are not required to be in compliance during wet through dry years for 16 years and 20 years during critical years, starting from the effective date of the control program [28 July 2006]. At that time, the discharge must not exceed the water quality objective for EC that applies to the San Joaquin River, from Sack Dam to the mouth of the Merced River. Generally, discharges must not exceed an EC of 700 µmhos/cm from 1 April through 31 August and 1000 µmhos/cm from 1 September through 31 March.

      The discharge, which is not expected to change, is below the most stringent EC limit, and meets the requirements of the TMDL. The maximum EC for each discharge point can be found in Tables F-2, F-3, and F-4 of this Fact Sheet.

E. Other Plans, Polices and Regulations

Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., § 1311(b)(1)(C); 40 CFR 122.44(d)(1)]. 40 CFR 122.44(d)(1)(i) requires NPDES permits to contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality*." Federal Regulations, 40 CFR 122.44(d)(1)(vi),

further provide that "[w]*here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.*"

The CWA requires point source discharges 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: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR 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 where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-17.00, contains an implementation policy ("Policy for Application of Water Quality Objectives" that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) USEPA's published water quality criteria, (2) a proposed state criterion (*i.e*., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e*., the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR 122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal or domestic supply, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

1. Prohibition A concerns a change in manner or location of the discharge, or a change in its character, from what was provided in the Report of Waste Discharge and evaluated for compliance with the CWC and CWA.

2. Prohibition B prohibits bypass pursuant to 40 CFR 122.41(m)(4), with federal allowance for exceptions set forth in Section I.G. of Attachment D, Federal Standard Provisions. It also prohibits overflows, which concerns release of untreated and partially treated groundwater.

3. Prohibition C reflects two general situations that, if created, justify cleanup or abatement enforcement activities and assessment of administrative civil liabilities.

4. Prohibition D concerns two categories of waste that are subject to full containment as prescribed by Title 23 and Tile 27 of the California Code of Regulations and, if discharged, have high potential for creating a condition that would violate Prohibition C as well.

B. Technology-Based Effluent Limitations

1. Scope and Authority

As specified in 40 CFR 122.44 (a)(1), technology-based effluent limitations and standards based on: effluent limitations and standards promulgated under section 301 of the CWA, or new source performance standards promulgated under section 306 of CWA, on case-by-case effluent limitations determined under section 402(a)(1) of CWA, or a combination of the three, in accordance with 40 CFR 125.3.

Section 402(a)(1) of the CWA and 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where Effluent Limitation Guidelines are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

2. Applicable Technology-Based Effluent Limitations

a. **Volatile Organic Compounds.** CWA section 301(b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include the Basin Plan's beneficial uses and narrative and numeric water quality objectives, State Water Board adopted standards, and federal standards including NTR and CTR. These standards include the Basin Plan's narrative toxicity objective and State Water Board Resolution No. 68-16. Since there are no promulgated effluent limitations for VOCs in groundwater extracted for cleanup, technology-based effluent limitations are established based upon consideration of the Regional Water Board staff's BPJ. State Water Board Resolution No. 68-16 requires implementation of best practicable treatment and control (BPTC) to ensure that the highest water quality is maintained consistent with the maximum benefit to the people of the State. Federal regulations require effluent limits representing best available technology economically achievable (BAT) for all toxic pollutants. For VOCs in groundwater, BAT is consistent with BPTC. With respect to the specific discharges permitted herein, and particularly the air stripper system and GAC treatment systems, the following have been considered, as required by 40 CFR 125

for establishing best available technology economically achievable (BAT) based upon BPJ:

- **Appropriate technology for category or class of discharges** – Air stripper treatment systems and GAC treatment systems, or a combination of both, are commonly used to remove VOCs from extracted groundwater at cleanup sites. Both types of systems are designed to remove VOCs to nondetectable concentrations. Properly operated and maintained systems perform reliably and ensure essentially complete removal of VOCs. The Discharger employs an air stripper system and GAC treatment systems.

- **Unique factors relating to the applicant –** The Discharger has not identified any unique factors that would justify discharges equaling or exceeding quantifiable concentrations of VOCs.

- **Age of equipment –** The air stripper was installed in 1986 and upgraded in 1994. GAC treatment systems were installed in 1996.

- **Non-water quality environmental impacts, including energy requirements and cost of achieving proposed effluent reduction** – The air stripper system and GAC treatment systems currently in place reliably remove VOCs to nondetectable concentrations of less than 0.5 µg/L; therefore, continued implementation of the maximum daily effluent limit would not create additional non-water quality impacts, or financial costs for the Discharger.

- **Influent, effluent, and receiving water data** – The monitoring data provided by the Discharger indicates that its air stripper system and GAC treatment systems have the ability to remove VOCs in the groundwater to a level below the established maximum daily effluent limitations of less than 0.5 µg/L set by Order No. R5-2004-0065. No VOCs exceeded the 0.5 µg/L maximum daily effluent limitations set by Order No. R5-2004-0065 for VOCs.

  Air stripping systems and GAC treatment systems are appropriate technologies for VOC removal from extracted groundwater. Based on the monitoring data provided by the Discharger, the air stripper system and GAC treatment systems in the Facility consistently meet the effluent limitations set by Order No. R5-2004-0065. The above supports the conclusion that the limits of less than 0.5 µg/L as a maximum daily reflect BPTC and BAT. Additionally, the Discharger must properly operate and maintain its treatment systems as specified in Section VI.C.4.a. of this Order. With continued proper operation and maintenance of the Facility, the Discharger will continue to achieve these effluent limitations.

b. **Flow.** The air stripper system was designed to provide groundwater treatment for up to a design flow of 1.6 mgd. The two GAC treatment systems were designed to provide groundwater treatment for up to 0.15 mgd and 1.0 mgd. Order No. R5-2004-0065 established effluent flow limitations based on the design flow of

the air stripper system and the GAC treatment systems. This Order carries over the maximum daily effluent flow limitations established by Order No. R5-2004-0065.

Summary of Technology-based Effluent Limitations
Discharge Points 001, 002, and 003

Table F-5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chloroform	µg/L	--	--	<0.5	--	--
cis-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	--
trans-1,2-Dichloroethylene	µg/L	--	--	<0.5	--	--
Tetrachloroethylene	µg/L	--	--	<0.5	--	--
Trichloroethylene	µg/L	--	--	<0.5	--	--
Other Volatile Organic Compounds[1]	µg/L	--	--	<0.5	--	--

[1] All typical volatile organic compounds listed in Appendix 4 of the SIP.

a. **Flow.** The maximum daily flow of Discharge Point 001 shall not exceed 0.15 mgd.

b. **Flow.** The maximum daily flow of Discharge Point 002 shall not exceed 1.0 mgd.

c. **Flow.** The maximum daily flow of Discharge Point 003 shall not exceed 1.6 mgd.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. 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. **Receiving Water.** The Discharger discharges to Hartley Canal, which is tributary to Miles Creek and further to the San Joaquin River. The beneficial uses are summarized in Section III.C. of this Fact Sheet.

b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule*, at (c)(4), states

the following:

"Application of metals criteria. (i) *For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water* <u>*shall*</u> *be used in those equations*." (emphasis added)

The State Water Board, in footnote 19 to Water Quality Order No. 2004-0013, stated: "*We note that…the Regional Water Board…applied a variable hardness value whereby effluent limitations will vary depending on the actual, current hardness values in the receiving water. We recommend that the Regional Water Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than 'floating' effluent limitations*."

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, "floating" effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions.

The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness, the lower the hardness the lower the water quality criteria. The hardness-dependent metal criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc. Recent studies indicate that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective of the receiving water under various mixing conditions. For cadmium (chronic), chromium (III), copper, nickel, and zinc, the reasonable worst-case hardness is the lowest effluent hardness. For cadmium (acute), lead, and silver (acute) water quality criteria were calculated using lowest reported effluent hardness and the lowest reported receiving water hardness. For purposes of establishing water quality-based effluent limitations, a reported receiving water hardness value of 11 mg/L as $CaCO_3$ and a reported effluent hardness value of 110, 73, and 180 mg/L as $CaCO_3$ (for Discharge Points 001, 002, and 003, respectively) were used.

c. **Assimilative Capacity/Mixing Zone.** Since Hartley Canal is effluent dominated downstream of the discharge from the Facility, there is no assimilative capacity and no dilution credits have been granted for this discharge. Hence, all effluent limitations must be met at the point of the discharge into the receiving water.

3. Determining the Need for WQBELs

a. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may

use the SIP as guidance for water quality-based toxics control.[1] Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

b. A summary of the reasonable potential analysis (RPA) is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

c. **Additive Toxicity.** Chapter 4 of the Basin Plan contains a policy for application of water quality objectives that specifies a method for evaluating the cumulative cancer risk from multiple chemicals found together in water. As of 28 June 2002, the following pollutants are considered to be carcinogens as defined by the Safe Drinking Water and Toxic Enforcement Act of 1986: tetrachloroethylene (perchloroethylene), chloroform, and trichloroethylene.

According to the Basin Plan, for carcinogenic constituents, the additive toxicity of the sum of the constituents is determined by dividing the concentration of each carcinogen in the discharge by its toxicological limit. The Basin Plan assumes an additive toxicity problem does not exist if the summation of the ratios is less than 1.0. If the summation of the ratios is equal to or greater than 1.0, the combination of constituents is assumed to present an unacceptable level of toxicologic risk. The Basin Plan describes additive toxicity by the following formula:

$$\sum_{i=1}^{n} \frac{[\text{Concentration of Toxic Substance}]\ i}{[\text{Toxicological Limit for Substance in Water}]\ i} < 1.0$$

d. **Arsenic.** The USEPA Primary Maximum Contaminant Level (MCL) is 10 µg/L for arsenic. Pursuant to the Safe Drinking Water Act, the California Department of Public Health (DPH) must revise the arsenic MCL in Title 22 CCR to be as low or lower than the USEPA MCL. Applying the Basin Plan's "Policy for Application of Water Quality Objectives", to protect future municipal and domestic water use, it is reasonable to apply the USEPA Primary MCL for arsenic to the receiving stream.

The MECs at Discharge Points 001, 002, and 003 for arsenic were 15.9 µg/L, 15.2 µg/L, and 16.9 µg/L, respectively, based on one sample collected for each Discharge Point on 15 April 2008, while the maximum observed upstream receiving water arsenic concentration was a non-detect, based on one sample collected on 15 April 2008. The result for arsenic in the single sample is higher than would be expected from the area. The results, when considered with the similarly high results of the same date for mercury and selenium described below, are higher than expected and may be outliers. Since there is only one sample for each Discharge Point, which may be an outlier, it is uncertain whether there is a reasonable potential for the discharge to cause or contribute to an in-stream excursion above the USEPA Primary MCL criterion for arsenic. A monitoring requirement has been established for arsenic in this Order to gather

[1] See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)

additional information to determine if arsenic is present in the effluent. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding appropriate effluent limitations.

e. **Manganese.** The Secondary MCL - Consumer Acceptance Limit for manganese is 50 µg/L. The MEC at Discharge Point 002 for manganese was 60 µg/L, based on 14 samples collected between January 2005 and April 2008, while the maximum observed upstream receiving water manganese concentration was 34 µg/L, based on 10 samples collected between January 2005 and April 2008. The MEC of 60 µg/L represents the only detect in 14 samples; all other effluent samples are non-detect at or below 20 µg/L. As the single effluent detection appears to be an outlier, no manganese effluent limitations are being placed in this Order. If monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order will be reopened and modified by adding an appropriate effluent limitation.

f. **Mercury.** The current USEPA Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life, continuous concentration, for mercury is 0.77 µg/L (30-day average, chronic criteria). The CTR contains a human health criterion (based on a one-in-a-million cancer risk) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. Both values are controversial and subject to change. In 40 CFR Part 131, USEPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…*more stringent mercury limits may be determined and implemented through use of the State's narrative criterion.*" In the CTR, USEPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

Based on one sample for each discharge point, the maximum observed effluent mercury concentrations were 0.12 µg/L (estimated value), 0.15 µg/L (estimated value), and 0.075 µg/L (estimated value) at Discharge Points 001, 002, and 003, respectively. The MDL was 0.06 µg/L and the PQL was 0.2 µg/L. The mercury results are from samples collected on the same date, 15 April 2008, as the arsenic samples discussed above and the selenium samples described below. Mercury is not expected to be found in local groundwater and all reported values are estimated values. Given this, the data is insufficient to determine whether there is a reasonable potential for the discharge to cause or contribute to an in-stream excursion above the CTR criterion for mercury. A monitoring requirement has been established for mercury in this Order to gather additional information to determine if mercury is present in the effluent. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding appropriate effluent limitations.

g. **Selenium.** The CTR includes maximum 1-hour average and 4-day average selenium concentrations of 20 µg/L and 5 µg/L, respectively, for the protection of

freshwater aquatic life. The MECs at Discharge Points 001, 002, and 003 for selenium were 5.6 µg/L, 8.5 µg/L, and a non-detect, respectively, based on one sample collected for each discharge point on 15 April 2008, while the maximum observed upstream receiving water selenium concentration was a non-detect, based on one sample collected on 15 April 2008. Selenium is not normally found in eastside waters in concentrations that exceed water quality objectives. As discussed above, the selenium results may be outliers. This, combined with the single sample of selenium for each discharge point, it is uncertain whether a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for selenium exists. A monitoring requirement at Discharge Points 001 and 002 has been established for selenium in this Order to gather additional information to determine if selenium is present in the effluent. Should monitoring results indicate that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding appropriate effluent limitations.

h. **Toxicity.** See Section IV.C.5 of this Fact Sheet regarding whole effluent toxicity.

4. WQBEL Calculations – Not Applicable

See Section IV.D. of this Fact Sheet.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan states that, "…*effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate*…". USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc."* Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ----------	70%
Median for any three or more consecutive bioassays ---------	90%

b. **Chronic Aquatic Toxicity.** Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires annual chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Special Provisions VI.C.2.b.i. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements.

Order No. R5-2004-0065 includes both technology based and water quality based effluent limitations for carbon tetrachloride. Specifically it requires that carbon tetrachloride not exceed an average monthly concentration of 0.20 µg/L and a maximum daily concentration of 0.50 µg/L in the effluent. These limits were included in Order No. R55-2004-0065 because carbon tetrachloride was found in two groundwater monitoring wells associated with the groundwater cleanup. Both groundwater wells in which carbon tetrachloride was detected are extraction wells connected to the air stripping treatment system.

More recent groundwater data indicates that carbon tetrachloride has not been detected in groundwater for over five years. Carbon tetrachloride is not a breakdown product of trichloroethylene, and there is no known reported use of the product on-site.

CWA Section 402(o)(2)(B)(i) authorizes the removal of best professional judgment, technology based effluent limitations if there is new information available that was not available at the time of permit issuance that would justify a less stringent limit.

The groundwater data for the last five years represents new information that was not available at the time Order No. R5-2004-0065 was issued. This new information indicates that carbon tetrachloride is absent from the groundwater that supplies the influent to the treatment systems. Thus carbon tetrachloride is no longer a constituent of concern warranting a specific technology based effluent limitation; thus removal of the daily maximum effluent limitation of <0.5 µg/L for carbon

tetrachloride is appropriate. This Order does contain a technology based effluent limitation for all typical VOCs listed in Appendix 4 of the SIP that applies to carbon tetrachloride.

CWA Section 303 (d)(4)(B) states that, for attainment waters, WQBELs can be made less stringent if consistent with state and federal antidegradation policies.

Removal of the monthly average effluent limitation for carbon tetrachloride is consistent with State and federal antidegradation policies. Carbon tetrachloride is not in groundwater subject to cleanup, influent to the treatment systems, or effluent from the treatment systems. Discharges from the treatment systems will not degrade receiving waters with carbon tetrachloride; thus an effluent limitation for carbon tetrachloride is not necessary and the removal of the monthly average effluent limitation of 0.20 ug/L is appropriate.

Modification of carbon tetrachloride effluent limitations as described above is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16.

2. Satisfaction of Antidegradation Policy

Order No. R5-2004-0065 examined this ongoing discharge and found it consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16. Specifically, the Order found the treatment systems employed for VOC removal represent BPTC and that receiving water EC and TDS degradation associated with the discharge would comply with water quality objectives for these constituents. Order No. R5-2004-0065 also found the continued cleanup of polluted groundwater, and the use of treated groundwater for irrigation via the Hartley Lateral Irrigation Canal, both benefit the people of the State.

This Order does not authorize any increase in the mass or concentration of pollutants discharged over that authorized in Order No. R5-2004-0065. The cleanup of polluted groundwater, and the use of the treated groundwater for irrigation, both continue to benefit the people of the State. As described in Fact Sheet, Section III.D.2.a., the discharge is consistent with the *Control Program for Salt and Boron Discharges into the Lower San Joaquin River*.

Given the above, the discharge remains consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16.

Summary of Final Effluent Limitations
Discharge Points 001, 002, and 003

Table F-6. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations
		Maximum Daily
Chloroform	µg/L	<0.5

cis-1,2-Dichloroethylene	µg/L	<0.5
trans-1,2-Dichloroethylene	µg/L	<0.5
Tetrachloroethylene	µg/L	<0.5
Trichloroethylene	µg/L	<0.5
Other VOCs[1]	µg/L	<0.5

[1] Other typical Volatile Organic Compounds listed in Appendix 4 of the SIP

a. The maximum daily flow of Discharge Point 001 shall not exceed 0.15 mgd.

b. The maximum daily flow of Discharge Point 002 shall not exceed 1.0 mgd.

c. The maximum daily flow of Discharge Point 003 shall not exceed 1.6 mgd.

d. The additive toxicity of chloroform, tetrachloroethylene, and trichloroethylene in the discharge from the facility shall not exceed 1.0. The calculations shall be based on the maximum limits and the following formula as described in the Basin Plan at IV-18:

$$\sum_{i=1}^{n} \frac{[\text{Concentration of Toxic Substance}]_i}{[\text{Toxicological Limit for Substance in Water}]_i} < 1.0$$

e. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

   i. 70%, for any one bioassay
   ii. 90%, for the median of any three or more consecutive bioassays.

E. Interim Effluent Limitations

Not Applicable

F. Land Discharge Specifications

Not Applicable

G. Reclamation Specifications

Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

As described previously, the Basin Plan includes water quality objectives to protect the beneficial uses of surface water and groundwater including numeric objectives and narrative objectives that include objectives for chemical constituents, toxicity, and tastes and odors. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in

concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity, as follows.

A. Surface Water

1. **Bacteria.** The Basin Plan includes a water quality objective that "*[I]n water designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml*." Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.

2. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that "*[W]ater shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses."* Receiving Water Limitations for biostimulatory substances are included in this Order and are based on the Basin Plan objective.

3. **Chemical Constituents.** The Basin Plan includes a water quality objective that *"[W]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses."* Receiving Water Limitations for chemical constituents are included in this Order and are based on the Basin Plan objective.

4. **Color.** The Basin Plan includes a water quality objective that "*[W]ater shall be free of discoloration that causes nuisance or adversely affects beneficial uses."* Receiving Water Limitations for color are included in this Order and are based on the Basin Plan objective.

5. **Dissolved Oxygen.** For surface water bodies outside of the Delta, the Basin Plan includes the water quality objectives that "…*the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation. The dissolved oxygen concentrations shall not be reduced to below the following minimum levels at any time: Waters designated WARM 5.0 mg/L…"* These objectives were included as a receiving water limitation in this Order.

6. **Floating Material.** The Basin Plan includes a water quality objective that *"[W]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses."* Receiving Water Limitations for floating material are included in this Order and are based on the Basin Plan objective.

7. **Oil and Grease.** The Basin Plan includes a water quality objective that *"[W]aters shall not contain oils, greases, waxes, or other materials in concentrations that*

cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses." Receiving Water Limitations for oil and grease are included in this Order and are based on the Basin Plan objective.

8. **pH.** The Basin Plan includes water quality objective that *"[T]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses*" This Order includes receiving water limitations for both pH range and pH change.

9. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-6.00. Receiving Water Limitations for pesticides are included in this Order and are based on the Basin Plan objective.

10. **Radioactivity.** The Basin Plan includes a water quality objective that *"[R]adionuclides shall not be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life."* The Basin Plan states further that *"[A]t a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations…"* Receiving Water Limitations for radioactivity are included in this Order and are based on the Basin Plan objective.

11. **Suspended Sediment.** The Basin Plan includes a water quality objective that *"[T]he suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses"* Receiving Water Limitations for suspended sediments are included in this Order and are based on the Basin Plan objective.

12. **Settleable Material.** The Basin Plan includes a water quality objective that *"[W]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses."* Receiving Water Limitations for settleable material are included in this Order and are based on the Basin Plan objective.

13. **Suspended Material.** The Basin Plan includes a water quality objective that *"[W]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses."* Receiving Water Limitations for suspended material are included in this Order and are based on the Basin Plan objective.

14. **Taste and Odors.** The Basin Plan includes a water quality objective that *"[W]ater shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise*

adversely affect beneficial uses." Receiving Water Limitations for taste- or odor-producing substances are included in this Order and are based on the Basin Plan objective.

15. **Temperature.** The Hartley Canal has the beneficial use of WARM. The Basin Plan includes the objective that "[a]*t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5ºF above natural receiving water temperature*." This Order includes a receiving water limitation based on this objective.

16. **Toxicity.** The Basin Plan includes a water quality objective that *"[A]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."* Receiving Water Limitations for toxicity are included in this Order and are based on the Basin Plan objective.

17. **Turbidity.** The Basin Plan includes a water quality objective that "*[I]ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:*

    - *Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.*
    - *Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.*
    - *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.*
    - *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent*."

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity.

B. Groundwater

Given that the discharge consists of groundwater that is pumped and treated to remove primary constituents of concern, the discharge is not expected to degrade groundwater.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (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 the Facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater being treated. The quarterly monitoring for VOCs has been retained from Order No. R5-2004-0065.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream.

2. Effluent monitoring of the discharge to Hartley Canal (Discharge Points 001, 002, and 003) at Monitoring Locations EFF-001, EFF-002, and EFF-003 has been established as follows:

   a. Effluent monitoring frequencies and sample types for flow (continuous), electrical conductivity at 25 °C (quarterly), dissolved oxygen (quarterly), pH (quarterly), General Minerals (quarterly), chloroform (quarterly), cis-1,2-dichloroethylene (quarterly), trans -1,2-dichloroethylene, (quarterly), tetrachloroethylene (quarterly), trichloroethylene (quarterly), and other VOCs (quarterly) have been retained from Order No. R5-2004-0065 to determine compliance with effluent limitations.

   b. Based on monitoring data collected over the term of Order No. R5-2004-0065, there was insufficient data to determine whether a reasonable potential existed for arsenic (EFF-001, EFF-002, and EFF-003), manganese (EFF-002), mercury (EFF-001, EFF-002, and EFF-003), and selenium (EFF-001 and EFF-002). Therefore, quarterly monitoring has been established in this Order to gather additional information on the presence of arsenic, mercury, and selenium in the effluent.

   c. Priority pollutant data for the effluent has been provided by the Discharger over the term of Order No. R5-2004-0065, and was used to conduct a meaningful reasonable potential analysis. However, in accordance with Section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. The monitoring frequency for priority pollutants has been established at one time during the beginning of the permit term. Should this monitoring show the need for additional sampling, it will be required by CWC section 13267 request.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Annual 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Annual chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. The receiving water monitoring requirements contained in Order R5-2004-0065 for flow (quarterly), dissolved oxygen (quarterly), pH (quarterly), temperature (quarterly), electrical conductivity (quarterly), and general minerals (quarterly) have been retained in this Order.

b. Monitoring for priority pollutants is required during the first year of the Order term to collect the necessary data to determine reasonable potential as required in section 1.2 of the SIP. The pH and hardness (as CaCO3) of the receiving water shall also be monitored concurrently with the priority pollutants to ensure the water quality criteria are correctly adjusted for the receiving water when determining reasonable potential as specified in section 1.3 of the SIP

2. Groundwater – Not applicable

E. Other Monitoring Requirements

1. Mid-Treatment Monitoring

GAC treatment units have a typical breakthrough time of six to seven months. Mid-treatment monitoring is required to ensure the GAC units are changed out prior to discharges that would violate effluent limits.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 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. 40 CFR 123.25(a)(12) allows the State to

omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the California Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference California Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Reasonable Potential Analysis.** This Order requires the Discharger to conduct quarterly monitoring of the effluent for arsenic, mercury, and selenium. After collecting at least one-year of data, the Discharger shall conduct a reasonable potential analysis consistent with methodology in the SIP for each constituent. This reopener provision allows the Regional Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for these constituents based on a review of the reasonable potential analysis.

b. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires annual chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Provision VI.C.2.b.i. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as requirements for TRE initiation if accelerated monitoring tests exceed the monitoring trigger.

Monitoring Trigger. A numeric toxicity monitoring trigger of > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE.

The provision requires accelerated monitoring consisting of a single chronic toxicity test within 14 days of laboratory notification of the initial toxicity using the species that exhibited toxicity If toxicity is present during the accelerated monitoring test, then Discharger must implement a TRE. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-3), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants,* (EPA/833B-99/002), August 1999.

- Generalized Methodology for Conducting Industrial TREs, *(EPA/600/2-88/070), April 1989.*

- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures,* Second Edition, EPA 600/6-91/005F, February 1991.

- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.

- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity,* Second Edition, EPA 600/R-92/080, September 1993.

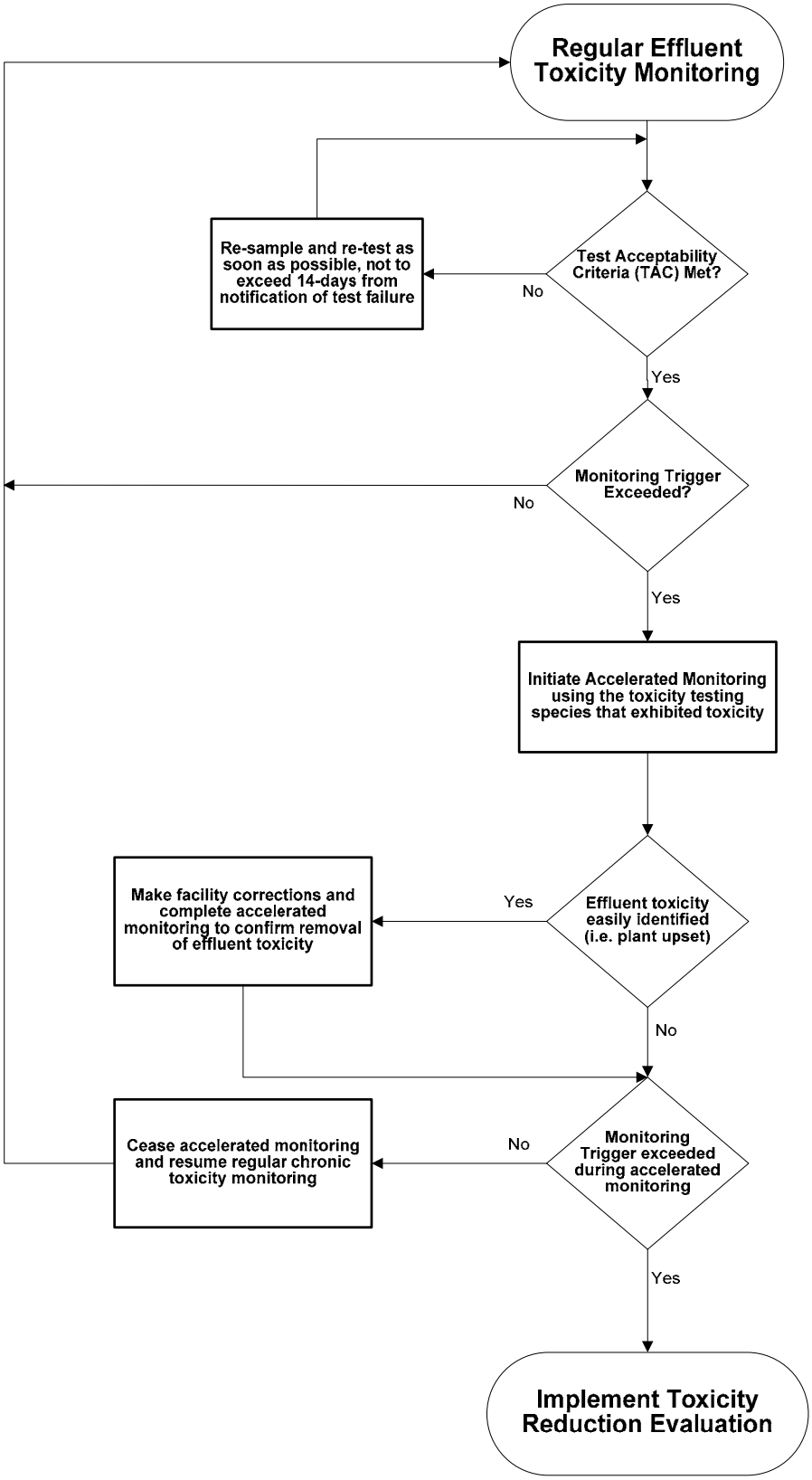
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.

- *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002.

- *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991*

Figure F-3
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** An Evaluation and Minimization Plan for salinity is required in this Order to ensure adequate measures are developed and implemented by the Discharger to reduce the discharge of salinity to Hartley Canal. For example, the Discharger should be minimizing the use of salt containing substances in their air stripper system maintenance such as additives used for pH adjustment.

4. Construction, Operation, and Maintenance Specifications

a. The Discharger has experienced fouling of extraction wells causing a decline in the pumping capacity of the system. The Discharger must periodically treat the extraction wells and conduct periodic well rehabilitation to maintain pumping efficiency. Additionally, mineral build up can reduce the efficiency of the air stripping tower to remove VOCs from the groundwater. The Discharger conducts tower maintenance through periodic acid washes to remove mineral build up on the packing material in the stripper tower. Furthermore, GAC units require carbon change out or replacement to provide efficient removal of VOCs.

   The Discharger submitted the *Operation and Maintenance Plan, General Electric Company, Former Kendall Site, Merced, California* (O&M Plan) on 4 August 2004. The O&M Plan was approved by the Executive Officer. Section X.C.2.d. in Attachment E of this Order requires the Discharger to submit with the annual operations report a statement certifying whether the O&M Plan is current and when it was last revised.

b. As the Discharger conducts required groundwater monitoring, it generates purged well water. In the past groundwater monitoring generated approximately 7,000 to 8,000 gallons of purged well water each quarter. Recently, the amount of purged water has decreased due to the use of passive diffusion bag samplers in several groundwater wells. Currently, quarterly groundwater monitoring generates approximately 2,000 to 3,000 gallons of purged well water for disposal. On 2 July 2004, the Discharger submitted the *Work Plan for the Treatment of Purge Water* (Work Plan). The Executive Officer approved the Work Plan. The Discharger treats all purged well water in a portable 55-gallon drum containing 200 pounds of granular activated carbon. Treated purge water is disposed of on the ground surface near each wellhead. One sample of the treated purge water is collected during every quarterly sampling event and analyzed for VOCs to ensure the effectiveness of the portable GAC unit.

c. In the past, the Discharger cleaned the air stripper tower approximately every four years. The Discharger submitted the *Work Plan for Treatment and Disposal of Waste Generated by Air Stripper Tower Cleaning*, dated 2 September 2004, and approved by the Executive Officer. The Discharger uses a dilute solution of sulfamic acid to remove the calcium carbonate scale. Wastewater generated from cleaning the air-stripper is slightly acidic and is therefore neutralized with a sodium hydroxide solution. The wastewater is blended with treated groundwater

so that the EC of blended wastewater does not exceed the agricultural water quality goal of 700 µmhos/cm before discharging into the Hartley Canal.

d. Spent carbon and other residual solids removed from liquid wastes or used to treat liquid wastes shall be recycled or disposed of in a manner that is consistent with Division 3, Title 27; Chapter 15, Division 3, Title 23; and Division 4.5, Title 22 of the CCR and approved by the Executive Officer.

e. Any proposed change in filter waste use or solids disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

5. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

6. Other Special Provisions

a. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger must obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

In the event of any change in control or ownership of land or waste discharge facilities 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 immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of federal Standard Provision V.B.5, in Attachment D, and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

b. This Order does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control the discharge of treated groundwater subject to their control. Discharges allowed by this Order to local irrigation or storm water collection and conveyance facilities must obtain approval from the agency responsible for operation and maintenance of the facilities.

7. Compliance Schedules

Not Applicable

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the Facility. 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 by posting at city hall, the post office nearest the Facility, and near the entrance of the Facility.

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 should be received at the Regional Water Board offices by 5:00 p.m. on 15 May 2009.

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: 11/12 June 2009
Time: 8:30 am
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

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/centralvalley/ 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 RWD, related documents, tentative effluent limitations and special provisions, and other information are on file and may be inspected at the Fresno address above at any time between 8:00 a.m. and 4:30 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (559) 445-5116.

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 Aide Ortiz at (559) 445-6083.

ATTACHMENT G – REASONABLE POTENTIAL ANALYSIS

I. DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**Antimony, µg/L #1**	**Arsenic, µg/L #2**	**Be, µg/L #3**	**Cadmium, µg/L #4**	**Cr (III), µg/L # 5a**	**Cr (VI), µg/L # 5b**	**Cu, µg/L #6**	**Lead, µg/L #7**	**Hg, µg/L #8**	**Nickel, µg/L #9**	**Se, µg/L #10**	**Silver, µg/L #11**	**Thallium, µg/L #12**	**Zinc, µg/L #13**	**Cyanide, µg/L #14**	**Asb, MFL #15**
Number of Samples	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
LEC	ND	15.9	ND	ND	ND	ND	1.7 J	1.7 J	0.12 J	7.3	5.6	0.33 J	ND	9.4 J	ND	NA
MEC	ND	15.9	ND	ND	ND	ND	1.7 J	1.7 J	0.12 J	7.3	5.6	0.33 J	ND	9.4 J	ND	NA
Maximum Background	ND	ND	0.23 J	ND	ND	ND	2.3 J	ND	0.081 J	ND	ND	ND	2.3 J	4.2 J	ND	NA
Numeric Basin Plan Objective	MCL 6	MCL 10	MCL 4	MCL 5	MCL 50	MCL 50	MCL 1,000	MCL 15	MCL 2	MCL 100	MCL 50	MCL 100	MCL 2	MCL 5,000	MCL 200	MCL 7 MFL
Narrative Basin Plan Objective	--	Ag WQ Goal 100	Ag WQ Goal 100	Ag WQ Goal 10	--	Ag WQ Goal 100	Ag WQ Goal 200	Ag WQ Goal 5,000	--	Ag WQ Goal 200	Ag WQ Goal 20	--	--	Ag WQ Goal 2,000	--	--
CMC Freshwater, Total	--	340	--	4.2	1877	16	15	61	--	509	20	1.5	--	130	22	--
CCC Freshwater, Total	--	150	--	2.7	224	11	10	2.39	--	57	5	--	--	130	5.2	--
Human Health, Total Water + Org.	14	--	--	--	--	--	1,300	--	0.050	610	--	--	1.7	--	700	7 MFL
Human Health, Total Organisms Only	4,300	--	--	--	--	--	--	--	0.051	4,600	--	--	6.3	--	220,000	--
Other factors (303d listing, bioaccum …)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	I	N	N	N	N	N	N	I	N	I	N	N	N	N	NA

LEC= Lowest Effluent concentration; **MEC=** Maximum effluent concentration. (**based on monitoring data from January 2005 to April 2008)**
J = Estimated concentration
Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration>most stringent criterion (and the pollutant is detected in the effluent).
Reasonable Potential: (I) when there is no available/adequate effluent and background data.
Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.
Cadmium, Chromium (III), Copper, Lead, Nickel, Silver, Zinc CMC and CCC criteria were based on a minimum effluent hardness of 110 mg/L as $CaCO_3$ and minimum receiving water hardness of 11 mg/L as $CaCO_3$. Pentachlorophenol criteria were based on pH of 8.5 standard units.

DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	2, 3, 7, 8-TCDD (Dioxin), µg/L # 16	Acrolein, µg/L # 17	Acrylonitrile, µg/L # 18	Benzene, µg/L # 19	Bromoform, µg/L # 20	Carbon Tetrachloride, µg/L # 21	Chlorobenzene (Monochloro-benzene), µg/L # 22	Chlorodibromo-methane, µg/L # 23	Chloroethane, µg/L # 24	2-Chloro- ethylvinyl Ether, (chloroalkylether), µg/L # 25
Number of Samples	1	1	1	13	13	13	13	13	13	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	MCL 3.0E-05	--	--	MCL 1	MCL THMs 80	MCL 0.5	MCL 70	MCL THMs 80	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	1.3E-08	320	0.059	1.2	4.3	0.25	680	0.41	--	--
Human Health, Total Org Only	1.4E-08	780	0.66	71	360	4.4	21,000	34	--	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Chloroform, µg/L # 26	Dichlorobromo-methane, µg/L # 27	1,1-Dichloroethane, µg/L # 28	1,2-Dichloro-ethane, µg/L # 29	1,1-Dichloro-ethylene, µg/L # 30	1,2-Dichloro-propane, µg/L #31	1,3-Dichloro-propylene, µg/L # 32	Ethylbenzene, µg/L # 33	Methyl Bromide (Bromomethane), µg/L # 34	Methyl Chloride (Chloromethane), µg/L # 35
Number of Samples	13	13	13	13	13	13	0	13	13	13
LEC	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
Numeric Basin Plan Objective	MCL THMs 80	MCL THMs 80	MCL 5	MCL 0.5	MCL 6	MCL 5	MCL 0.5	MCL 700	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--		--	--	--	--
Human Health, Total Water +Org Only	--	0.56	--	0.38	0.057	0.52	10	3,100	48	--
Human Health, Total Org Only	--	46	--	99	3.2	39	1,700	29,000	4,000	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	NA	N	N	N

DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Methylene Chloride, µg/L # 36	1,1,2,2-Tetra-chloroethane, µg/L # 37	Tetrachloro-ethylene, µg/L # 38	Toluene, µg/L # 39	1,2-Trans- Dichloro ethylene, µg/L # 40	1,1,1 -Trichloro-ethane, µg/L # 41	1,1,2-Trichloro-ethane, µg/L # 42	Trichloro- ethylene, µg/L # 43	Vinyl Chloride, µg/L # 44	2-Chloro- phenol, µg/L # 45
Number of Samples	13	13	13	13	13	13	13	14	13	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	MCL 5	MCL 1	MCL 5	MCL 150	MCL 10	MCL 200	MCL 5	MCL 5	MCL 0.5	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	4.7	0.17	0.8	6,800	700	--	0.60	2.7	2	120
Human Health, Total Org Only	1,600	11	8.85	200,000	140,000	--	42	81	525	400
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	2, 4 Dichlorophenol, µg/L # 46	2,4-Dimethyl – phenol, µg/L # 47	2-Methyl 4,6-Di-nitrophenol, µg/L # 48	2,4-Dinitrophenol, µg/L # 49	2-Nitrophenol, µg/L # 50	4-Nitrophenol, µg/L # 51	4-chloro-3-methyl phenol, µg/L # 52	Pentachloro-phenol, µg/L # 53	Phenol, µg/L # 54
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	--	MCL 1	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	30	--
CCC Freshwater, Total at	--	--	--	--	--	--	--	39	--
Human Health, Total Water +Org Only	93	540	13.4	70	--	--	--	0.28	21,000
Human Health, Total Org Only	790	2,300	765	14,000	--	--	--	8.2	4,600,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	2, 4, 6 Trichloro-phenol, µg/L # 55	Acenaphthene, µg/L # 56	Acenaphthylene, µg/L # 57	Anthracene, µg/L # 58	Benzidine, µg/L # 59	Benzo(a) anthracene, µg/L # 60	Benzo(a) Pyrene, µg/L # 61	Benzo(b) fluoranthene, µg/L # 62	Benzo(ghi) perylene, µg/L # 63
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 0.2	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	2.1	1,200	--	9,600	0.00012	0.0044	0.0044	0.0044	--
Human Health, Total Org Only	6.5	2,700	--	110,000	0.00054	0.049	0.049	0.049	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Benzo(k) fluoranthene, µg/L # 64	Bis (2-Chloro-ethoxy) Methane, µg/L # 65	Bis (2-Chloroethyl) Ether, µg/L # 66	Bis (2-Chloroiso-propyl) Ether, µg/L # 67	Bis (2-Ethylhexyl) Phthalate, µg/L # 68	4-Bromo- phenyl Phenyl Ether, µg/L # 69	Butyl benzyl Phthalate, µg/L # 70	2-Chloro-naphthalene, µg/L # 71	4-Chlorophenyl Phenyl Ether, µg/L # 72
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	MCL 4	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.0044	--	0.031	1,400	1.8	--	3,000	1,700	--
Human Health, Total Org Only	0.049	--	1.4	170,000	5.9	--	5,200	4,300	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Chrysene, µg/L # 73	Dibenzo (ah) anthracene, µg/L # 74	1,2 Dichloro-benzene, µg/L # 75	1, 3 Dichloro-benzene, µg/L # 76	1, 4 Dichloro-benzene, µg/L # 77	3,3-Dichloro-benzidine, µg/L # 78	Diethyl Phthalate, µg/L # 79	Dimethyl Phthalate, µg/L # 80	Di-n-Butyl Phthalate, µg/L # 81
Number of Samples	1	1	13	13	13	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	MCL 600	--	MCL 5	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.0044	0.0044	2,700	400	400	0.04	23,000	313,000	2,700
Human Health, Total Org Only	0.049	0.049	17,000	2,600	2,600	0.077	120,000	2,900,000	12,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	2,4-Dinitro–toluene, µg/L # 82	2,6-Dinitro-toluene, µg/L # 83	Di-n-Octyl Phthalate, µg/L # 84	1,2-Diphenyl – hydrazine, µg/L # 85	Fluoranthene, µg/L # 86	Fluorene, µg/L # 87	Hexachloro-benzene, µg/L # 88	Hexachloro – butadiene, µg/L # 89	Hexachloro – cyclopentadiene, µg/L # 90
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 1	--	MCL 50
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.11	--	--	0.040	300	1,300	0.00075	0.44	240
Human Health, Total Org Only	9.1	--	--	0.54	370	14,000	0.00077	50	17,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**Hexachloro–ethane, µg/L # 91**	**Indeno (1,2,3-cd) pyrene, µg/L # 92**	**Isophorone, µg/L # 93**	**Naphthalene, µg/L # 94**	**Nitrobenzene, µg/L # 95**	**N-Nitrosodimethyl-amine, µg/L # 96**	**N-Nitrosodi-n-Propylamine, µg/L # 97**	**N-Nitrosodiphenyl-amine, µg/L # 98**
Number of Samples	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	1.9	0.0044	8.4	--	17	0.00069	0.005	5.0
Human Health, Total Org Only	8.9	0.049	600	--	1,900	8.1	1.4	16
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	**Phenanthrene, µg/L # 99**	**Pyrene, µg/L # 100**	**1,2,4-Trichloro-benzene, µg/L # 101**	**Aldrin, µg/L # 102**	**α-BHC, µg/L # 103**	**β-BHC, µg/L # 104**	**γ-BHC (Lindane), µg/L # 105**	**δ-BHC, µg/L # 106**	**Chlordane, µg/L # 107**	**4,4' DDT, µg/L # 108**
Number of Samples	1	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective			MCL 5	--	--	--	MCL 0.2	--	MCL 0.1	--
Narrative Basin Plan Objective	--	--	--	ND, <0.005	ND, <0.01	ND, <0.014	ND, <0.019	ND, <0.005	ND, <0.1	ND, <0.01
CMC Freshwater, Total	--	--	--	3	--	--	0.95	--	2.4	1.1
CCC Freshwater, Total	--	--	--	--	--	--	--	--	0.0043	0.001
Human Health, Total Water +Org Only	--	960	--	0.00013	0.0039	0.014	0.019	--	0.00057	0.00059
Human Health, Total Org Only	--	11,000	--	0.00014	0.013	0.046	0.063	--	0.00059	0.00059
Other factors (303d listing, bioaccum)	--	--	--	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 001 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**4, 4'-DDE, µg/L # 109**	**4,4'-DDD, µg/L # 110**	**Dieldrin, µg/L # 111**	**alpha-Endo-sulfan, µg/L # 112**	**beta-Endo-sulfan, µg/L # 113**	**Endosulfan Sulfate, µg/L # 114**	**Endrin, µg/L # 115**	**Endrin Aldehyde, µg/L # 116**	**Heptachlor, µg/L # 117**	**Heptachlor Epoxide, µg/L # 118**	**PCBs, µg/L # 119-125**	**Toxaphene, µg/L # 126**
Number of Samples	1	1	1	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 2	--	MCL 0.01	MCL 0.01	MCL 0.5	MCL 3
Narrative Basin Plan Objective	ND, <0.05	ND, <0.05	ND, <0.01	ND, <0.02	ND, <0.01	ND, <0.05	ND, <0.01	ND, <0.01	ND, <0.01	ND, <0.01	--	--
CMC Freshwater, Total	--	--	0.24	0.22	0.22	--	0.086	--	0.52	0.52		0.73
CCC Freshwater, Total	--	--	0.056	0.056	0.056	--	0.036	--	0.0038	0.0038	0.014	0.0002
Human Health, Total Water +Org Only	0.00059	0.00083	0.00014	110	110	110	0.76	0.76	0.00021	0.00010	0.00017	0.00073
Human Health, Total Org Only	0.00059	0.00084	0.00014	240	240	240	0.81	0.81	0.00021	0.00011	0.00017	0.00075
Other factors (303d listing, bioaccum)	--	--	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N	N	N

Discharge Point 001 – Reasonable Potential Analysis for Other Pollutants of Concern

Constituent, Unit	**Chloride, mg/L**	**Electrical Conductivity, µmhos/cm**	**Iron, µg/L**	**Mn, µg/L**	**Sodium, mg/L**	**Sulfate, mg/L**	**TDS, mg/L**					
Number of Samples	13	13	13	13	13	13	13					
LEC	4.2	280	ND	ND	21	10	220					
MEC	6.4	490	160	24	26	14	350					
Maximum Background	8	460	1800	34	26	18	340					
Numeric Basin Plan Objective	--	--	MCL 300	MCL 50	--	MCL 250	MCL 500					
Narrative Basin Plan Objective	USEPA 230 CCC 860 CMC	Ag WQ Goal 700	USEPA 1000 CCC	Ag WQ Goal 200	Ag WQ Goal 69	--	Ag WQ Goal 450					
Other factors (303d listing, bioaccum …)	Ag WQ Goal 106	--	Ag WQ Goal 5000	--	--	--	--					
Reasonable Potential	N	N	I	N	N	N	N					

II. DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**Antimony, µg/L #1**	**Arsenic, µg/L #2**	**Be, µg/L #3**	**Cadmium, µg/L #4**	**Cr (III), µg/L # 5a**	**Cr (VI), µg/L # 5b**	**Cu, µg/L #6**	**Lead, µg/L #7**	**Hg, µg/L #8**	**Nickel, µg/L #9**	**Se, µg/L #10**	**Silver, µg/L #11**	**Thallium, µg/L #12**	**Zinc, µg/L #13**	**Cyanide, µg/L #14**	**Asb, MFL #15**
Number of Samples	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
LEC	ND	15.2	ND	ND	ND	ND	ND	ND	0.15 J	0.74 J	8.5	ND	ND	4.8 J	ND	NA
MEC	ND	15.2	ND	ND	ND	ND	ND	ND	0.15 J	0.74 J	8.5	ND	ND	4.8 J	ND	NA
Maximum Background	ND	ND	0.23 J	ND	ND	ND	2.3 J	ND	0.081 J	ND	ND	ND	2.3 J	4.2 J	ND	NA
Numeric Basin Plan Objective	MCL 6	MCL 10	MCL 4	MCL 5	MCL 50	MCL 50	MCL 1,000	MCL 15	MCL 2	MCL 100	MCL 50	MCL 100	MCL 2	MCL 5,000	MCL 200	MCL 7 MFL
Narrative Basin Plan Objective	--	Ag WQ Goal 100	Ag WQ Goal 100	Ag WQ Goal 10	--	Ag WQ Goal 100	Ag WQ Goal 200	Ag WQ Goal 5,000	--	Ag WQ Goal 200	Ag WQ Goal 20	--	--	Ag WQ Goal 2,000	--	--
CMC Freshwater, Total	--	340	--	2.8	1342	16	10.4	40	--	360	20	1.0	--	92	22	--
CCC Freshwater, Total	--	150	--	1.9	160	11	7.1	1.6	--	40	5	--	--	92	5.2	--
Human Health, Total Water + Org.	14	--	--	--	--	--	1,300	--	0.050	610	--	--	1.7	--	700	7 MFL
Human Health, Total Organisms Only	4,300	--	--	--	--	--	--	--	0.051	4,600	--	--	6.3	--	220,000	--
Other factors (303d listing, bioaccum …)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	I	N	N	N	N	N	N	I	N	I	N	N	N	N	NA

LEC= Lowest Effluent concentration; **MEC=** Maximum effluent concentration. (**based on monitoring data from January 2005 to April 2008)**
Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration>most stringent criterion (and the pollutant is detected in the effluent).
Reasonable Potential: (I) when there is no available/adequate effluent and background data.
Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.
Cadmium, Chromium (III), Copper, Lead, Nickel, Silver, Zinc CMC and CCC criteria were based on a minimum effluent hardness of 73 mg/L as $CaCO_3$ and minimum receiving water hardness of 11 mg/L as $CaCO_3$. Pentachlorophenol criteria were based on pH of 8.5 standard units.

DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	2, 3, 7, 8-TCDD (Dioxin), µg/L # 16	Acrolein, µg/L # 17	Acrylonitrile, µg/L # 18	Benzene, µg/L # 19	Bromoform, µg/L # 20	Carbon Tetrachloride, µg/L # 21	Chlorobenzene (Monochloro-benzene), µg/L # 22	Chlorodibromo-methane, µg/L # 23	Chloroethane, µg/L # 24	2-Chloro- ethylvinyl Ether, (chloroalkylether), µg/L # 25
Number of Samples	1	1	1	13	13	13	13	13	13	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	MCL 3.0E-05	--	--	MCL 1	MCL THMs 80	MCL 0.5	MCL 70	MCL THMs 80	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	1.3E-08	320	0.059	1.2	4.3	0.25	680	0.41	--	--
Human Health, Total Org Only	1.4E-08	780	0.66	71	360	4.4	21,000	34	--	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Chloroform, µg/L # 26	Dichlorobromo-methane, µg/L # 27	1,1-Dichloroethane, µg/L # 28	1,2-Dichloro-ethane, µg/L # 29	1,1-Dichloro-ethylene, µg/L # 30	1,2-Dichloro-propane, µg/L #31	1,3-Dichloro-propylene, µg/L # 32	Ethylbenzene, µg/L # 33	Methyl Bromide (Bromomethane), µg/L # 34	Methyl Chloride (Chloromethane), µg/L # 35
Number of Samples	13	13	13	13	13	13	0	13	13	13
LEC	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
Numeric Basin Plan Objective	MCL THMs 80	MCL THMs 80	MCL 5	MCL 0.5	MCL 6	MCL 5	MCL 0.5	MCL 700	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--		--	--	--	--
Human Health, Total Water +Org Only	--	0.56	--	0.38	0.057	0.52	10	3,100	48	--
Human Health, Total Org Only	--	46	--	99	3.2	39	1,700	29,000	4,000	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	NA	N	N	N

DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Methylene Chloride, µg/L # 36	1,1,2,2-Tetra-chloroethane, µg/L # 37	Tetrachloro-ethylene, µg/L # 38	Toluene, µg/L # 39	1,2-Trans- Dichloro ethylene, µg/L # 40	1,1,1 -Trichloro-ethane, µg/L # 41	1,1,2-Trichloro-ethane, µg/L # 42	Trichloro- ethylene, µg/L # 43	Vinyl Chloride, µg/L # 44	2-Chloro- phenol, µg/L # 45
Number of Samples	13	13	13	13	13	13	13	14	13	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	0.4 J	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	MCL 5	MCL 1	MCL 5	MCL 150	MCL 10	MCL 200	MCL 5	MCL 5	MCL 0.5	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	4.7	0.17	0.8	6,800	700	--	0.60	2.7	2	120
Human Health, Total Org Only	1,600	11	8.85	200,000	140,000	--	42	81	525	400
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	2, 4 Dichlorophenol, µg/L # 46	2,4-Dimethyl – phenol, µg/L # 47	2-Methyl 4,6-Di-nitrophenol, µg/L # 48	2,4-Dinitrophenol, µg/L # 49	2-Nitrophenol, µg/L # 50	4-Nitrophenol, µg/L # 51	4-chloro-3-methyl phenol, µg/L # 52	Pentachloro-phenol, µg/L # 53	Phenol, µg/L # 54
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	--	MCL 1	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	30	--
CCC Freshwater, Total at	--	--	--	--	--	--	--	39	--
Human Health, Total Water +Org Only	93	540	13.4	70	--	--	--	0.28	21,000
Human Health, Total Org Only	790	2,300	765	14,000	--	--	--	8.2	4,600,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	2, 4, 6 Trichloro-phenol, µg/L # 55	Acenaphthene, µg/L # 56	Acenaphthylene, µg/L # 57	Anthracene, µg/L # 58	Benzidine, µg/L # 59	Benzo(a) anthracene, µg/L # 60	Benzo(a) Pyrene, µg/L # 61	Benzo(b) fluoranthene, µg/L # 62	Benzo(ghi) perylene, µg/L # 63
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 0.2	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	2.1	1,200	--	9,600	0.00012	0.0044	0.0044	0.0044	--
Human Health, Total Org Only	6.5	2,700	--	110,000	0.00054	0.049	0.049	0.049	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Benzo(k) fluoranthene, µg/L # 64	Bis (2-Chloro-ethoxy) Methane, µg/L # 65	Bis (2-Chloroethyl) Ether, µg/L # 66	Bis (2-Chloroiso-propyl) Ether, µg/L # 67	Bis (2-Ethylhexyl) Phthalate, µg/L # 68	4-Bromo- phenyl Phenyl Ether, µg/L # 69	Butyl benzyl Phthalate, µg/L # 70	2-Chloro-naphthalene, µg/L # 71	4-Chlorophenyl Phenyl Ether, µg/L # 72
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	MCL 4	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.0044	--	0.031	1,400	1.8	--	3,000	1,700	--
Human Health, Total Org Only	0.049	--	1.4	170,000	5.9	--	5,200	4,300	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Chrysene, µg/L # 73	Dibenzo (ah) anthracene, µg/L # 74	1,2 Dichloro-benzene, µg/L # 75	1, 3 Dichloro-benzene, µg/L # 76	1, 4 Dichloro-benzene, µg/L # 77	3,3-Dichloro-benzidine, µg/L # 78	Diethyl Phthalate, µg/L # 79	Dimethyl Phthalate, µg/L # 80	Di-n-Butyl Phthalate, µg/L # 81
Number of Samples	1	1	13	13	13	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	MCL 600	--	MCL 5	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.0044	0.0044	2,700	400	400	0.04	23,000	313,000	2,700
Human Health, Total Org Only	0.049	0.049	17,000	2,600	2,600	0.077	120,000	2,900,000	12,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	2,4-Dinitro–toluene, µg/L # 82	2,6-Dinitro-toluene, µg/L # 83	Di-n-Octyl Phthalate, µg/L # 84	1,2-Diphenyl – hydrazine, µg/L # 85	Fluoranthene, µg/L # 86	Fluorene, µg/L # 87	Hexachloro-benzene, µg/L # 88	Hexachloro – butadiene, µg/L # 89	Hexachloro – cyclopentadiene, µg/L # 90
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 1	--	MCL 50
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.11	--	--	0.040	300	1,300	0.00075	0.44	240
Human Health, Total Org Only	9.1	--	--	0.54	370	14,000	0.00077	50	17,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**Hexachloro–ethane, µg/L # 91**	**Indeno (1,2,3-cd) pyrene, µg/L # 92**	**Isophorone, µg/L # 93**	**Naphthalene, µg/L # 94**	**Nitrobenzene, µg/L # 95**	**N-Nitrosodimethyl-amine, µg/L # 96**	**N-Nitrosodi-n-Propylamine, µg/L # 97**	**N-Nitrosodiphenyl-amine, µg/L # 98**
Number of Samples	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	1.9	0.0044	8.4	--	17	0.00069	0.005	5.0
Human Health, Total Org Only	8.9	0.049	600	--	1,900	8.1	1.4	16
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	**Phenanthrene, µg/L # 99**	**Pyrene, µg/L # 100**	**1,2,4-Trichloro-benzene, µg/L # 101**	**Aldrin, µg/L # 102**	**α-BHC, µg/L # 103**	**β-BHC, µg/L # 104**	**γ-BHC (Lindane), µg/L # 105**	**δ-BHC, µg/L # 106**	**Chlordane, µg/L # 107**	**4,4' DDT, µg/L # 108**
Number of Samples	1	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective			MCL 5	--	--	--	MCL 0.2	--	MCL 0.1	--
Narrative Basin Plan Objective	--	--	--	ND, <0.005	ND, <0.01	ND, <0.014	ND, <0.019	ND, <0.005	ND, <0.1	ND, <0.01
CMC Freshwater, Total	--	--	--	3	--	--	0.95	--	2.4	1.1
CCC Freshwater, Total	--	--	--	--	--	--	--	--	0.0043	0.001
Human Health, Total Water +Org Only	--	960	--	0.00013	0.0039	0.014	0.019	--	0.00057	0.00059
Human Health, Total Org Only	--	11,000	--	0.00014	0.013	0.046	0.063	--	0.00059	0.00059
Other factors (303d listing, bioaccum)	--	--	--	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 002 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**4, 4'-DDE, µg/L # 109**	**4,4'-DDD, µg/L # 110**	**Dieldrin, µg/L # 111**	**alpha-Endo-sulfan, µg/L # 112**	**beta-Endo-sulfan, µg/L # 113**	**Endosulfan Sulfate, µg/L # 114**	**Endrin, µg/L # 115**	**Endrin Aldehyde, µg/L # 116**	**Heptachlor, µg/L # 117**	**Heptachlor Epoxide, µg/L # 118**	**PCBs, µg/L # 119-125**	**Toxaphene, µg/L # 126**
Number of Samples	1	1	1	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 2	--	MCL 0.01	MCL 0.01	MCL 0.5	MCL 3
Narrative Basin Plan Objective	ND, <0.05	ND, <0.05	ND, <0.01	ND, <0.02	ND, <0.01	ND, <0.05	ND, <0.01	ND, <0.01	ND, <0.01	ND, <0.01	--	--
CMC Freshwater, Total	--	--	0.24	0.22	0.22	--	0.086	--	0.52	0.52		0.73
CCC Freshwater, Total	--	--	0.056	0.056	0.056	--	0.036	--	0.0038	0.0038	0.014	0.0002
Human Health, Total Water +Org Only	0.00059	0.00083	0.00014	110	110	110	0.76	0.76	0.00021	0.00010	0.00017	0.00073
Human Health, Total Org Only	0.00059	0.00084	0.00014	240	240	240	0.81	0.81	0.00021	0.00011	0.00017	0.00075
Other factors (303d listing, bioaccum)	--	--	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N	N	N

Discharge Point 002 – Reasonable Potential Analysis for Other Pollutants of Concern

Constituent, Unit	**Chloride, mg/L**	**Electrical Conductivity, µmhos/cm**	**Iron, µg/L**	**Mn, µg/L**	**Sodium, mg/L**	**Sulfate, mg/L**	**TDS, mg/L**					
Number of Samples	14	14	14	14	14	14	14					
LEC	8	450	ND	ND	16	10	290					
MEC	9	500	ND	60	42	11	340					
Maximum Background	8	460	1800	34	26	18	340					
Numeric Basin Plan Objective	--	--	MCL 300	MCL 50	--	MCL 250	MCL 500					
Narrative Basin Plan Objective	USEPA 230 CCC 860 CMC	Ag WQ Goal 700	USEPA 1000 CCC	Ag WQ Goal 200	Ag WQ Goal 69	--	Ag WQ Goal 450					
Other factors (303d listing, bioaccum …)	Ag WQ Goal 106	--	Ag WQ Goal 5000	--	--	--	--					
Reasonable Potential	N	N	N	I	N	N	N					

III. DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**Antimony, µg/L #1**	**Arsenic, µg/L #2**	**Be, µg/L #3**	**Cadmium, µg/L #4**	**Cr (III), µg/L # 5a**	**Cr (VI), µg/L # 5b**	**Cu, µg/L #6**	**Lead, µg/L #7**	**Hg, µg/L #8**	**Nickel, µg/L #9**	**Se, µg/L #10**	**Silver, µg/L #11**	**Thallium, µg/L #12**	**Zinc, µg/L #13**	**Cyanide, µg/L #14**	**Asb, MFL #15**
Number of Samples	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
LEC	ND	16.9	ND	ND	ND	ND	ND	ND	0.075 J	ND	ND	ND	ND	5.9 J	ND	NA
MEC	ND	16.9	ND	ND	ND	ND	ND	ND	0.075 J	ND	ND	ND	ND	5.9 J	ND	NA
Maximum Background	ND	ND	0.23 J	ND	ND	ND	2.3 J	ND	0.081 J	ND	ND	ND	2.3 J	4.2 J	ND	NA
Numeric Basin Plan Objective	MCL 6	MCL 10	MCL 4	MCL 5	MCL 50	MCL 50	MCL 1,000	MCL 15	MCL 2	MCL 100	MCL 50	MCL 100	MCL 2	MCL 5,000	MCL 200	MCL 7 MFL
Narrative Basin Plan Objective	--	Ag WQ Goal 100	Ag WQ Goal 100	Ag WQ Goal 10	--	Ag WQ Goal 100	Ag WQ Goal 200	Ag WQ Goal 5,000	--	Ag WQ Goal 200	Ag WQ Goal 20	--	--	Ag WQ Goal 2,000	--	--
CMC Freshwater, Total	--	340	--	6.9	2810	16	24	101	--	771	20	2.5	--	197	22	--
CCC Freshwater, Total	--	150	--	3.9	335	11	15	3.9	--	86	5	--	--	197	5.2	--
Human Health, Total Water + Org.	14	--	--	--	--	--	1,300	--	0.050	610	--	--	1.7	--	700	7 MFL
Human Health, Total Organisms Only	4,300	--	--	--	--	--	--	--	0.051	4,600	--	--	6.3	--	220,000	--
Other factors (303d listing, bioaccum …)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	I	N	N	N	N	N	N	I	N	N	N	N	N	N	NA

LEC= Lowest Effluent concentration; **MEC=** Maximum effluent concentration. (**based on monitoring data from January 2005 to April 2008)**
Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration>most stringent criterion (and the pollutant is detected in the effluent).
Reasonable Potential: (I) when there is no available/adequate effluent and background data.
Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.
Cadmium, Chromium (III), Copper, Lead, Nickel, Silver, Zinc CMC and CCC criteria were based on a minimum effluent hardness of 180 mg/L as $CaCO_3$ and minimum receiving water hardness of 11 mg/L as $CaCO_3$. Pentachlorophenol criteria were based on pH of 8.5 standard units.

DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	2, 3, 7, 8-TCDD (Dioxin), µg/L # 16	Acrolein, µg/L # 17	Acrylonitrile, µg/L # 18	Benzene, µg/L # 19	Bromoform, µg/L # 20	Carbon Tetrachloride, µg/L # 21	Chlorobenzene (Monochloro-benzene), µg/L # 22	Chlorodibromo-methane, µg/L # 23	Chloroethane, µg/L # 24	2-Chloro- ethylvinyl Ether, (chloroalkylether), µg/L # 25
Number of Samples	1	1	1	13	13	13	13	13	13	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	MCL 3.0E-05	--	--	MCL 1	MCL THMs 80	MCL 0.5	MCL 70	MCL THMs 80	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	1.3E-08	320	0.059	1.2	4.3	0.25	680	0.41	--	--
Human Health, Total Org Only	1.4E-08	780	0.66	71	360	4.4	21,000	34	--	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Chloroform, µg/L # 26	Dichlorobromo-methane, µg/L # 27	1,1-Dichloroethane, µg/L # 28	1,2-Dichloro-ethane, µg/L # 29	1,1-Dichloro-ethylene, µg/L # 30	1,2-Dichloro-propane, µg/L #31	1,3-Dichloro-propylene, µg/L # 32	Ethylbenzene, µg/L # 33	Methyl Bromide (Bromomethane), µg/L # 34	Methyl Chloride (Chloromethane), µg/L # 35
Number of Samples	13	13	13	13	13	13	0	13	13	13
LEC	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND
Numeric Basin Plan Objective	MCL THMs 80	MCL THMs 80	MCL 5	MCL 0.5	MCL 6	MCL 5	MCL 0.5	MCL 700	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--		--	--	--	--
Human Health, Total Water +Org Only	--	0.56	--	0.38	0.057	0.52	10	3,100	48	--
Human Health, Total Org Only	--	46	--	99	3.2	39	1,700	29,000	4,000	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	NA	N	N	N

DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Methylene Chloride, µg/L # 36	1,1,2,2-Tetra-chloroethane, µg/L # 37	Tetrachloro-ethylene, µg/L # 38	Toluene, µg/L # 39	1,2-Trans- Dichloro ethylene, µg/L # 40	1,1,1 -Trichloro-ethane, µg/L # 41	1,1,2-Trichloro-ethane, µg/L # 42	Trichloro- ethylene, µg/L # 43	Vinyl Chloride, µg/L # 44	2-Chloro- phenol, µg/L # 45
Number of Samples	13	13	13	13	13	13	13	14	13	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	0.34 J	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	MCL 5	MCL 1	MCL 5	MCL 150	MCL 10	MCL 200	MCL 5	MCL 5	MCL 0.5	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	4.7	0.17	0.8	6,800	700	--	0.60	2.7	2	120
Human Health, Total Org Only	1,600	11	8.85	200,000	140,000	--	42	81	525	400
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	2, 4 Dichlorophenol, µg/L # 46	2,4-Dimethyl – phenol, µg/L # 47	2-Methyl 4,6-Di-nitrophenol, µg/L # 48	2,4-Dinitrophenol, µg/L # 49	2-Nitrophenol, µg/L # 50	4-Nitrophenol, µg/L # 51	4-chloro-3-methyl phenol, µg/L # 52	Pentachloro-phenol, µg/L # 53	Phenol, µg/L # 54
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	--	MCL 1	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	30	--
CCC Freshwater, Total at	--	--	--	--	--	--	--	39	--
Human Health, Total Water +Org Only	93	540	13.4	70	--	--	--	0.28	21,000
Human Health, Total Org Only	790	2,300	765	14,000	--	--	--	8.2	4,600,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	2, 4, 6 Trichloro-phenol, µg/L # 55	Acenaphthene, µg/L # 56	Acenaphthylene, µg/L # 57	Anthracene, µg/L # 58	Benzidine, µg/L # 59	Benzo(a) anthracene, µg/L # 60	Benzo(a) Pyrene, µg/L # 61	Benzo(b) fluoranthene, µg/L # 62	Benzo(ghi) perylene, µg/L # 63
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 0.2	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	2.1	1,200	--	9,600	0.00012	0.0044	0.0044	0.0044	--
Human Health, Total Org Only	6.5	2,700	--	110,000	0.00054	0.049	0.049	0.049	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Benzo(k) fluoranthene, µg/L # 64	Bis (2-Chloro-ethoxy) Methane, µg/L # 65	Bis (2-Chloroethyl) Ether, µg/L # 66	Bis (2-Chloroiso-propyl) Ether, µg/L # 67	Bis (2-Ethylhexyl) Phthalate, µg/L # 68	4-Bromo- phenyl Phenyl Ether, µg/L # 69	Butyl benzyl Phthalate, µg/L # 70	2-Chloro-naphthalene, µg/L # 71	4-Chlorophenyl Phenyl Ether, µg/L # 72
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	MCL 4	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.0044	--	0.031	1,400	1.8	--	3,000	1,700	--
Human Health, Total Org Only	0.049	--	1.4	170,000	5.9	--	5,200	4,300	--
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Chrysene, µg/L # 73	Dibenzo (ah) anthracene, µg/L # 74	1,2 Dichloro-benzene, µg/L # 75	1, 3 Dichloro-benzene, µg/L # 76	1, 4 Dichloro-benzene, µg/L # 77	3,3-Dichloro-benzidine, µg/L # 78	Diethyl Phthalate, µg/L # 79	Dimethyl Phthalate, µg/L # 80	Di-n-Butyl Phthalate, µg/L # 81
Number of Samples	1	1	13	13	13	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	MCL 600	--	MCL 5	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.0044	0.0044	2,700	400	400	0.04	23,000	313,000	2,700
Human Health, Total Org Only	0.049	0.049	17,000	2,600	2,600	0.077	120,000	2,900,000	12,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	2,4-Dinitro–toluene, µg/L # 82	2,6-Dinitro-toluene, µg/L # 83	Di-n-Octyl Phthalate, µg/L # 84	1,2-Diphenyl – hydrazine, µg/L # 85	Fluoranthene, µg/L # 86	Fluorene, µg/L # 87	Hexachloro-benzene, µg/L # 88	Hexachloro – butadiene, µg/L # 89	Hexachloro – cyclopentadiene, µg/L # 90
Number of Samples	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 1	--	MCL 50
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	0.11	--	--	0.040	300	1,300	0.00075	0.44	240
Human Health, Total Org Only	9.1	--	--	0.54	370	14,000	0.00077	50	17,000
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	Hexachloro–ethane, µg/L # 91	Indeno (1,2,3-cd) pyrene, µg/L # 92	Isophorone, µg/L # 93	Naphthalene, µg/L # 94	Nitrobenzene, µg/L # 95	N-Nitrosodimethyl-amine, µg/L # 96	N-Nitrosodi-n-Propylamine, µg/L # 97	N-Nitrosodiphenyl-amine, µg/L # 98
Number of Samples	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	--	--
Narrative Basin Plan Objective	--	--	--	--	--	--	--	--
CMC Freshwater, Total	--	--	--	--	--	--	--	--
CCC Freshwater, Total	--	--	--	--	--	--	--	--
Human Health, Total Water +Org Only	1.9	0.0044	8.4	--	17	0.00069	0.005	5.0
Human Health, Total Org Only	8.9	0.049	600	--	1,900	8.1	1.4	16
Other factors (303d listing, bioaccum)	--	--	--	--	--	--	--	--
Reasonable Potential	N	N	N	N	N	N	N	N

Constituent, Unit CTR #	Phenanthrene, µg/L # 99	Pyrene, µg/L # 100	1,2,4-Trichloro-benzene, µg/L # 101	Aldrin, µg/L # 102	α-BHC, µg/L # 103	β-BHC, µg/L # 104	γ-BHC (Lindane), µg/L # 105	δ-BHC, µg/L # 106	Chlordane, µg/L # 107	4,4' DDT, µg/L # 108
Number of Samples	1	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective			MCL 5	--	--	--	MCL 0.2	--	MCL 0.1	--
Narrative Basin Plan Objective	--	--	--	ND, <0.005	ND, <0.01	ND, <0.014	ND, <0.019	ND, <0.005	ND, <0.1	ND, <0.01
CMC Freshwater, Total	--	--	--	3	--	--	0.95	--	2.4	1.1
CCC Freshwater, Total	--	--	--	--	--	--	--	--	0.0043	0.001
Human Health, Total Water +Org Only	--	960	--	0.00013	0.0039	0.014	0.019	--	0.00057	0.00059
Human Health, Total Org Only	--	11,000	--	0.00014	0.013	0.046	0.063	--	0.00059	0.00059
Other factors (303d listing, bioaccum)	--	--	--	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

DISCHARGE POINT 003 – REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Constituent, Unit CTR #	**4, 4'-DDE, µg/L # 109**	**4,4'-DDD, µg/L # 110**	**Dieldrin, µg/L # 111**	**alpha-Endo-sulfan, µg/L # 112**	**beta-Endo-sulfan, µg/L # 113**	**Endosulfan Sulfate, µg/L # 114**	**Endrin, µg/L # 115**	**Endrin Aldehyde, µg/L # 116**	**Heptachlor, µg/L # 117**	**Heptachlor Epoxide, µg/L # 118**	**PCBs, µg/L # 119-125**	**Toxaphene, µg/L # 126**
Number of Samples	1	1	1	1	1	1	1	1	1	1	1	1
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Numeric Basin Plan Objective	--	--	--	--	--	--	MCL 2	--	MCL 0.01	MCL 0.01	MCL 0.5	MCL 3
Narrative Basin Plan Objective	ND, <0.05	ND, <0.05	ND, <0.01	ND, <0.02	ND, <0.01	ND, <0.05	ND, <0.01	ND, <0.01	ND, <0.01	ND, <0.01	--	--
CMC Freshwater, Total	--	--	0.24	0.22	0.22	--	0.086	--	0.52	0.52		0.73
CCC Freshwater, Total	--	--	0.056	0.056	0.056	--	0.036	--	0.0038	0.0038	0.014	0.0002
Human Health, Total Water +Org Only	0.00059	0.00083	0.00014	110	110	110	0.76	0.76	0.00021	0.00010	0.00017	0.00073
Human Health, Total Org Only	0.00059	0.00084	0.00014	240	240	240	0.81	0.81	0.00021	0.00011	0.00017	0.00075
Other factors (303d listing, bioaccum)	--	--	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	OC Pesticide	--	--
Reasonable Potential	N	N	N	N	N	N	N	N	N	N	N	N

Discharge Point 003 – Reasonable Potential Analysis for Other Pollutants of Concern

Constituent, Unit	**Chloride, mg/L**	**Electrical Conductivity, µmhos/cm**	**Iron, µg/L**	**Mn, µg/L**	**Sodium, mg/L**	**Sulfate, mg/L**	**TDS, mg/L**					
Number of Samples	13	13	13	13	13	13	13					
LEC	11	490	ND	ND	32	22	350					
MEC	12	600	ND	ND	43	25	400					
Maximum Background	8	460	1800	34	26	18	340					
Numeric Basin Plan Objective	--	--	MCL 300	MCL 50	--	MCL 250	MCL 500					
Narrative Basin Plan Objective	USEPA 230 CCC 860 CMC	Ag WQ Goal 700	USEPA 1000 CCC	Ag WQ Goal 200	Ag WQ Goal 69	--	Ag WQ Goal 450					
Other factors (303d listing, bioaccum …)	Ag WQ Goal 106	--	Ag WQ Goal 5000	--	--	--	--					
Reasonable Potential	N	N	N	N	N	N	N					

ATTACHMENT H – VOLATILE AND SEMI-VOLATILE SUBSTANCES

The following lists the volatile and semi-volatile substances listed in Appendix 4 of the SIP.

VOLATILE SUBSTANCES
1,1 Dichloroethane
1,1 Dichloroethene
1,1,1 Trichloroethane
1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dichlorobenzene (volatile)
1,2 Dichloroethane
1,2 Dichloropropane
1,3 Dichlorobenzene (volatile)
1,3 Dichloropropene (volatile)
1,4 Dichlorobenzene (volatile)
Acrolein
Acrylonitrile
Benzene
Bromoform
Bromomethane
Carbon Tetrachloride
Chlorobenzene
Chlorodibromo-methane
Chloroethane
Chloroform
Chloromethane
Dichlorobromomethane
Dichloromethane
Ethylbenzene
Tetrachloroethene
Toluene
trans-1,2 Dichloroethylene
Trichloroethene
Vinyl Chloride

SEMI-VOLATILE SUBSTANCES
1,2 Benzanthracene
1,2 Dichlorobenzene (semi-volatile)
1,2 Diphenylhydrazine
1,2,4 Trichlorobenzene
1,3 Dichlorobenzene (semi-volatile)
1,4 Dichlorobenzene (semi-volatile)
2 Chlorophenol
2,4 Dichlorophenol
2,4 Dimethylphenol
2,4 Dinitrophenol
2,4 Dinitrotoluene

2,4,6 Trichlorophenol
2,6 Dinitrotoluene
2- Nitrophenol
2-Chloroethyl vinyl ether
2-Chloronaphthalene
3,3' Dichlorobenzidine
3,4 Benzofluoranthene
4 Chloro-3-methylphenol
4,6 Dinitro-2-methylphenol
4- Nitrophenol
4-Bromophenyl phenyl ether
4-Chlorophenyl phenyl ether
Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a) pyrene(3,4 Benzopyrene)
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
bis 2-(1-Chloroethoxyl) methane
bis(2-chloroethyl) ether
bis(2-Chloroisopropyl) ether
bis(2-Ethylhexyl) phthalate
Butyl benzyl phthalate
Chrysene
di-n-Butyl phthalate
di-n-Octyl phthalate
Dibenzo(a,h)-anthracene
Diethyl phthalate
Dimethyl phthalate
Fluoranthene
Fluorene
Hexachloro-cyclopentadiene
Hexachlorobenzene
Hexachlorobutadiene
Hexachloroethane
Indeno(1,2,3,cd)-pyrene
Isophorone
N-Nitroso diphenyl amine
N-Nitroso-dimethyl amine
N-Nitroso -di n-propyl amine
Naphthalene
Nitrobenzene
Pentachlorophenol
Phenanthrene
Phenol
Pyrene