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California Regional Water Quality Control Board

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Item No. 5
Doc. No. 3

Arnold Schwarzenegger
Governor

GENERAL WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES
FROM GROUNDWATER EXTRACTION AND SIMILAR DISCHARGES
TO SURFACE WATERS WITHIN THE SAN DIEGO REGION
EXCEPT FOR SAN DIEGO BAY (WDR)

REVISED TENTATIVE ORDER NO. R9-2008-0002
NPDES NO. CAG919002

A Discharger, as described in the following table that has complied with the requirements for coverage under this General "Waste Discharge Requirements" (WDR), is subject to waste discharge requirements, once permit coverage is effective, as set forth in this WDR.

Dischargers	Any person with discharges from ground water extraction activities to surface waters within the San Diego Region, except for San Diego Bay that do not cause, have the reasonable potential to cause, or contribute to an instream excursion above any applicable State or federal water quality objectives/criteria or cause acute or chronic toxicity in the receiving water.

This WDR was adopted by the Regional Board on:	March 12, 2008
This WDR shall become effective on:	March 12, 2008
This WDR shall expire on:	March 12, 2013
The U.S. Environmental Protection Agency and the California Regional Water Quality Control Board, San Diego Region have classified these discharges as minor discharges.	

IT IS HEREBY ORDERED that Order No. 2001-96 is rescinded upon the effective date of this WDR except for enforcement purposes, as specified elsewhere in this Order, and, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted therein, and the provisions of the federal Clean Water Act, and regulations and guidelines adopted therein, Dischargers shall comply with the requirements in this WDR.

I, John H. Robertus, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region on March 12, 2008.

TENTATIVE

John H. Robertus, Executive Officer

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I. DISCHARGE INFORMATION

A. Groundwater Extraction

Existing and proposed discharges of groundwater extraction waste to surface waters within the San Diego Region from construction groundwater extraction, foundation groundwater extraction and groundwater extraction related to groundwater remediation cleanup projects (collectively groundwater extraction):

1. Result from similar operations (all involve extraction and discharge of groundwater);
2. Are the same type of wastes (all are groundwater containing or potentially containing petroleum hydrocarbons, solvents, or other pollutants);
3. Require similar effluent limitations for the protection of the beneficial uses of similar receiving waters;
4. Require similar monitoring; and
5. Are more appropriately regulated under a general permit rather than individual permits.

II. PERMIT INFORMATION

A. Application

To obtain coverage under this WDR a Discharger must submit the following to the California Regional Water Quality Control Board, San Diego Region (Regional Board):

1. A Notice of Intent (NOI), including the following information:
   a. Owner and Operator name;
   b. Owner and Operator address;
   c. Owner and Operator telephone number;
   d. Site name
   e. Site address
   f. Type of discharges;
   g. Name of receiving waterbody and conveyance(s);
2. An initial sampling and monitoring report;
3. A project map(s) that shows the essential features of the groundwater extraction system within the Regional Board boundary, and the corresponding surface water or storm drain to which water will be discharged; and
4. Payment of the application fee, equal to the first annual fee, made payable to “SWRCB.”

The NOI form is included within this WDR package as Attachment B.

The WDR NOI, including, map(s), the application fee, and other attachments, must be submitted to the following address:

CRWQCB – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Attn: Groundwater Extraction to San Diego Region
Core Regulatory Unit
NOTICE OF INTENT

~~Attn: Groundwater Extraction to Surface Waters~~
~~Except San Diego Bay~~
~~NOTICE OF INTENT~~

B. Coverage

Permit coverage will be effective when all of the following have occurred:

1. The Discharger has submitted a complete NOI application (including initial sampling and monitoring report), as determined by the Regional Board; and
2. The Regional Board issues the Discharger's a Notice of Enrollment, which includes the discharge flow limit, any additional or increase in monitoring due to specific circumstances of the discharge, and any other additional requirements.
3. Current dischargers enrolled in Order No. 2001-96 shall re-enroll no later than 365 days after adoption of this WDR, each discharger currently enrolled in Order No. 2001-96 shall continue to comply with Order No. 2001-96 until obtaining permit coverage under this WDR.

C. Eligibility Criteria

This WDR is intended to cover all discharges of groundwater extraction wastes to surface waters within the San Diego Region Except San Diego Bay, from groundwater extraction due to construction and other groundwater extraction activities regardless of volume, including discharges less than 100,000 gallons per day. Dischargers must meet the following criteria to be subject to waste discharge requirements by this WDR:

1. The discharge of extracted groundwater due to groundwater extraction activities is discharged to surface waters within San Diego Region except San Diego Bay;

2. Pollutant concentrations in the discharge comply with the Discharge Specifications of this WDR.

This WDR does not cover:

STORM WATER - Storm water runoff due to construction activities. These activities may be covered under the statewide general NPDES permit for storm

water discharges associated with construction activities (CAS000002), the statewide general NPDES permit for storm water runoff associated with small linear underground/overhead construction projects (CAS000005), and/or Clean Water Act (CWA) Section 401 Water Quality Certifications.

SANITARY SEWER - Discharges to a sanitary sewer. These discharges do not need coverage under the NPDES Program. Contact the agency controlling the sanitary sewer for approval prior to discharging to its conveyance system.

UTILITY VAULTS - Discharges from utility vaults and underground structures. These activities may be covered under the statewide general NPDES permit for discharges from utility vaults and underground structures to surface water Order No. 2006-0008-DWQ (CAG990002).

HYDROSTATIC/ POTABLE WATER – Discharges from drinking water well development. These discharges are covered under Order No. R9-2002-0020 (CAG679001).

D. Discharge to a Municipal Separate Storm Sewer System (MS4)

Prior to discharging into an MS4, the Discharger shall demonstrate alternatives to discharging extracted groundwater waste into an MS4 and why it is technically or economically infeasible to implement these alternatives.

Without prior approval from the appropriate local agency with jurisdiction over the MS4, the discharger shall not discharge extracted groundwater waste under this WDR into an MS4.

Local agencies responsible for operating the MS4s may not passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the MS4 operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

Therefore, at least 30 days prior to initiating an extracted groundwater discharge to an MS4, the Discharger shall notify and receive authorization from the appropriate local agency with jurisdiction over the MS4. This requirement encourages communication between Dischargers enrolled under this WDR and local agencies responsible for MS4s in an effort to reduce misunderstandings and concerns over the types of discharges covered by this WDR.

E. Termination of Discharges

Dischargers shall submit a written request referred to as a “Notice of Termination (NOT)” to this Regional Board when coverage under this WDR is no longer required. The NOT letter constitutes a notice that the owner (and his/her agent) of the site has ceased the discharge of ground water associated with the groundwater extraction activities at the site under this WDR.

The NOT should include "Notice of Termination (NOT)" in the subject line, the Waste Discharge Identification Number (WDID) assigned to the project by the Regional Board when enrolled in the WDR, the name and address of the owner, and be signed and dated by the owner in accordance with the signatory requirements of the WDR. The Discharger shall continue to comply with the requirements of the WDR until the Regional Board approves the NOT. Submittal of a NOT letter does not guarantee termination. Approval of the NOT does not relieve the Discharger's responsibility for paying any applicable outstanding invoices of annual fees as a result of enrollment under this WDR, nor does it relieve the Discharger from enforcement from existing violations.

F. Re-Enrollment of Renewed Permit

Dischargers enrolled under previous General Permit Order No. 2001-96 that plan on continuing their discharge, must re-enroll by submitting an NOI to obtain coverage under this WDR. Re-enrollees shall re-enroll no later than 365 days after the date of adoption of this WDR to achieve compliance with the new effluent limitations and criteria established by this WDR.

G. Transferring Ownership

Enrollment under the WDR for a specific project is not transferable. In the event of any change in ownership of land or waste discharge facilities presently owned by the enrolled Discharger, the Discharger must notify the new succeeding owner of the existence of this WDR by letter 120 days prior to property transfer, a copy of which must be immediately forwarded to the Regional Board office. Additionally, the Discharger must submit a NOT to the Regional Board. The new succeeding owner must submit a new NOI in application of enrollment under this WDR.

III. Findings

The Regional Board finds:

A. Background

This WDR supersedes Order No. 2001-96. The NPDES No. CAG919002 remains the same. Dischargers enrolled under previous Order No. 2001-96 must obtain coverage under this new WDR to continue their discharge subject to waste discharge requirements in this WDR.

B. Discharge Subject to Waste Discharge Requirements

To be subject to waste discharge requirements in this WDR for continued and future discharge to waters of the United States, Dischargers must submit an NOI and obtain coverage in order to be regulated under this WDR as provided in 40 CFR section 122.28 (b)(2).

C. Discharge Description

Existing and proposed discharges of groundwater extraction waste to surface waters within the San Diego Region except San Diego Bay from construction groundwater extraction, foundation groundwater extraction and groundwater

extraction related to groundwater remediation (collectively referred to as Groundwater Extraction).

D. Legal Authorities

These waste discharge requirements are issued pursuant to Sections 13263 and 13377 of the California Water Code (CWC). The Regional Board shall prescribe requirements as to the nature of any proposed discharge and shall issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Federal Water Pollution Control Act, also referred as the Clean Water Act (CWA).

These waste discharge requirements issued by the Regional Board shall also serve as an NPDES permit for point source discharges from groundwater extraction waste to surface waters within the San Diego Region except San Diego Bay.

States may request authority to issue general NPDES permits pursuant to 40 CFR section 122.28. On June 8, 1989, the California State Water Resources Control Board (State Board) submitted an application to USEPA requesting revisions to its NPDES Program in accordance with 40 CFR sections 122.28, 123.62, and 403.10. The application included a request to add general permit authority to its approved NPDES Program. On September 22, 1989, USEPA, Region 9, approved the State Board's request and granted authorization for the State of California to issue general NPDES permits.

E. Background and Rationale for Requirements

The Regional Board developed the requirements in this WDR based on information submitted as part of the applications for several like agencies, individuals, and entities, through monitoring and reporting programs, and through special studies. Attachments A through F, which contain background information and rationale for WDR requirements, are hereby incorporated into this WDR and constitute part of the Findings for this WDR.

F. California Environmental Quality Act (CEQA)

This action to adopt a NPDES permit is exempt from the provisions of CEQA (Public Resources Code section 21100, et seq.) in accordance with CWC section 13389.

G. Technology-Based Effluent Limitations (TBELs)

Permits shall include applicable TBELs and standards. (40 CFR § 122.44(a)). This WDR does not include numeric-TBELs because USEPA has not promulgated effluent limitation guidelines for groundwater extraction.

H. Water Quality-Based Effluent Limitations (WQBELs)

Permits shall include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. (40 CFR § 122.44(d)). Where numeric water quality criteria have not

been established, WQBELs may be established using USEPA CWA section 304(a)criteria guidance, proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. (40 CFR § 122.44(d)).

I. Water Quality Control Plan

The Regional Board's Water Quality Control Plan for the San Diego Basin (hereinafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan was adopted by the Regional Board on September 8, 1994, and was subsequently approved by the State Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and the State Board.

In addition, State Board Resolution No. 88-63 establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal and domestic supplies. Requirements of this WDR specifically implement the applicable provisions of the Basin Plan and State Board policy.

J. National Toxics Rule (NTR) and California Toxics Rule (CTR)

The USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995, and November 9, 1999. The CTR was adopted by USEPA on May 18, 2000, and amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to these discharges.

K. State Implementation Policy

On March 2, 2000, the State Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by USEPA through the NTR and to the priority pollutant objectives established by the Regional Boards in their Basin Plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by the USEPA Regional Administrator. The alternate test procedures provision became effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for WQBELs and for calculating WQBELs. The SIP also requires Dischargers to submit sufficient data to make the determination, and if necessary to calculate the WQBELs. The State Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives, and provisions for chronic toxicity control. Requirements of this WDR implement the SIP.

L. Compliance Schedules and Interim Requirements

Current dischargers enrolled in Order No. 2001-96 shall re-enroll no later than 365 days after adoption of this WDR, each discharger currently enrolled in Order No. 2001-96 shall continue to comply with Order No. 2001-96 until obtaining permit coverage under this WDR.

M. Antidegradation Policy

Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California's antidegradation policy in State Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Boards' Basin Plans implement, and incorporate by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharges are consistent with the antidegradation provision of 40 CFR section 131.12 and State Board Resolution No. 68-16.

N. Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations of 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this WDR are at least as stringent as the effluent limitations in the previous Order.

O. Monitoring and Reporting

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

P. Standard and Special Provisions

Standard Provisions, which in accordance with 40 CFR sections 122.41 and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Board has also included in this WDR special provisions applicable to the enrolled Dischargers. A rationale for the special provisions contained in this WDR is provided in the attached Fact Sheet (Attachment F).

Q. Notification of Interested Parties

The Regional Board has notified the Dischargers, interested agencies and persons of its intent to prescribe WDRs for these discharges, and has provided them with an opportunity to submit their written comments and

recommendations. Notification details are provided in the Fact Sheet (Attachment F) of this WDR.

R. Consideration of Public Comment

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharges. Details of the Public Hearing are provided in the Fact Sheet of this WDR.

S. Alaska Rule

On March 30, 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR section 131.21, 65 FR 24641, April 27, 2000). Under the revised regulation (also known as the Alaska rule), USEPA must approve new and revised standards submitted to USEPA after May 30, 2000, before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

T. Ocean Plan

In order to protect the beneficial uses of receiving waters from excessive concentrations of pollutants as a result of groundwater extraction waste discharges, this Order does not provide for a mixing zone or a zone of initial dilution except when the discharge is to the surf zone. This Order allows initial dilution of 3 in a surf zone.

IV. Discharge Prohibitions

A. The discharge of wastewater at a location, or in a manner different from that described in the Findings, NOI, or Notice of Enrollment letter from the Regional Board is prohibited.

B. The discharge of wastewater shall not create or cause conditions of nuisance or pollution.

C. The discharge shall not cause, have a reasonable potential to cause, or contribute to an in-stream excursion above any applicable criterion promulgated by USEPA pursuant to section 303 of the CWA, or water quality objective adopted by the State or Regional Boards.

D. The discharge of waste to areas designated by the State Board as being of special (ASBS) biological significance is prohibited. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

E. The discharge of groundwater extraction wastes from a specific site in excess of the flowrate specified in the Notice of Enrollment from the Regional Board is prohibited, unless the enrollee obtains a revised discharge Notice of Enrollment authorizing an increased flowrate.

F. The addition of pollutants to extracted groundwater to be discharged to surface waters within the San Diego Region except San Diego Bay is prohibited. The only exception to this prohibition is that chemicals may be added to extracted groundwater to control biofouling in treatment systems, provided that extracted groundwater discharged meets the effluent limitations for such chemicals established by this WDR and in the discharge Notice of Enrollment issued by the Regional Board.

G. The discharge of groundwater extraction wastes to surface waters within the San Diego Region except San Diego Bay is prohibited unless an NOI has been submitted, and the Regional Board has provided the Discharger with a written Notice of Enrollment identifying the discharge subject to waste discharge requirements.

H. The discharge of groundwater extraction wastes from a groundwater remediation operation after the date groundwater has been remediated to the satisfaction of the Regional Board is prohibited.

I. Compliance with Discharge Prohibitions contained in the Basin Plan is also required as a condition of this WDR.

J. Discharges of wastes in a manner, or to a location which have not been specifically regulated by waste discharge requirements of this WDR are prohibited.

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

L. The dumping or deposition, from shore, of oil, garbage, trash, or other solid municipal, industrial, or agricultural waste directly into waters subject to tidal action or adjacent to waters subject to tidal action in any manner which may permit it to be washed into waters subject to tidal action is prohibited.

M. The dumping or deposition of chemical agents or explosives into waters subject to tidal action is prohibited.

V. Effluent Limitations and Discharge Specifications

A. Effluent Limitations

Summary of Water Quality-Based Effluent Limitations
Discharge Point
Summary of Water Quality-based Effluent Limitations Table

1. DISCHARGES TO BAYS AND HARBORS

The discharge of groundwater extraction waste to Mission Bay, Oceanside Harbor, Del Mar Boat Basin, or Dana Point Harbor shall not contain pollutants in excess of the following effluent limitations:

General / Inorganic / Biological

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Maximum	6-Month Median
Settleable Solids	ml/L	1.0 [OP]	1.5 [OP]	-	3.0 [OP]	-
Total Suspended Solids	mg/L	30 [AB]	-	-	50 [AB]	-
Hydrogen Sulfide	µg/L	2 [AB]	-	4 [AB]	10 [AB]	-
Total Residual Chlorine	µg/L	-	-	8 [OP]	60 [OP]	2 [OP]
Acute Toxicity	Tua			0.3 [OP]		
Chronic Toxicity	Tuc			1.0 [OP]		
Total Coliform	MPN/ 100 ml				1000.0 [AB]	
Fecal Coliform	MPN/ 100 ml				200.0 [AB]	
pH	Units	Within limit of 6.0 to 9.0 at all times [OP]				

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Minimum	6-Month Median
Dissolved Oxygen (DO)	mg/L				> 5.0 [AB]	

Petroleum

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Maximum	6-Month Median
MTBE	µg/L				5 [DHS]	
Benzene	µg/L	-	-	-	5 [AB]	-
Ethylbenzene	µg/L	-	-	-	5 [AB]	-
Toluene	µg/L	-	-	-	5 [AB]	-
Xylene	µg/L	-	-	-	5 [AB]	-
Total Petroleum Hydrocarbons	mg/L	-	-	-	0.5 [AB]	-

Metals

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Tributyltin (TBT)	µg/L	0.0014 OP			

Organics

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Phenolic Compounds (non-chlorinated)	µg/L	-	120 OP	300 OP	30 OP
Chlorinated Phenolics	µg/L	0.025 CTR	0.049 CTR	10 OP	1 OP
1,1,2,2-tetrachlorethane (PCA)	µg/L	2.3 OP	-	-	-
1,1,1-trichloroethane (TCA)	µg/L	5.4E5 OP	-	-	-
1,1,2-trichloroethane (TCA)	µg/L	9.4 OP	-	-	-
1,2-dichloroethane	µg/L	28 OP	-	-	-
Tetrachloroethylene (PCE)	µg/L	2.0 OP	-	-	-
Trichloroethylene (TCE)	µg/L	27 OP	-	-	-
Vinyl chloride	µg/L	36 OP	-	-	-
Carbon tetrachloride	µg/L	0.90 OP	-	-	-
Base/Neutral Organic Compounds	µg/L			10 AB	

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Ammonia (as N)	µg/L		2400 OP	6000 OP	600 OP
Endosulfan	ng/L	-	18 OP	27 OP	9 OP
HCH	ng/L	-	8 OP	12 OP	4 OP
Dichloromethane	µg/L	450 OP	-	5 AB? OP 00-90	-
Halomethanes	µg/L	-	-	5 AB	-

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
PAHs	ng/L	8.8 [OP]	-	-	-
TCDD Equivalents	pg/L	0.0039 [OP]	-	-	-
Turbidity	µg/L	75 [OP]	2.2 [CTR]	225	-

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Minimum	6-Month Median
Turbidity	NTU	75 [OP]	100 [OP]	225 [OP]	-
Turbidity	NTU	Shall not exceed the turbidity of the receiving water. [AB]			
126 Priority Pollutants from "Inland Surface Waters"					

2. DISCHARGES TO LAGOONS/ESTUARIES

The discharge of groundwater extraction waste discharges to saline lagoons (only Buena Vista Lagoon is fresh water) and estuaries of the region shall not contain pollutants in excess of the following effluent limitations:

Includes limits to the Bays and Harbors Limitations

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Total Nitrogen	mg/L	-	-	2.0 [AB]	1.0 [AB]
Total Phosphorus	mg/L	-	-	.0.2 [AB]	0.1 [AB]
pH	Units	Within limit of 7.0 to 8.5 at all times [AB]			
All Parameters and Effluent Limitations from "Bays and Harbors"					

3. DISCHARGES TO THE SURF ZONE[20]

The discharge of groundwater extraction waste to the surf zone (3:1 dilution factor) shall not contain pollutants in excess of the following effluent limitations:

Discharges to the Surf Zone Calculation

The formula used to calculate effluent limits for consituents discharged to the surf zone is from Table B in the Ocean Plan except for Toxicity and Radioactivity.

Ce=Co+Dm(Co-Cs)

Ce = the effluent concentration limit, ug/L
Co = the concentration (water quality objective) to be met at the completion of initial dilution, ug/L
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater Dm = 3 from findings from the 2001-96 Order.
Cs = background seawater concentration (see Table C), ug/L

Table C
BACKGROUND SEAWATER CONCENTRATIONS (Cs)

Waste Consitituent	Cs (ug/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8
For all other Table B parameters	0

DISCHARGES TO THE SURF ZONE

(3:1 DILUTION FACTOR) [AB]

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
TCR	µg/L		32 [OP]	240 [OP]	8 [OP]
Ammonia (as Nitrogen)	µg/L		9600 [OP]	24,000 [OP]	2400 [OP]
Arsenic	µg/L		119 [OP]	311 [OP]	23 [OP]
Cadmium	µg/L		16 [OP]	40 [OP]	4 [OP]
Chromium (hexavalent)	µg/L		32 [OP]	80 [OP]	8 [OP]
Copper	µg/L		42 [OP]	114 [OP]	6 [OP]
Lead	µg/L		32 [OP]	80 [OP]	8 [OP]
Mercury	µg/L		0.64 [OP]	1.60 [OP]	0.16 [OP]
Nickel	µg/L		80 [OP]	200 [OP]	20 [OP]
Silver	µg/L		10.7 [OP]	27.5 [OP]	2.32 [OP]
Zinc	µg/L		296 [OP]	776 [OP]	56 [OP]
Cyanide	µg/L		16 [OP]	40 [OP]	4 [OP]
Phenolic Compounds (Non-chlorinated)	µg/L		480 [OP]	1200 [OP]	120 [OP]

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
1,1,2,2-tetrachloroethane	µg/L		9.2 OP		
Tributyltin (TBT)	µg/L		0.0056 OP		
1,1,-trichoroethane	µg/L		2,160,000 OP		
1,1,2-trichloroethane	µg/L		37.6 OP		
Carbon tetrachloride	µg/L		3.6 OP		
PCBs	µg/L		0.000076 OP		
Tetrachloroethylene	µg/L		8 OP		
Trichloroethylene	µg/L		108 OP		
Vinyl chloride	µg/L		144 OP		
Selenium	µg/L		240 OP	600 OP	60 OP
Endosulfan	µg/L		0.072 OP	0.108 OP	0.036 OP
Endrin	µg/L		0.016 OP	0.024 OP	0.008 OP
HCH	µg/L		0.032 OP	0.048 OP	0.016 OP
Acrolein	µg/L	880 OP			
Antimony	µg/L	4800 OP			
bis(2-chloroethoxy) methane	µg/L	17.6 OP			
bis(2-chloroisopropyl) ether	µg/L	4800 OP			
Chlorobenzene	µg/L	2280 OP			
di-n-butyl phthalate	µg/L	14,000 OP			
Dichlorobenzenes	µg/L	20,400 OP			
1,1-dichloroethylene	µg/L	3.6 OP			
Diethyl phthalate	µg/L	132,000 OP			
Dimethyl phthalate	µg/L	3,280,000 OP			
4,6-dinitro-2-methylphenol	µg/L	880 OP			

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
2,4-dinitrophenol	µg/L	16 OP			
Ethylbenzene	µg/L	16,400 OP			
Fluoranthene	µg/L	60 OP			
Hexachlorocyclopentadiene	µg/L	232 OP			
Nitrobenzene	µg/L	19.6 OP			
Thallium	µg/L	8 OP			
Acrylonitrile	µg/L	0.4 OP			
Aldrin	µg/L	0.000088 OP			
Benzene	µg/L	23.6 OP			
Benzidine	µg/L	0.000276 OP			
Beryllium	µg/L	0.132 OP			
Bis(2-chloroethyl) ether	µg/L	0.18 OP			
Bis(2-ethylhexyl) phthalate	µg/L	14 OP			
Chlordane	µg/L	0.000092 OP			
Chloroform	µg/L	520 OP			
DDT	µg/L	0.00068 OP			
3,3-dichlorobenzidine	µg/L	0.0324 OP			
1,2-dichloroethane	µg/L	112 OP			
Dichloromethane	µg/L	1,800 OP			
1,3-dichloropropene	µg/L	35.6 OP			
Dieldrin	µg/L	0.00016 OP			
2,4-dinitrotoluene	µg/L	10.4 OP			
1,2-diphenylhydrazine	µg/L	0.64 OP			
Halomethanes	µg/L	520 OP			
Heptachlor	µg/L	0.0002 OP			
Hexachlorobenzene	µg/L	0.00084 OP			

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Hexachlorobutadiene	µg/L	56 [OP]			
Hexachloroethane	µg/L	10 [OP]			
N-nitrosodimethylamine	µg/L	29.2 [OP]			
N-nitrosodiphenylamine	µg/L	10 [OP]			
PAHs	µg/L	0.0352 [OP]			
TCDD equivalents	µg/L	1.56E-08 [OP]			
Toxaphene	µg/L	0.00084 [OP]			
2,4,6-trichlorophenol	µg/L	1.16 [OP]			

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Maximum	MDEL
Settleable Solids	ml/L	1 [OP]	1.5 [OP]	3 [OP]	
Suspended Solids		75% [OP] *			
		*Suspended Solids AMEL is 75% removal unless the average monthly influent is 80 mg/L or less, then the effluent limit shall be 60 mg/L. [OP]			
pH		Within limit of 6.0 and 9.0 at all times. [OP]			
Toluene		340,000 [OP]			
Xylene				5 [AB]	
Total Petroleum Hydrocarbons				500 [AB]	
Aute Toxicity	TUa				0.3 [OP]
Chronic Toxicity	TUc				1 [OP]
Turbidity	NTU	75 [OP]	100 [OP]	225 [OP]	

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Maximum	Shellfish Harvesting
Total Coliform	MPN/100 mL	1,000 [OP]		10,000 [OP]	

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Maximum	Shellfish Harvesting
Total Coliform	MPN/100 mL			1,000 [OP] *	
		*Total coliform density shall not exceed 1,000 per 100 mL when the ratio of fecal/total coliform exceeds 0.1 [OP]			
Total Coliform					70 [OP] **
Total Coliform					230 [OP] **
		**The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL. [OP]			
Fecal Coliform	MPN/100 mL	200 [OP]		400 [OP]	
Enterococcus	MPN/100 mL	35 [OP]		104 [OP]	

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Minimum	6-Month Median
Dissolved Oxygen (DO)	mg/L				5.0 [AB]	

[OP] Basis – Ocean Plan 2005
[AB] Basis – Anti-Backsliding, values from the previous permit
[DHS] Basis – Department of Health Services
[CTR] Basis – California Toxics Rule/ State Implementation Plan 2005

4. DISCHARGES TO INLAND SURFACE WATERS

The discharge of groundwater extraction waste to inland surface waters (including Buena Vista Lagoon) shall not contain pollutants in excess of the following effluent limitations:

GENERAL CONSTITUENTS

Constituent	Unit	AMEL	Daily Maximum	Instantaneous Maximum	Basis
Settleable Solids	ml/L	0.1	---	0.2	AB
Total Suspended Solids	mg/L	30	---	50	
Percent Sodium	%	---	---	60	AB
Total Nitrogen	mg/L	1.0		2.0	"
Total Phosphorus	mg/L	0.1		0.2	"
Methylene Blue Active Substances	mg/L	---	---	0.5	"
Turbidity	NTU	Shall not exceed the ambient turbidity of the surface water at any time.			"
Fluoride	mg/L	---	---	1.0	"
Hydrogen Sulfide	µg/L	2	4	10	AB

Total Residual Chlorine (TRC)[12]	µg/L	2	8	10	AB
pH	Units	Within the limits of 6.5 and 8.5 at all times.			AB
Acute Toxicity	TUa	---	---	0.59	AB
Chronic Toxicity	TUc	---	1	---	AB
Dissolved Oxygen	mg/L	Shall not be less than 5.0 at any time in waters with designated warm fresh-water habitat beneficial uses or less than 6.0 in waters with cold fresh water habitat beneficial uses.			AB
Total Coliform	MPN/100mL	---	---	1000	"
Fecal Coliform	MPN/100mL	---	---	200	"

VOLATILES, METALS, PRIORITY POLLUTANTS:

Beneficial Use:	Municipal/Potable Supply Instantaneous			Non-municipal/Non-potable Instantaneous		
Constituent	Unit	Maximum	Basis	Unit	Maximum	Basis
Dibromochloropropane	µg/L	0.2	DOHS	µg/L	0.2	AB
Ethylene Dibromide	µg/L	0.02	DOHS	µg/L	0.02	AB
Xylene	µg/L	5	AB	µg/L	5	AB
Chlorinated Phenolics	µg/L	1	DOHS	µg/L	10	AB
Remaining Base/Neutral Compounds[16]	µg/L	10	AB	µg/L	10	AB
Total Petroleum Hydrocarbons	mg/L	0.5	"	mg/L	0.5	AB
Iron**	mg/L	0.3	"	mg/L	0.3	AB
Manganese**	mg/L	0.05	"	mg/L	0.05	AB
MTBE***,38	µg/L	5	DOHS			
126 Priority Pollutants (Including metals)*	40 CFR 131.38 - Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California.					See Below

126 Priority Pollutants - 40 CFR 131.38 - Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California.

The effluent limits for eight priority pollutants will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data.

Seven metals are dependent on water hardness, Cadmium, Copper, Chromium (III), Lead, Nickel, Silver, and Zinc [See Table 1 to 40 CFR 131.38(b)(2)], and the "Conversion Factors" for Cadmium and Lead are also water hardness dependent. [See Table 3 of 40 CFR 131.38(b)(2)]

In order to calculate the effluent limits for these seven metals the following equations from 40 CFR 131.38(b2) will be needed:

~~Ca~~ Cd CFa=1.136672-((LN(hardness))*0.041838)
~~Ca~~ Cd CFc = 1.101672-((LN(hardness))*0.041838)
Pb CFa&c = 1.46203-((LN(hardness))*0.145712)
Criterion=WER*CFx*(exp(mA*LN(hardness)+bA

Pentachlorophenol is dependent on the pH value. [See Footnote "f" to Table in 40 CFR 131.38(b)(1)]

To calculate the effluent limit for Pentachlorophenol use this equation: CMC = exp(1.005(pH)–4.869). CCC = exp(1.005(pH)–5.134)

The remainder of the criteria is not water quality dependent and the effluent limits can be calculated. However, not all the effluent limits will apply to all sites because of the Beneficial use designation for "Municipal" may not apply to all sites.

Effluent Limits for Human Health Municipal and Non-Municipal

		Human Health			
		MUN		NON-MUN	
		AMEL	MDEL	AMEL	MDEL
		(µg/L)	(µg/L)	(µg/L)	(µg/L)
A					
1	Antimony	14	28	4300	8600
2	Arsenic				
3	Beryllium				
4	Cadmium				
5a	Chromium (III)				
5b	Chromium (IV)				
6	Copper	1300	2600		
7	Lead				
8	Mercury	0.05	0.1	0.051	0.1
9	Nickel				
10	Selenium				
11	Silver				
12	Thallium				
13	Zinc	700	1400	220000	440000
14	Cyanide	7000000	14000000		
15	Asbestos	1.3E-08	2.6E-08	1.4E-08	2.8E-08
16	2,3,7,8-TCDD (Dioxin)	320	640	780	1600
17	Acrolein	0.059	0.12	0.66	1.3
18	Acrylonitrile	1.2	2.4	71	140
19	Benzene	4.3	8.6	360	720
20	Bromoform	0.25	0.5	4.4	8.8
21	Carbon Tetrachloride	680	1400	21000	42000
22	Chlorobenzene	0.41	0.82	34	68

		Human Health			
		MUN		NON-MUN	
		AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
23	Chlorodibromomethane				
24	Chloroethane				
25	2-Chloroethylvinyl Ether				
26	Chloroform				
27	Dichlorobromomethane	0.56	1.1	46	92
28	1,1-Dichloroethane				
29	1,2-Dichloroethane	0.38	0.76	99	200
30	1,1-Dichloroethylene	0.057	0.11	3.2	6.4
31	1,2-Dichloropropane	0.52	1	39	78
32	1,3-Dichloropropylene	10	20	1700	3400
33	Ethylbenzene	3100	6200	29000	58000
34	Methyl Bromide	48	96	4000	8000
35	Methyl Chloride				
36	Methylene Chloride	4.7	9.4	1600	3200
37	1,1,2,2-Tetrachloroethane	0.17	0.34	11	22
38	Tetrachloroethylene	0.8	1.6	8.9	18
39	Toluene	6800	14000	200000	400000
40	1,2-Trans-Dichloroethylene	700	1400	140000	280000
41	1,1,1-Trichloroethane				
42	1,1,2-Trichloroethane	0.6	1.2	40	80
43	Trichloroethylene	2.7	5.4	81	160
44	Vinyl Chloride	2	4	530	1100
45	2-Chlorophenol	120	240	400	800
46	2,4-Dichlorophenol	93	190	790	1600
47	2,4-Dimethylphenol	540	1100	2300	4600
48	2-Methyl-4,6-Dinitrophenol	13	27	770	1500
49	2,4-Dinitrophenol	70	140	14000	28000
50	2-Nitrophenol				
51	4-Nitrophenol				
52	3-Methyl-4-Chlorophenol				
53	Pentachlorophenol	0.28	0.56	8.2	16
54	Phenol	21000	42000	4500000	9000000
55	2,4,6-Trichlorophenol	2.1	4.2	6.5	13

		Human Health			
		MUN		NON-MUN	
		AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
56	Acenaphthene	1200	2400	2700	5400
57	Acenaphthylene				
58	Anthracene	9600	19000	110000	220000
59	Benzidine	0.00012	0.00024	0.00054	0.0011
60	Benzo(a)Anthracene	0.0044	0.0088	0.049	0.098
61	Benzo(a)Pyrene	0.0044	0.0088	0.049	0.098
62	Benzo(b)Fluoranthene	0.0044	0.0088	0.049	0.098
63	Benzo(ghi)Perylene				
64	Benzo(k)Fluoranthene	0.0044	0.0088	0.049	0.098
65	Bis(2-Chloroethoxy)Methane				
66	Bis(2-Chloroethyl)Ether	0.031	0.062	1.4	2.8
67	Bis(2-Chloroisopropyl)Ether	1400	2800	170000	340000
68	Bis(2-Ethylhexyl)Phthalate	1.8	3.6	5.9	12
69	4-Bromophenyl Phenyl Ether				
70	Butylbenzyl Phthalate	3000	6000	5200	10000
71	2-Chloronaphthalene	1700	3400	4300	8600
72	4-Chlorophenyl Phenyl Ether				
73	Chrysene	0.0044	0.0088	0.049	0.098
74	Dibenzo(a,h)Anthracene	0.0044	0.0088	0.049	0.098
75	1,2 Dichlorobenzene	2700	5400	17000	34000
76	1,3 Dichlorobenzene	400	800	2600	5200
77	1,4 Dichlorobenzene	400	800	2600	5200
78	3,3'-Dichlorobenzidine	0.04	0.08	0.077	0.15
79	Diethyl Phthalate	23000	46000	120000	240000
80	Dimethyl Phthalate	310000	630000	2900000	5800000
81	Di-n-Butyl Phthalate	2700	5400	12000	24000
82	2,4-Dinitrotoluene	0.11	0.22	9.1	18
83	2,6-Dinitrotoluene				
84	Di-nOctyl Phthalate				
85	1,2-Diphenylhydrazine	0.04	0.08	0.54	1.1
86	Fluoranthene	300	600	370	740
87	Fluorene	1300	2600	14000	28000
88	Hexachlorobenzene	0.00075	0.0015	0.00077	0.0015

		Human Health			
		MUN		NON-MUN	
		AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
89	Hexachlorobutadiene	0.44	0.88	50	100
90	Hexachlorocyclopentadiene	240	480	17000	34000
91	Hexachloroethane	1.9	3.8	8.9	18
92	Inden(1,2,3-cd) Pyrene	0.0044	0.0088	0.049	0.098
93	Isophorone	8.4	17	600	1200
94	Naphthalene				
95	Nitrobenzene	17	34	1900	3800
96	N-Nitrosodimethylamine	0.00059	0.0012	8.1	16
97	N-Nitrosodi-n-Propylamine	0.005	0.01	1.4	2.8
98	N-Nitrosodiphenylamine	5	10	16	32
99	Phenanthrene				
100	Pyrene	960	1900	11000	22000
101	1,2,4-Trichlorobenzene				
102	Aldrin	0.00013	0.00026	0.00014	0.00028
103	alpha-BHC	0.0039	0.0078	0.013	0.026
104	beta-BHC	0.014	0.028	0.046	0.092
105	gamma-BHC	0.019	0.038	0.063	0.13
106	delta-BHC				
107	Chlordane	0.00057	0.0011	0.00059	0.0012
108	4,4'-DDT	0.00059	0.0012	0.00059	0.0012
109	4,4'-DDE	0.00059	0.0012	0.00059	0.0012
110	4,4'-DDD	0.00083	0.0017	0.00084	0.0017
111	Dieldrin	0.00014	0.00028	0.00014	0.00028
112	alpha-Endosulfan	110	220	240	480
113	beta-Endosulfan	110	220	240	480
114	Endosulfan Sulfate	110	220	240	480
115	Endrin	0.76	1.5	0.81	1.6
116	Endrin Aldehyde	0.76	1.5	0.81	1.6
117	Heptachlor	0.00021	0.00042	0.00021	0.00042
118	Heptachlor Epoxide	0.0001	0.0002	0.00011	0.00022
119	Polychlorinated biphenyls (PCBs)	0.00017	0.00034	0.00017	0.00034
120	"				

		Human Health			
		MUN		NON-MUN	
		AMEL	MDEL	AMEL	MDEL
		(µg/L)	(µg/L)	(µg/L)	(µg/L)
121	"				
122	"				
123	"				
124	"				
125	"				
126	Toxaphene	0.00073	0.0015	0.00075	0.0015

Effluent Limits for Freshwater and Saltwater

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
A					
1	Antimony				
2	Arsenic	250	120	59	29
3	Beryllium				
4	Cadmium			16	8
5a	Chromium (III)				
5b	Chromium (IV)	16	8.1	83	41
6	Copper			5.8	2.9
7	Lead			14	7
8	Mercury				
9	Nickel			14	6.8
10	Selenium	8.2	4.1	120	58
11	Silver			2.2	1.1
12	Thallium				
13	Zinc			95	47
14	Cyanide	8.5	4.2	1	0.5
15	Asbestos				
16	2,3,7,8-TCDD (Dioxin)				
17	Acrolein				
18	Acrylonitrile				
19	Benzene				
20	Bromoform				
21	Carbon Tetrachloride				
22	Chlorobenzene				
23	Chlorodibromomethane				
24	Chloroethane				
25	2-Chloroethylvinyl Ether				
26	Chloroform				
27	Dichlorobromomethane				
28	1,1-Dichloroethane				
29	1,2-Dichloroethane				
30	1,1-Dichloroethylene				

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
31	1,2-Dichloropropane				
32	1,3-Dichloropropylene				
33	Ethylbenzene				
34	Methyl Bromide				
35	Methyl Chloride				
36	Methylene Chloride				
37	1,1,2,2-Tetrachloroethane				
38	Tetrachloroethylene				
39	Toluene				
40	1,2-Trans-Dichloroethylene				
41	1,1,1-Trichloroethane				
42	1,1,2-Trichloroethane				
43	Trichloroethylene				
44	Vinyl Chloride				
45	2-Chlorophenol				
46	2,4-Dichlorophenol				
47	2,4-Dimethylphenol				
48	2-Methyl-4,6-Dinitrophenol				
49	2,4-Dinitrophenol				
50	2-Nitrophenol				
51	4-Nitrophenol				
52	3-Methyl-4-Chlorophenol				
53	Pentachlorophenol	[redacted]		13	6.5
54	Phenol				
55	2,4,6-Trichlorophenol				
56	Acenaphthene				
57	Acenaphthylene				
58	Anthracene				
59	Benzidine				
60	Benzo(a)Anthracene				
61	Benzo(a)Pyrene				
62	Benzo(b)Fluoranthene				
63	Benzo(ghi)Perylene				
64	Benzo(k)Fluoranthene				

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
65	Bis(2-Chloroethoxy)Methane				
66	Bis(2-Chloroethyl)Ether				
67	Bis(2-Chloroisopropyl)Ether				
68	Bis(2-Ethylhexyl)Phthalate				
69	4-Bromophenyl Phenyl Ether				
70	Butylbenzyl Phthalate				
71	2-Chloronaphthalene				
72	4-Chlorophenyl Phenyl Ether				
73	Chrysene				
74	Dibenzo(a,h)Anthracene				
75	1,2 Dichlorobenzene				
76	1,3 Dichlorobenzene				
77	1,4 Dichlorobenzene				
78	3,3'-Dichlorobenzidine				
79	Diethyl Phthalate				
80	Dimethyl Phthalate				
81	Di-n-Butyl Phthalate				
82	2,4-Dinitrotoluene				
83	2,6-Dinitrotoluene				
84	Di-nOctyl Phthalate				
85	1,2-Diphenylhydrazine				
86	Fluoranthene				
87	Fluorene				
88	Hexachlorobenzene				
89	Hexachlorobutadiene				
90	Hexachlorocyclopentadiene				
91	Hexachloroethane				
92	Inden(1,2,3-cd) Pyrene				
93	Isophorone				
94	Naphthalene				
95	Nitrobenzene				
96	N-Nitrosodimethylamine				
97	N-Nitrosodi-n-Propylamine				
98	N-Nitrosodiphenylamine				

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
99	Phenanthrene				
100	Pyrene				
101	1,2,4-Trichlorobenzene				
102	Aldrin	3	1.5	1.3	0.65
103	alpha-BHC				
104	beta-BHC				
105	gamma-BHC	0.95	0.47	0.16	0.08
106	delta-BHC				
107	Chlordane	0.007	0.0035	0.0066	0.0033
108	4,4'-DDT	0.0016	0.00082	0.0016	0.00082
109	4,4'-DDE				
110	4,4'-DDD				
111	Dieldrin	0.092	0.046	0.0031	0.0016
112	alpha-Endosulfan	0.092	0.046	0.014	0.0071
113	beta-Endosulfan	0.092	0.046	0.014	0.0071
114	Endosulfan Sulfate				
115	Endrin	0.059	0.029	0.0038	0.0019
116	Endrin Aldehyde				
117	Heptachlor	0.0062	0.0031	0.0059	0.0029
118	Heptachlor Epoxide	0.0062	0.0031	0.0059	0.0029
119	Polychlorinated biphenyls (PCBs)	0.023	0.011	0.049	0.025
120	"				
121	"				
122	"				
123	"				
124	"				
125	"				
126	Toxaphene	0.00033	0.00016	0.00033	0.00016

Mass Limits

All permit limitations, standards or prohibitions shall be expressed in terms of mass except for pH, or other pollutants which cannot appropriately be expressed by mass or under certain circumstances including "when applicable standards and limitations are expressed in terms of other units of measurement." (40 CFR § 122.45(f)(1)). Therefore, all concentration limits stated above except for Settleable Solids, Acute Toxicity, Chronic Toxicity, Total Coliform, Fecal Coliform, pH, and Dissolved Oxygen shall also have a mass limit based on its concentration limit times the discharge flow limit in the Notice of Enrollment expressed in pounds per day (lbs/d) as shown in the equations below:

Concentration Limit * Flow Limit * Conversion Factor = Mass Limit
(mg/l) * (MGD) * 8.34 (lb*L/(Million Gallons*mg)) = lbs/day
(µg/l) * (MGD) * 0.00834 (lb*L/(Million Gallons*µg)) = lbs/day
(mg/l) * (gpd) * 0.00000834 (lb*L/(Gallons*mg)) = lbs/day
(µg/l) * (gpd) * 0.00000000834 (lb*L/(Million Gallons*µg)) = lbs/day

L. Interim Effluent Limitations (Not Applicable)

M. Land Discharge Specifications (Not Applicable)

N. Reclamation Specifications (Not Applicable)

~~A.~~B. Land Discharge Specifications (Not Applicable)

~~B.~~C. Reclamation Specifications (Not Applicable)

VI. 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 WDR. The discharge of groundwater extraction waste from any site shall not, separately or jointly with any other discharge, cause violations of the following water quality objectives. These limitations apply unless more stringent provisions exist in either the Basin Plan, or an applicable State plan. The more stringent limitation shall apply.

1. Bacterial Characteristics

a. Water-Contact Standards
Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water-contact sports, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

(1) Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

(2) The fecal coliform density based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

b. Shellfish Harvesting Standards
At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

2. Physical Characteristics
   a. Floating particulates and grease and oil shall not be visible.
   b. The discharge of waste shall not cause aesthetically undesirable discoloration of the surface waters.
   c. Natural light shall not be significantly reduced.
   The rate of deposition of solids and the characteristics of inert solids in the sediments shall not be changed such that benthic communities are degraded.

3. Chemical Characteristics
   a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as a result of the discharge of oxygen demanding waste materials.
   b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
   c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
   d. The concentration of substances set forth in the Discharge Specifications in marine sediments shall not be increased to levels which would degrade indigenous biota.
   e. The concentration of organic materials in the sediments shall not be increased to levels which would degrade marine life.
   f. Nutrient materials shall not cause objectionable aquatic growth or degrade indigenous biota.

4. Biological Characteristics

a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
b. The natural taste, odor, and color of fish, shellfish, or other aquatic resources used for human consumption shall not be altered.
c. The concentration of organic materials in fish, shellfish or other aquatic resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

5. Radioactivity
Discharge of radioactive waste shall not degrade marine life.

6. Toxic Materials Limitations for Marine Waters (Surf Zone) Ocean Plan, ~~1997~~ 2005

OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE

Chemical	Units of Measurement	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	µg/L	8	32	80
Cadmium	µg/L	1	4	10
Chromium (Hexavalent)	µg/L	2	8	20
Copper	µg/L	3	12	30
Lead	µg/L	2	8	20
Mercury	µg/L	0.04	0.16	0.4
Nickel	µg/L	5	20	50
Selenium	µg/L	15	60	150
Silver	µg/L	0.7	2.8	7
Zinc	µg/L	20	80	200
Cyanide	µg/L	1	4	10
Total Chlorine Residual[~~12~~]	µg/L	2	8	60
Ammonia (as nitrogen)	µg/L	600	2400	6000
Chronic Toxicity	TUc		1	
Phenolic Compounds (Non-chlorinated)	µg/L	30	120	300
Chlorinated Phenolics	µg/L	1	4	10
Endosulfan	ng/L	9	18	27
Endrin	ng/L	2	4	6
HCH	ng/L	4	8	12
Radioactivity	Not to exceed limits specified in Title 17, Chapter 15, Subchapter 4, Group 3, Article 3, Section 30269 of the California Code of Regulations.			

OBJECTIVES FOR PROTECTION OF HUMAN HEALTH -- NONCARCINOGENS

Chemical	Units of Measurement	30-day Averages
Acrolein	µg/L	220

Antimony	mg/L	1.2
bis(2-chloroethoxy) methane	µg/L	4.4
bis(2-chloroisopropyl) ether	mg/L	1.2
Chlorobenzene	µg/L	570
Chromium (III)	mg/L	190
Di-n-butyl phthalate	mg/L	3.5
Dichlorobenzenes	mg/L	5.1
1,1-dichloroethylene	mg/L	7.1
Diethyl phthalate	mg/L	33
Dimethyl phthalate	mg/L	820
4,6-dinitro-2-methylphenol	µg/L	220
2,4-dinitrophenol	µg/L	4.0
Ethylbenzene	mg/L	4.1
Fluoranthene	µg/L	15
Hexachlorocyclopentadiene	µg/L	58
Isophorone	mg/L	150
Nitrobenzene	µg/L	4.9
Thallium	µg/L	14
Toluene	mg/L	85
1,1,2,2-tetrachloroethane	mg/L	1.2
Tributyltin	ng/L	1.4
1,1,1-trichloroethane	mg/L	540
1,1,2-trichloroethane	mg/L	43

OBJECTIVES FOR PROTECTION OF HUMAN HEALTH -- CARCINOGENS

Chemical	Units of Measurement	30-day Average
Acrylonitrile	µg/L	0.1
Aldrin	ng/L	0.022
Benzene	µg/L	5.9
Benzidine	ng/L	0.069
Beryllium	ng/L	33
bis(2-chloroethyl) ether	µg/L	0.045
bis(2-ethylhexyl) phthalate	µg/L	3.5
Carbon tetrachloride	µg/L	0.9
Chlordane	ng/L	0.023
Chloroform	mg/L	0.13
DDT	ng/L	0.17
1,4-dichlorobenzene	µg/L	18
3,3-dichlorobenzidine	ng/L	8.1
1,2-dichloroethane	mg/L	0.13
Dichloromethane	mg/L	0.45
1,3-dichloropropene	µg/L	8.9
Dieldrin	ng/L	0.04
2,4-dinitrotoluene	µg/L	2.6
1,2-diphenylhydrazine	µg/L	0.16
Halomethanes	mg/L	0.13

Heptachlor	ng/L	0.72
Hexachlorobenzene	ng/L	0.21
Hexachlorobutadiene	µg/L	14
Hexachloroethane	µg/L	2.5
N-nitrosodimethylamine	µg/L	7.3
N-nitrosodiphenylamine	µg/L	2.5
PAHs	ng/L	8.8
PCBs	ng/L	0.019
TCDD equivalents	pg/L	0.0039
Tetrachloroethylene	µg/L	99
Toxaphene	ng/L	0.21
Trichloroethylene	µg/L	27
2,4,6-trichlorophenol	µg/L	0.29
Vinyl chloride	µg/L	36

7. Toxic Materials Limitations and Objectives for Inland Surface Waters (Fresh)

(a) Discharges of extracted groundwater shall not cause violations of surface water quality objectives presented by hydrographic subunit and subarea in Table 3-2 of the Comprehensive Water Quality Control Plan Report, San Diego Basin (9), as amended.

(b) Discharges of extracted groundwater shall not cause violations of the following objectives in inland surface waters:

1. No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.

2. For the protection of public health and aquatic species, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of toxics in excess of the maximum contaminant levels for contaminants set forth in the California Code of Regulations, Title 22, as amended, or water quality objectives listed in 40 CFR 131.38 (Attachment D), for the protection of aquatic species and protection of human health, whichever concentration for a specific chemical is less. Current maximum contaminant levels for the protection of human health from the ingestion of water are as follows:

	Constituent	Title22 Maximum Contaminant Level (mg/L)
a. Inorganic	Aluminum	1
	Arsenic	0.05
	Barium	1
	Cadmium	0.01
	Chromium	0.05
	Lead	0.05
	Mercury	0.002
	Nitrate	45
	Selenium	0.01

	Silver	0.05
b. Organic	Atrazine	0.003
	Bentazon	0.018
	Benzene	0.001
	Carbon Tetrachloride	0.0005
	2,4-D	0.1
	Dibromochloropropane	0.0002
	1,4-Dichlorobenzene	0.005
	1,2-Dichloroethane	0.0005
	1,1-Dichloroethylene	0.006
	1,3-Dichloropropene	0.0005
	Endrin	0.0002
	Ethyl Benzene	0.68
	Ethylene Dibromide	0.00002
	Lindane	0.004
	Methoxychlor	0.1
	Molinate	0.02
	Monochlorobenzene	0.03
	Simazine	0.01
	1,1,2,2-Tetrachloroethane	0.001
	Tetrachloroethylene	0.005
	Thiobencarb	0.07
	Toxaphene	0.005
	2,4,5-TP Silvex	0.01
	1,1,1-Trichloroethane	0.2
	1,1,2-Trichloroethane	0.032
	Trichloroethylene	0.005
	Vinyl Chloride	0.0005
	Xylenes (Single or sum of isomers)	1.75

8. Mineral Objectives for Inland Surface Waters (fresh):

Hydrographic Unit	**Objective (mg/L)**			
	TDS	**Chloride**	**Sulfate**	**Boron**
San Juan Unit				
1.10	1000	400	500	0.75
1.20,1.30,1.40,1.50	500	250	250	0.75

Hydrographic Unit	**Objective (mg/L)**			
	TDS	**Chloride**	**Sulfate**	**Boron**
Santa Margarita Unit				
2.20,2.40,2.50,2.60	500	250	250	0.75
2.70,2.80,2.90,2.10,2.30	750	300	300	0.75
San Luis Rey Unit				
3.10,3.20,3.30	500	250	250	0.75
Carlsbad Unit				
4.10,4.40				
4.20,4.30,4.50,4.60	500	250	250	0.75

San Dieguito Unit				
5.10,5.20,5.30,5.40, 5.50	500	250	250	0.75
Penasquitos Unit				
6.10,6.20,6.40	500	250	250	0.75
6.30,6.50	---	---	---	---
San Diego Unit				
7.10	1000	400	500	1.0
7.11	1500	400	500	1.0
7.12c/d,	1000/1500	400	500	1.0
7.20,7.30,7.40	300	50	65	1.0
Coronado Unit				
10.10	NA	NA	NA	NA
Sweetwater River Unit				
9.10	1500	500	500	0.75
9.20,9.30	500	250	250	0.75
Otay Unit				
10.20	1000	400	500	0.75
10.30	500	250	250	0.75
Tijuana Unit				
11.11	2100	NA	NA	NA
11.20,11.30,11.40,11.50				
11.60,11.70,11.80	500	250	250	1.0

9. Waters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.

10. Radioactivity: Discharges of radioactive waste shall not degrade marine life.

B. Groundwater Limitations (Not Applicable)

VII. Provisions

A. Standard Provisions

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

2. Regional Board Standard Provisions. The Discharger shall comply with the following provisions:

   a. The Discharger shall comply with all requirements and conditions of this WDR. Any permit non-compliance constitutes a violation of the CWA and/or of the CWC and is grounds for enforcement action, permit

termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.

b. The Discharger shall comply with all applicable federal, state, and local laws and regulations for handling, transport, treatment, or disposal of waste or the discharge of waste to waters of the state in a manner which causes or threatens to cause a condition of pollution, contamination or nuisance as those terms are defined in CWC 13050.

c. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

d. Any noncompliance with this WDR is a violation of the CWC and/or the CWA and is grounds for denial of an application for Order renewal or modification.

e. No discharge of waste into waters of the state, whether or not the discharge is made pursuant to WDRs, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.

f. For the purposes of this WDR, the term “permittee” used in parts of 40 CFR incorporated into this WDR by reference and/or applicable to this WDR shall have the same meaning as the term “Discharger” used elsewhere in this WDR.

g. This WDR expires on March 12, 2013, after which, the terms and conditions of this permit are automatically continued pending issuance of a new WDR, provided that all requirements of USEPA’s NPDES regulations at 40 CFR 122.6 and the State’s regulations at CCR Title 23, Section 2235.4 regarding the continuation of expired Orders and waste discharge requirements are met.

h. Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this permit will be considered confidential, and all such information and documents shall be available for review by the public at the office of the Regional Water Board.

i. A copy of this WDR shall be maintained on-site at the Facility, and shall be available to Regional Water Board, State Water Board, and EPA personnel and/or their authorized representatives at all times.

j. The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised waste discharge requirements that have been or may be adopted by the Regional Water Board.

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

l. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, discharge specification, or receiving water limitation of this WDR, the Discharger shall notify the Regional Water Board by telephone (858) 467-2952 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

m. The Discharger is required to retain records, including all monitoring information and copies of all reports required by this WDR, for five years unless directed otherwise by the Regional Board.

n. This WDR may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

o. Dischargers enrolled in this WDR planning to discharge extracted groundwater waste after the expiration date of March 12, 2013 may be subject to new prohibitions or requirements based on the re-issuance of this WDR after March 12, 2013.

p. The enrollee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this WDR and the Notice of Enrollment from the Regional Board, including such accelerated or additional monitoring as may be necessary to determine the nature, and effect of the noncomplying discharge.

q. This WDR or the Notice of Enrollment from the Regional Board, may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

(1) Violation of any terms or conditions of this WDR or the Notice of Enrollment from the Regional Board;

(2) Obtaining enrollment in this WDR, or a Notice of Enrollment from the Regional Board, by misrepresentation or failure to disclose fully all relevant facts;

(3) A change in any condition that requires either a temporary or permanent reduction or elimination of the discharge subject to waste discharge requirements; or

(4) A finding that monitoring "indicator" pollutants listed in this WDR do not ensure compliance with water quality criteria or objectives for the pollutants expected to be represented by the "indicator" pollutants.

r. The filing of a request by the enrollee for modification, revocation and reissuance, or termination of this WDR or an associated discharge Notice of Enrollment from the Regional Board, or a notification of planned change in or anticipated noncompliance with this WDR or discharge Notice of Enrollment does not stay any condition of this WDR or the Notice of Enrollment from the Regional Board.

s. Notwithstanding Provision 2.e above, if any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this WDR, the Regional Board may institute proceedings under these regulations to modify or revoke and reissue this WDR to conform to the toxic effluent standard or prohibition.

t. In addition to any other grounds specified herein, this WDR or a Notice of Enrollment from the Regional Board shall be modified or revoked at any time if, on the basis of any data, the Regional Board determines that continued discharges may cause unreasonable degradation of the aquatic environment.

u. The Regional Board or the Director of the USEPA may require any person requesting enrollment under this WDR or subject to waste discharge requirements under this WDR to apply for and obtain an individual NPDES permit. Cases where an individual NPDES permit may be required include but are not limited to those described in 40 CFR 122.28 (b)(3)(i) and (b)(3)(ii), and where the volume of a discharge exceeds 10 million gallons per year, or the duration of a discharge exceeds 3 years.

v. It shall not be a defense for the enrollee in an enforcement action that effluent limitation violations are a result of analytical variability rendering the results inaccurate. The validity of the testing results, whether or not the enrollee has monitored or sampled more frequently than required by this WDR, shall not be a defense to an enforcement action.

w. A copy of this WDR, and the Notice of Enrollment from the Regional Board shall be posted at a prominent location at or near the enrollee's facility, and shall be available to operating personnel at all times.

x. The enrollee shall take all reasonable steps to minimize or prevent any discharge in violation of this WDR which has a reasonable likelihood of adversely affecting human health or the environment.

y. For the purposes of this WDR, the term permit, general permit, and order, shall have the same meaning as the term WDR used elsewhere in this WDR.

z. For the purpose of this WDR, the term Discharger and enrollee shall have the same meaning as the term discharger used elsewhere in this WDR.

B. Monitoring and Reporting Program Requirements

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

C. Special Provisions

1. Reopener Provisions (Not Applicable)

2. Special Studies, Technical Reports and Additional Monitoring Requirements (Not Applicable)

3. Best Management Practices and Pollution Prevention Plan (Not Applicable)

4. Compliance Schedules (Not Applicable)

5. Construction, Operation and Maintenance Specifications (Not Applicable)

6. Special Provisions for Municipal Facilities (POTWs Only) (Not Applicable)

7. Other Special Provisions

   The Dischargers shall dispose of solids removed from liquid wastes in a manner that is consistent with Title 27 of the CCR and approved by the Regional Board.

8. Order No. R9-2008-0002 may be modified by the Regional Board and EPA to enable the discharger to participate in comprehensive regional monitoring activities conducted in the Southern California Bight during the term of this permit. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. If predictable relationships among the biological, water quality and effluent monitoring variables can be demonstrated, it may be appropriate to decrease the discharger's sampling effort. Conversely, the monitoring program may be intensified if it appears that the objectives cannot be achieved through the discharger's existing monitoring program. These changes will improve the overall effectiveness of monitoring in the Southern California Bight. Minor changes may be made without further public notice.

VIII. Compliance Determination

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

A. Average Monthly Effluent Limitation (AMEL)

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

B. Average Weekly Effluent Limitation (AWEL)

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in seven days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily

discharge) is taken, no compliance determination can be made for that calendar week.

C. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

D. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

E. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

F. Six-Month Median Effluent Limitation

The Discharger shall determine the six-month median effluent value (SMEV) for a given parameter by calculating the statistical median of all daily effluent values (DEVs) for each parameter within each six-month calendar period (January-June and July-December). The SMEV determination for a given six-month calendar period shall not include DEVs from any other six-month calendar period. If only a single DEV is obtained for a parameter during a six-month calendar period, that DEV shall be considered the SMEV for that parameter for that given six-month calendar period. The SMEV shall be attributed to each day of the six-month calendar period for determination of compliance with the six-month median effluent limitation (SMEL) for a given parameter for each day of that given six-month calendar period, resulting in approximately 180 days of non-compliance depending on the number of days in the six-month calendar period. If the SMEV exceeds the six-month median, the Discharger will be considered out of compliance for each day for the six-month period. The SMEV cannot be determined for any six month calendar period during which no DEV is obtained.

Attachment A – Definitions

Arithmetic Mean (μ), also called the average: 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.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative Pollutants: 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: substances that are known to cause cancer in living organisms.

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

Cone of Depression: A depression in the water table that develops around a pumped well.

Cone of Influence: The depression, roughly conical in shape, produced in a water table by the pumping of water from a well.

Contamination Site: A site that is currently under investigation or cleanup for any medium (air, soil, water), or is provided oversight by any local, state, or federal environmental regulatory agency, such as the County of San Diego, Air Pollution Control District, and Department of Toxics Substance Control, or the quality of surface water or groundwater at a site has been altered by wastes to a degree which unreasonably affects either the waters for beneficial uses or facilities which serve these beneficial uses.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12 a.m. through 11:59 p.m.) 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 one 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): those sample results less than the Reporting Level (RL), but greater than or equal to the laboratory's Method Detection Limit (MDL).

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

Effluent Concentration Allowance (ECA): 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).

Enclosed Bays: indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Notice of Enrollment: A notice from the Regional Board to the discharger that the NOI application has been accepted and the project is enrolled in this WDR. The Notice of Enrollment will specify the discharge flow limit, any additional or increase in monitoring due to specific circumstances of the discharge, or other requirements.

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

Estuaries: waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters: all surface waters of the State that do not include the ocean, enclosed bays, or estuaries. Inland surface water consist of freshwater and do not have any measurable salinity.

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

Minimum Level (ML): 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: 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): those sample results less than the laboratory's MDL.

Notice of Intent (NOI): A form completed and signed by a Discharger notifying the Regional Board that the Discharger is applying for enrollment under the terms and conditions of the WDR and will comply with the WDR for a groundwater extraction activity at a specific site.

Notice of Termination (NOT): A letter completed and signed by a Discharger notifying the Regional Board that the Discharger no longer wishes to discharge under the WDR. Submission of a NOT constitutes notice that the owner (and his/her agent) of the site identified on the letter has ceased discharge groundwater associated with groundwater extraction activities at the site under this WDR.

Ocean Waters: the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board's California Ocean Plan.

Permanent groundwater extraction activities: Groundwater extraction operations for structures which 1) are not designed or constructed to withstand hydrostatic pressure or do not preclude infiltration of groundwater, and 2) require removal of groundwater to prevent water infiltration to the structure(s).

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

Radius of Influence: The radial distance from the center of a wellbore to the point where there is no lowering of the water table or potentiometric surface (the edge of the cone of depression).

Reporting Level (RL): the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this WDR. The MLs included in this WDR correspond to approved analytical methods for reporting a sample result that are selected by the Regional 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.

Satellite Collection System: the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Six-Month Median Effluent Limitation: the highest allowable median of all daily discharges, based on 24-hour flow-weighted composite samples, for any 180-day period.

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

Standard Deviation (σ): 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.

Temporary Discharge: Discharge of extracted groundwater waste from groundwater cleanup with a projected cleanup date and subsurface excavation that requires groundwater extraction that is not a permanent groundwater extraction activity.

Discharges of groundwater for the purpose of protecting subterranean structures from groundwater infiltration are not considered groundwater cleanup projects, whether or not such discharges cleanup or remove pollutants from the groundwater. These activities may be covered under the statewide general NPDES permit for discharges from utility vaults and underground structures to surface water (CAG990002).

Toxicity Reduction Evaluation (TRE): 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.)

Waters of the United States or waters of the U.S.: (40 e-CFR 122.2, March 20, 2007) (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which

would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition; (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial sea; and (g) “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Attachment B1 – Notice of Intent Form

NOTICE OF INTENT

TO DISCHARGE GROUNDWATER EXTRACTION WASTE TO SURFACE WATERS WITHIN THE SAN DIEGO REGION

EXCEPT FOR SAN DIEGO BAY

SUBJECT TO GENERAL WASTE DISCHARGE REQUIREMENTS IN ORDER NO. R9-2008-0002 (NPDES NO. CAG919002)

GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM GROUNDWATER EXTRACTION AND SIMILAR WASTE DISCHARGES TO SURFACE WATERS WITHIN THE SAN DIEGO REGION EXCEPT FOR SAN DIEGO BAY (WDR)

Attach Form 200 (completed and signed) and additional sheets as necessary to provide complete information requested in this Notice of Intent (NOI).

I. STIPULATION OF APPLICABILITY AND CERTIFICATION

☐ I have determined that the groundwater extracted waste discharge will be to navigable waters of the United States within the San Diego Region and that any violation of effluent limits will be subject to Mandatory Minimum Penalties under California Water Code section 13385(h) and (i).

☐ I have determined that this discharge is eligible for enrollment in this General "Waste Discharge Requirements" (WDR) because the discharge will comply with the Discharge Specifications of this WDR.

☐ I have read this WDR Order No. R9-2008-0002 and hereby certify that:

1. I understand the requirements of Order No. R9-2008-0002.

2. The enclosed information describing my proposed groundwater extraction waste discharge is accurate and describes a discharge that meets the requirements of Order No. R9-2008-0002, which is the applicable general groundwater extraction waste discharge permit.

3. I will comply with all terms, conditions, and requirements of WDR Order No. R9-2008-0002.

I. STIPULATION OF APPLICABILITY AND CERTIFICATION

I certify under penalty of law that this document, Form 200, and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure 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 directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility will be complied with.

A. Printed Name:	
B. Signature*:	C. Date:
D. Title:	

*The appropriate person must sign the application form.
Acceptable signatures are:
1. for a corporation, a principal executive officer of at least the level of senior vice-president;
2. for a partnership or individual (sole proprietorship), a general partner or the proprietor;
3. for a governmental or public agency, either a principal executive officer or ranking elected/appointed official.

II. ITEMS REQUIRED FOR DETERMINING ELIGIBILITY

☐ A. Identify and discuss technical and economic feasibility of alternative disposal options.

☐ B. If discharging to an MS4, obtain authorization from the appropriate municipality and submit proof.

☐ C. Submit scale appropriate vicinity map(s).

☐ D. Submit a completed and signed Form 200 (*Application/Report of Waste Discharge, General Information for Waste Discharge Requirements or NPDES Permit*).

III. NOTICE OF INTENT STATUS

A. Is this a renewal of an expiring WDR? 1. ☐ No 2.☐ Yes, Order No.: _____

IV. GROUNDWATER EXTRACTION INFORMATION

A. Nature of Groundwater Extraction Activity:
1. ☐ Subsurface Excavation
   a.☐ Foundation b. ☐ Tunneling c.☐ Construction d.☐ Footing e.☐ Other _____
2. ☐ Remediation Project
3. ☐ Other _____

B. ☐ This project is associated with a project that requires Regional Board license, permit, or oversight?
Explain: Construction storm water, 401 Certifications, WDR, UST or cleanup project, etc.

C. Duration and Start Date
1. Proposed Start Date of Groundwater Extraction Discharge: _____

2. Estimated Duration of Groundwater Extraction Discharge: _____

D. 1.☐ Describe the historical use of the land within the cone/radius of influence.

2. ☐ Identify all known contamination sites and ground water plumes within half mile of each groundwater extraction point to be used in the project.
Attach a source of contamination description and list of constituents.
Attach site assessment (If one has been done)

E. For each discharge point identify the location of discharge according to the following: (show in vicinity map)
1. ☐ Storm Drain, ☐ Attach proof of authorization from the appropriate municipality for the discharge into the storm drain or conveyance used to convey the discharge.
2. ☐ Directly into surface water, ☐ submerged or ☐ on the surface

3. Salinity of the Tributary at the discharge point _____

F. Will treatment be required to meet the Discharge Specifications of this WDR?
1.☐ Yes 2.☐ No
If Yes, attach the following:
a. ☐ A report certifying the adequacy of each component of the treatment facilities or other type of contingency plan. The report shall also certify that:
(1) ☐ all treatment facility startup and operation instruction manuals are adequate and available to operating personnel,
(2) ☐ adequate treatment facility maintenance and testing (if treatment facilities are on “standby”) schedules are included in the treatment facility operations manual,
(3) ☐ treatment facilities and appurtenances can be fully operational, as designed, within 24 hours, and
(4) ☐ influent and effluent sampling locations or ports are located in areas where samples representative of the waste stream to be monitored can be obtained.
b. ☐ The design engineer shall affix his/her signature and engineering license number to this certification report.

IV. GROUNDWATER EXTRACTION INFORMATION

G. Additional Attachments
1. ☐ Describe best management practices (bmp) and contingency plan.
2. ☐ Provide the results of the analysis of the groundwater to be extracted for all of those constituents, as determined by the sampling requirement criteria described in this WDR, for the proposed receiving water type.

V. RECEIVING WATER INFORMATION

A. Name of receiving water(s): (San Diego River, Rainbow Creek, Pacific Ocean, etc.)

B. Describe the types of receiving waters affected: (bay, creek, river, etc.)

C. Receiving water flows seasonally 1.☐ Yes 2.☐ No

D. More than one discharge point is proposed?

1.☐ Yes 2.☐ No If Yes, how many? _____

And distance between points _____
Include in Vicinity Map

3. Location of Discharge Points: (attach)
Example: Outfall 001 (Latitude and Longitude)

E. Proposed Flow (MGD or gpd) of the discharge:

1. Maximum Discharge: _____

2. Average Daily Flowrate: _____

3. Basis for flow rate estimates (if necessary attach):

F. Hydrologic Subarea Number(s) at the point of discharge:

VI. APPLICATION FEE

The initial fee and annual fee are based upon the type of pollutants to be discharged or potentially discharged.

Make checks payable to "SWRCB" and include the project's name in the "memo" field.

☐ **Category 3 Lowest Threat to Water Quality**
The discharge will not require any treatment.
Current fee is $1,000 plus $185 surcharge = $1,185

☐ **Category 2 Moderate Threat to Water Quality**
The discharge will be from a well that has a contaminated site within the radius of influence.
Current fee is $2,900 plus $537 surcharge = $3,437

☐ **Category 1 Highest Threat to Water Quality**
The discharge will require treatment to meet effluent limitations.
Current fee is $4,800 plus $888 surcharge = $5,688

VII. ANTIDEGREDATION POLICIES

A. ☐ Statement of compliance with 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16 (attach) (collectively antidegredation policies)

40 CFR 131.12 Antidegradation policy.
(a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:
(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
(2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.
(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.
(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.

RESOLUTION NO, 68-16
STATEMENT OF POLICY WITH RESPECT TO MAINTAINING HIGH QUALITY OF WATERS IN CALIFORNIA
WHEREAS the California Legislature has declared that it is the policy of the State that the granting of permits and licenses for unappropriated water and the disposal of wastes into the waters of the State shall be so regulated as to achieve highest water quality consistent with maximum benefit to the people of the State and shall be controlled so as to promote the peace, health, safety and welfare of the people of the State; and
WHEREAS water quality control policies have been and are being adopted for waters of the State; and
WHEREAS the quality of some waters of the State is higher than that established by the adopted policies and it is the intent and purpose of this Board that such higher quality shall be maintained to the maximum extent possible consistent with the declaration of the Legislature;

NOW, THEREFORE, BE IT RESOLVED:
1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.
2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the 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.
3. In implementing this policy, the Secretary of the Interior will be kept advised and will be provided with such information as he will need to discharge his responsibilities under the Federal Water Pollution Control Act.

BE IT FURTHER RESOLVED that a copy of this resolution be forwarded to the Secretary of the Interior as part of California's water quality control policy submission.
CERTIFICATION
The undersigned, Executive Officer of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 24, 1968.
Dated: October 28, 1968
Kerry W. Mulligan, Executive Officer
State Water Resources Control Board

VIII. CALIFORNIA CONSTITUTION COMPLIANCE

A. ☐ Discuss the potential uses of the extracted groundwaters, efforts made to ensure use to the fullest extent possible and compliance with Article 10, Section 2 of the California Constitution (attach)

CALIFORNIA CONSTITUTION
ARTICLE 10 WATER
SEC. 2. It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled.

This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.

Submit the NOI, first annual fee, map, and other attachments to the following address:

CRWQCB – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Attn: Groundwater Extraction to San Diego Region
Core Regulatory Unit
NOTICE OF INTENT

IX. STATE USE ONLY

WDID:	Staff Initials:	Status: ☐ Complete ☐ Incomplete ☐ Withdrawn ☐ Pending Additional Information
Date NOI Received:	Check #:	
Date NOI Processed:	Fee Amount Received: $	
CIWQS Place # :	CIWQS Reg. Meas. # :	
Comments:		

Attachment B2 – Priority Toxic Pollutants
Source: [65 FR 31711, May 18, 2000, as amended at 66 FR 9961, Feb. 13, 2001; 68 FR 62747, Nov. 6, 2003]

Table in Paragraph (b)(1) of 40 CFR 131.38 —126 PRIORITY POLLUTANTS
Numeric criteria for priority toxic pollutants for the State of California

A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. [d] B1	Criterion Continuous Conc. [d] B2	Criterion Maximum Conc. [d] C1	Criterion Continuous Conc. [d] C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
1. Antimony	7440360					14 a,s	4300 a,t
2. Arsenic [b]	7440382	340 i,m,w	150 i,m,w	69 i,m	36 i,m		
3. Beryllium	7440417					n	n
4. Cadmium [b]	7440439	4.3 e,i,m,w,x	2.2 e,i,m,w	42 i,m	9.3 i,m	n	n
5a. Chromium (III)	16065831	550 e,i,m,o	180 e,i,m,o			n	n
5b. Chromium (VI) [b]	18540299	16 i,m,w	11 i,m,w	1100 i,m	50 i,m	n	n
6. Copper [b]	7440508	13 e,i,m,w,x	9.0 e,i,m,w	4.8 i,m	3.1 i,m	1300	
7. Lead [b]	7439921	65 e,i,m	2.5 e,i,m	210 i,m	8.1 i,m	n	n
8. Mercury [b]	7439976	[Reserved]	[Reserved]	[Reserved]	[Reserved]	0.050 a	0.051 a
9. Nickel [b]	7440020	470 e,i,m,w	52 e,i,m,w	74 i,m	8.2 i,m	610 a	4600 a
10. Selenium [b]	7782492	[Reserved] p	5.0 q	290 i,m	71 i,m	n	n
11. Silver [b]	7440224	3.4 e,i,m		1.9 i,m			
12. Thallium	7440280					1.7 a,s	6.3 a,t
13. Zinc [b]	7440666	120 e,i,m,w,x	120 e,i,m,w	90 i,m	81 i,m		
14. Cyanide [b]	57125	22 o	5.2 o	1 r	1 r	700 a	220,000 a,j
15. Asbestos	1332214					7,000,000 fibers/L k,s	
16. 2,3,7,8-TCDD (Dioxin)	1746016					0.000000013 c	0.000000014 c
17. Acrolein	107028					320 s	780 t
18. Acrylonitrile	107131					0.059 a,c,s	0.66 a,c,t
19. Benzene	71432					1.2 a,c	71 a,c
20. Bromoform	75252					4.3 a,c	360 a,c
21. Carbon Tetrachloride	56235					0.25 a,c,s	4.4 a,c,t
22. Chlorobenzene	108907					680 a,s	21,000 a,j,t
23. Chlorodibromomethane	124481					0.401 a,c	34 a,c
24. Chloroethane	75003						
25. 2-Chloroethylvinyl Ether	110758						

Table in Paragraph (b)(1) of 40 CFR 131.38 —126 PRIORITY POLLUTANTS

Numeric criteria for priority toxic pollutants for the State of California

A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. [d] B1	Criterion Continuous Conc. [d] B2	Criterion Maximum Conc. [d] C1	Criterion Continuous Conc. [d] C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
26. Chloroform	67663					[Reserved]	[Reserved]
27. Dichlorobromomethane	75274					0.56 a,c	46 a,c
28. 1,1-Dichloroethane	75343						
29. 1,2-Dichloroethane	107062					0.38 a,c,s	99 a,c,t
30. 1,1-Dichloroethylene	75354					0.057 a,c,s	3.2 a,c,t
31. 1,2-Dichloropropane	78875					0.52 a	39 a
32. 1,3-Dichloropropylene	542756					10 a,s	1,700 a,t
33. Ethylbenzene	100414					3,100 a,s	29,000 a,t
34. Methyl Bromide	74839					48 a	4,000 a
35. Methyl Chloride	74873					n	n
36. Methylene Chloride	75092					4.7 a,c	1,600 a,c
37. 1,1,2,2-Tetrachloroethane	79345					0.17 a,c,s	11 a,c,t
38. Tetrachloroethylene	127184					0.8 c,s	8.85 c,t
39. Toluene	108883					6,800 a	200,000 a
40. 1,2-Trans-Dichloroethylene	156605					700 a	140,000 a
41. 1,1,1-Trichloroethane	71556					n	n
42. 1,1,2-Trichloroethane	79005					0.60 a,c,s	42 a,c,t
43. Trichloroethylene	79016					2.7 c,s	81 c,t
44. Vinyl Chloride	75014					2 c,s	525 c,t
45. 2-Chlorophenol	95578					120 a	400 a
46. 2,4-Dichlorophenol	120832					93 a,s	790 a,t
47. 2,4-Dimethylphenol	105679					540 a	2,300 a
48. 2-Methyl-4,6-Dinitrophenol	534521					13.4 s	765 t
49. 2,4-Dinitrophenol	51285					70 a,s	14,000 a,t
50. 2-Nitrophenol	88755						
51. 4-Nitrophenol	100027						
52. 3-Methyl-4-Chlorophenol	59507						
53. Pentachlorophenol	87865	19 f,w	15 f,w	13	7.9	0.28 a,c	8.2 a,c,j
54. Phenol	108952					21,000 a	4,600,000 a,j,t
55. 2,4,6-Trichlorophenol	88062					2.1 a,c	6.5 a,c
56. Acenaphthene	83329					1,200 a	2,700 a
57. Acenaphthylene	208968						
58. Anthracene	120127					9,600 a	110,000 a

Table in Paragraph (b)(1) of 40 CFR 131.38 —126 PRIORITY POLLUTANTS

Numeric criteria for priority toxic pollutants for the State of California

A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. [d] B1	Criterion Continuous Conc. [d] B2	Criterion Maximum Conc. [d] C1	Criterion Continuous Conc. [d] C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
59. Benzidine	92875					0.00012 a,c,s	0.00054 a,c,t
60. Benzo(a)Anthracene	56553					0.0044 a,c	0.049 a,c
61. Benzo(a)Pyrene	50328					0.0044 a,c	0.049 a,c
62. Benzo(b)Fluoranthene	205992					0.0044 a,c	0.049 a,c
63. Benzo(ghi)Perylene	191242						
64. Benzo(k)Fluoranthene	207089					0.0044 a,c	0.049 a,c
65. Bis(2-Chloroethoxy)Methane	111911						
66. Bis(2-Chloroethyl)Ether	111444					0.031 a,c,s	1.4 a,c,t
67. Bis(2-Chloroisopropyl)Ether	39638329					1,400 a	170,000 a,t
68. Bis(2-Ethylhexyl)Phthalate	117817					1.8 a,c,s	5.9 a,c,t
69. 4-Bromophenyl Phenyl Ether	101553						
70. Butylbenzyl Phthalate	85687					3,000 a	5,200 a
71. 2-Chloronaphthalene	91587					1,700 a	4,300 a
72. 4-Chlorophenyl Phenyl Ether	7005723						
73. Chrysene	218019					0.0044 a,c	0.049 a,c
74. Dibenzo(a,h)Anthracene	53703					0.0044 a,c	0.049 a,c
75. 1,2 Dichlorobenzene	95501					2,700 a	17,000 a
76. 1,3 Dichlorobenzene	541731					400	2,600
77. 1,4 Dichlorobenzene	106467					400	2,600
78. 3,3'-Dichlorobenzidine	91941					0.04 a,c,s	0.077 a,c,t
79. Diethyl Phthalate	84662					23,000 a,s	120,000 a,t
80. Dimethyl Phthalate	131113					313,000 s	2,900,000 t
81. Di-n-Butyl Phthalate	84742					2,700 a,s	12,000 a,t
82. 2,4-Dinitrotoluene	121142					0.11 c,s	9.1 c,t
83. 2,6-Dinitrotoluene	606202						
84 Di-n-Octyl Phthalate	117840						
85. 1,2-Diphenylhydrazine	122667					0.040 a,c,s	0.54 a,c,t
86. Fluoranthene	206440					300 a	370 a
87. Fluorene	86737					1,300 a	14,000 a
88. Hexachlorobenzene	118741					0.00075 a,c	0.00077 a,c
89. Hexachlorobutadiene	87683					0.44 a,c,s	50 a,c,t
90. Hexachlorocyclopentadiene	77474					240 a,s	17,000 a,j,t
91. Hexachloroethane	67721					1.9 a,c,s	8.9 a,c,t

Table in Paragraph (b)(1) of 40 CFR 131.38 —126 PRIORITY POLLUTANTS

Numeric criteria for priority toxic pollutants for the State of California

A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. [d] B1	Criterion Continuous Conc. [d] B2	Criterion Maximum Conc. [d] C1	Criterion Continuous Conc. [d] C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
92. Indeno(1,2,3-cd) Pyrene	193395					0.0044 a,c	0.049 a,c
93. Isophorone	78591					8.4 c,s	600 c,t
94. Naphthalene	91203						
95. Nitrobenzene	98953					17 a,s	1,900 a,j,t
96. N-Nitrosodimethylamine	62759					0.00069 a,c,s	8.1 a,c,t
97. N-Nitrosodi-n-Propylamine	621647					0.005 a	1.4 a
98. N-Nitrosodiphenylamine	86306					5.0 a,c,s	16 a,c,t
99. Phenanthrene	85018						
100. Pyrene	129000					960 a	11,000 a
101. 1,2,4-Trichlorobenzene	120821						
102. Aldrin	309002	3 g		1.3 g		0.00013 a,c	0.00014 a,c
103. alpha-BHC	319846					0.0039 a,c	0.013 a,c
104. beta-BHC	319857					0.014 a,c	0.046 a,c
105. gamma-BHC	58899	0.95 w		0.16 g		0.019 c	0.063 c
106. delta-BHC	319868						
107. Chlordane	57749	2.4 g	0.0043 g	0.09 g	0.004 g	0.00057 a,c	0.00059 a,c
108. 4,4'-DDT	50293	1.1 g	0.001 g	0.13 g	0.001 g	0.00059 a,c	0.00059 a,c
109. 4,4'-DDE	72559					0.00059 a,c	0.00059 a,c
110. 4,4'-DDD	72548					0.00083 a,c	0.00084 a,c
111. Dieldrin	60571	0.24 w	0.056 w	0.71 g	0.0019 g	0.00014 a,c	0.00014 a,c
112. alpha-Endosulfan	959988	0.22 g	0.056 g	0.034 g	0.0087 g	110 a	240 a
113. beta-Endosulfan	33213659	0.22 g	0.056 g	0.034 g	0.0087 g	110 a	240 a
114. Endosulfan Sulfate	1031078					110 a	240 a
115. Endrin	72208	0.086 w	0.036 w	0.037 g	0.0023 g	0.76 a	0.81 a,j
116. Endrin Aldehyde	7421934					0.76 a	0.81 a,j
117. Heptachlor	76448	0.52 g	0.0038 g	0.053 g	0.0036 g	0.00021 a,c	0.00021 a,c
118. Heptachlor Epoxide	1024573	0.52 g	0.0038 g	0.053 g	0.0036 g	0.00010 a,c	0.00011 a,c
119-125. Polychlorinated biphenyls (PCBs)			0.014 u		0.03 u	0.00017 c,v	0.00017 c,v
126. Toxaphene	8001352	0.73	0.0002	0.21	0.0002	0.00073 a,c	0.00075 a,c
Total Number of Criteria [h]		22	21	22	20	92	90

Footnotes to Table in paragraph(b)(1) of 40 CFR 131.38 —126 PRIORITY POLLUTANTS:

a. Criteria revised to reflect the Agency q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of October 1, 1996. The fish tissue bioconcentration factor (BCF) from the 1980 documents was retained in each case.

b. Criteria apply to California waters except for those waters subject to objectives in Tables III–2A and III–2B of the San Francisco Regional Water Quality Control Board's (SFRWQCB) 1986 Basin Plan that were adopted by the SFRWQCB and the State Water Resources Control Board, approved by EPA, and which continue to apply. For copper and nickel, criteria apply to California waters except for waters south of Dumbarton Bridge in San Francisco Bay that are subject to the objectives in the SFRWQCB's Basin Plan as amended by SFRWQCB Resolution R2–2002–0061, dated May 22, 2002, and approved by the State Water Resources Control Board. EPA approved the aquatic life site-specific objectives on January 21, 2003. The copper and nickel aquatic life site-specific objectives contained in the amended Basin Plan apply instead.

c. Criteria are based on carcinogenicity of 10 (-6) risk.

d. Criteria Maximum Concentration (CMC) equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects. Criteria Continuous Concentration (CCC) equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. ug/L equals micrograms per liter.

e. Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. The equations are provided in matrix at paragraph (b)(2) of this section. Values displayed above in the matrix correspond to a total hardness of 100 mg/l.

f. Freshwater aquatic life criteria for pentachlorophenol are expressed as a function of pH, and are calculated as follows: Values displayed above in the matrix correspond to a pH of 7.8. CMC = exp(1.005(pH)−4.869). CCC = exp(1.005(pH)−5.134).

g. This criterion is based on 304(a) aquatic life criterion issued in 1980, and was issued in one of the following documents: Aldrin/Dieldrin (EPA 440/5–80–019), Chlordane (EPA 440/5–80–027), DDT (EPA 440/5–80–038), Endosulfan (EPA 440/5–80–046), Endrin (EPA 440/5–80–047), Heptachlor (440/5–80–052), Hexachlorocyclohexane (EPA 440/5–80–054), Silver (EPA 440/5–80–071). The Minimum Data Requirements and derivation procedures were different in the 1980 Guidelines than in the 1985 Guidelines. For example, a “CMC” derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

h. These totals simply sum the criteria in each column. For aquatic life, there are 23 priority toxic pollutants with some type of freshwater or saltwater, acute or chronic criteria. For human health, there are 92 priority toxic pollutants with either “water + organism” or “organism only” criteria. Note that these totals count chromium as one pollutant even though EPA has developed criteria based on two valence states. In the matrix, EPA has assigned numbers 5a and 5b to the criteria for chromium to reflect the fact that the list of 126 priority pollutants includes only a single listing for chromium.

i. Criteria for these metals are expressed as a function of the water-effect ratio, WER, as defined in paragraph (c) of this section. CMC = column B1 or C1 value×WER; CCC = column B2 or C2 value×WER.

j. No criterion for protection of human health from consumption of aquatic organisms (excluding water) was presented in the 1980 criteria document or in the 1986 Quality Criteria for Water. Nevertheless, sufficient information was presented in the 1980 document to allow a calculation of a criterion, even though the results of such a calculation were not shown in the document.

k. The CWA 304(a) criterion for asbestos is the MCL.

l. [Reserved]

m. These freshwater and saltwater criteria for metals are expressed in terms of the dissolved fraction of the metal in the water column. Criterion values were calculated by using EPA's Clean Water Act 304(a) guidance values (described in the total recoverable fraction) and then applying the conversion factors in §131.36(b)(1) and (2).

n. EPA is not promulgating human health criteria for these contaminants. However, permit authorities should address these contaminants in NPDES permit actions using the State's existing narrative criteria for toxics.

o. These criteria were promulgated for specific waters in California in the National Toxics Rule ("NTR"), at §131.36. The specific waters to which the NTR criteria apply include: Waters of the State defined as bays or estuaries and waters of the State defined as inland, i.e., all surface waters of the State not ocean waters. These waters specifically include the San Francisco Bay upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. This section does not apply instead of the NTR for this criterion.

p. A criterion of 20 ug/l was promulgated for specific waters in California in the NTR and was promulgated in the total recoverable form. The specific waters to which the NTR criterion applies include: Waters of the San Francisco Bay upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta; and waters of Salt Slough, Mud Slough (north) and the San Joaquin River, Sack Dam to the mouth of the Merced River. This section does not apply instead of the NTR for this criterion. The State of California adopted and EPA approved a site specific criterion for the San Joaquin River, mouth of Merced to Vernalis; therefore, this section does not apply to these waters.

q. This criterion is expressed in the total recoverable form. This criterion was promulgated for specific waters in California in the NTR and was promulgated in the total recoverable form. The specific waters to which the NTR criterion applies include: Waters of the San Francisco Bay upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta; and waters of Salt Slough, Mud Slough (north) and the San Joaquin River, Sack Dam to Vernalis. This criterion does not apply instead of the NTR for these waters. This criterion applies to additional waters of the United States in the State of California pursuant to 40 CFR 131.38(c). The State of California adopted and EPA approved a site-specific criterion for the Grassland Water District, San Luis National Wildlife Refuge, and the Los Banos State Wildlife Refuge; therefore, this criterion does not apply to these waters.

r. These criteria were promulgated for specific waters in California in the NTR. The specific waters to which the NTR criteria apply include: Waters of the State defined as bays or estuaries including the San Francisco Bay upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. This section does not apply instead of the NTR for these criteria.

s. These criteria were promulgated for specific waters in California in the NTR. The specific waters to which the NTR criteria apply include: Waters of the Sacramento-San Joaquin Delta and waters of the State defined as inland (i.e., all surface waters of the State not bays or estuaries or ocean) that include a MUN use designation. This section does not apply instead of the NTR for these criteria.

t. These criteria were promulgated for specific waters in California in the NTR. The specific waters to which the NTR criteria apply include: Waters of the State defined as bays and estuaries including San Francisco Bay upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta; and waters of the State defined as inland (i.e., all surface waters of the State not bays or estuaries or ocean) without a MUN use designation. This section does not apply instead of the NTR for these criteria.

u. PCBs are a class of chemicals which include aroclors 1242, 1254, 1221, 1232, 1248, 1260, and 1016, CAS numbers 53469219, 11097691, 11104282, 11141165, 12672296, 11096825, and 12674112, respectively. The aquatic life criteria apply to the sum of this set of seven aroclors.

v. This criterion applies to total PCBs, e.g., the sum of all congener or isomer or homolog or aroclor analyses.

w. This criterion has been recalculated pursuant to the 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, Office of Water, EPA–820-B–96–001, September 1996. See also Great Lakes Water Quality Initiative Criteria Documents for the Protection of Aquatic Life in Ambient Water, Office of Water, EPA–80–B–95–004, March 1995.

x. The State of California has adopted and EPA has approved site specific criteria for the Sacramento River (and tributaries) above Hamilton City; therefore, these criteria do not apply to these waters.

40 CFR 131.38 Editorial Note: At 66 FR 9961, Feb. 13, 2001, §131.38 was amended in the table to paragraph (b)(1) under the column heading for "B Freshwater" by revising the column headings for "Criterion Maximum Concentration" and "Criterion Continuous Concentration"; under the column heading for "C Saltwater" by revising the column headings for "Criterion Maximum Concentration" and "Criterion Continuous Concentration"; and by revising entries "23." and "67.", effective Feb. 13, 2001. However, this is a photographed table and the amendments could not be incorporated into the text. For the convenience of the user, the amended text is set forth as follows:

1) § 131.38 Establishment of Numeric Criteria for priority toxic pollutants for the State of California.

(b)(1) * * *

A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS number	Criterion maximum conc. (µg/L)[d] B1	Criterion continous conc. (µg/L)[d] B2	Criterion maximum conc. (µg/L)[d] C1	Criterion continious conc. (µg/L)[d] C2	Water & organisms (µg/L) D1	Organisms only (µg/L) D2
*	*	*	*	*	*	*	
23. Chlorodibromomethane	124481					[a,c]0.41	[a,c]34
*	*	*	*	*	*	*	
67. Bis(2-Chloroisopropyl)Ether	108601					[a]1,400	[a,t]170,000
*	*	*	*	*	*	*	

Attachment C – (Not applicable)

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 WDR. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, 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 WDR has not 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 WDR [*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 WDR 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 WDR. 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 WDR [*40 CFR §122.41(e)*].

E. Property Rights

1. This WDR does not convey any property rights of any sort or any exclusive privileges [40 CFR §122.41(g)].

2. The issuance of this WDR 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 Quality Control Board (Regional Board), California State Water Resources Control Board (State 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)*] [*CWC 13383(c)*]:

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 WDR [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 WDR [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 WDR [40 CFR §122.41(i)(3)];

4. Sample or monitor, at reasonable times, for the purposes of assuring WDR compliance or as otherwise authorized by the CWA or the CWC, 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 and I.G.5 below [40 CFR §122.41(m)(2)].

3. Prohibition of bypass – Bypass is prohibited, and the Regional 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)(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)(B)]; and

   c. The Discharger submitted notice to the Regional Board as required under Standard Provision – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].

4. The Regional Board may approve an anticipated bypass, after considering its adverse effects, if the Regional 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 [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 paragraph H.2 of this section 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)(i)];

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [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 WDR 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 WDR condition [*40 CFR §122.41(f)*].

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the CWA for a toxic pollutant which is present in the discharge, and that standard or prohibition is more stringent than any limitation on the pollutant in this WDR, this WDR shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the Discharger so notified.

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this WDR after the expiration date of this WDR, the Discharger must apply for and obtain a new permit [*40 CFR §122.41(b)*] or submit a new NOI for re-enrollment.

C. Transfers

This Order is not transferable to any person because the Regional Board is required to modify or revoke and reissue this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*]. A new owner or operator shall submit an NOI application to enroll in this WDR and the previous owner or operator shall submit a NOT.

D. Severability

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

E. Pollution, Contamination, or Nuisance [CWC §13050]

Neither the treatment nor the discharge shall create a condition of pollution, contamination or nuisance.

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 40 CFR section 136 or, in the case of sludge use or disposal, approved under 40 CFR section 136 unless otherwise specified in 40 CFR section 503 unless other test procedures have been specified in this WDR [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

IV. Standard Provisions – Records

A. Except for records of monitoring information required by this WDR 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 40 CFR section 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 WDR, and records of all data used to complete the application for this WDR, 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 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 Board, State Board, or USEPA within a reasonable time, any information which the Regional Board, State Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this WDR or to determine compliance with this WDR. Upon request, the Discharger shall also furnish to the Regional Board, State Board, or USEPA copies of records required to be kept by this WDR [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Board, State Board, and/or USEPA shall be signed and certified in accordance with paragraph (B.2) and (B.3) of this provision [40 CFR §122.41(k)].

2. All permit applications shall be signed as follows:

a. For a corporation: 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)];

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [40 CFR §122.22(a)(2)]; or

c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [40 CFR §122.22(a)(3)].

3. All reports required by this WDR and other information requested by the Regional Board, State Board, or USEPA shall be signed by a person described in paragraph (B.2) of this provision, 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 paragraph (B.2) of this provision [40 CFR §122.22(b)(1)];

b. The authorization specified 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 Board, State Board, or USEPA [40 CFR §122.22(b)(3)].

4. If an authorization under paragraph (B.3) of this provision 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 paragraph (B.3) of this provision must be submitted to the Regional Board, State Board or USEPA 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 paragraph (B.2) or (B.3) of this provision 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 MRP in this WDR [40 CFR §122.41(l)(4)].

2. Monitoring results must be reported on a Self-Monitoring Report (SMR) form or forms provided or specified by the Regional Board or State 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 WDR using test procedures approved under 40 CFR section 136 or, in the case of sludge use or disposal, approved under 40 CFR section 136 unless otherwise specified in 40 CFR section 503, or as specified in this WDR, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the SMR or sludge reporting form specified by the Regional 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 WDR [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 WDR, 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 WDR [40 CFR §122.41(l)(6)(ii)(A)].

   b. Any upset that exceeds any effluent limitation in this WDR [40 CFR §122.41(l)(6)(ii)(B)].

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this WDR to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].

3. The Regional 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 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 40 CFR §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 which

are subject neither to effluent limitations in this WDR nor to notification requirements under 40 CFR section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [40 CFR §122.41(l)(1)(ii)]; or

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 Board or State Board of any planned changes in the permitted facility or activity that may result in noncompliance with the requirements of this WDR [*40 CFR §122.41(l)(2)].*

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Discharge Monitoring Quality Assurance (DMQA) Program [STATE WATER BOARD/USEPA 106 MOA]

The Discharger shall conduct appropriate analyses on any sample provided by USEPA as part of the DMQA program. The results of such analyses shall be submitted to USEPA's DMQA manager.

J. 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 Board, State Board, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. Standard Provisions – Enforcement

A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved

under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [40 CFR §122.41(a)(2)] [CWC 13385 and 13387].

B. Any person may be assessed an administrative penalty by the Regional Board for violating CWA section 301, 302, 306, 307, 308, 318 or 405, or any permit condition or limitation implementing any of such sections in a permit issued under CWA section 402. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day, during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [40 CFR §122.41(a)(3)].

C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both [40 CFR §122.41(j)(5)].

D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this WDR, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by

a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR §122.41(k)(2)].

VII. Additional Provisions – Notification Levels

A. Non-Municipal Facilities

Dischargers of existing manufacturing, commercial, mining, and silvicultural wastes shall notify the Regional 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 WDR, 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 Board in accordance with 40 CFR 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 WDR, 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 Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(2)(iv)].

B. Publicly-Owned Treatment Works (POTWs) (Not Applicable)

Attachment E – Monitoring and Reporting Program (MRP)

Title 40 of the Code of Federal Regulations (CFR) section 122.48 requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the California Regional Water Quality Control Board (Regional Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. General Monitoring Provisions

A. 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 location identified in the representative sampling and analysis program. Another waste stream, body of water, or substance shall not dilute the monitored discharge. Monitoring points shall not be changed without notification to and the approval of the appropriate Regional Board.

B. Monitoring must be conducted according to USEPA test procedures approved under 40 CFR section 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, unless other test procedures are specified in this WDR and/or by the appropriate Regional Board.

C. If the Discharger monitors any pollutant more frequently than required by this WDR using test procedures approved under 40 CFR section 136, or as specified in this WDR or by the appropriate Regional Board, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the Discharger's Annual Report. The increased frequency of monitoring shall also be reported.

D. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this WDR.

E. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the appropriate Regional Board.

F. All monitoring instruments and devices used by the Discharger to fulfill the monitoring program shall be properly maintained and calibrated to ensure accuracy. All flow measurement devices shall be calibrated at least once per year to ensure accuracy of the devices.

G. Order No. R9-2008-0002 may be modified by the Regional Board and EPA to enable the discharger to participate in comprehensive regional monitoring activities conducted in the Southern California Bight during the term of this permit. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the

Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. If predictable relationships among the biological, water quality and effluent monitoring variables can be demonstrated, it may be appropriate to decrease the discharger's sampling effort. Conversely, the monitoring program may be intensified if it appears that the objectives cannot be achieved through the discharger's existing monitoring program. These changes will improve the overall effectiveness of monitoring in the Southern California Bight. Minor changes may be made without further public notice.

II. Monitoring Locations

A. Dischargers enrolling for the first time under this WDR shall develop a representative sampling and analysis program to be used as case studies to represent the typical types of discharges occurring within their service areas. This study, to be submitted as the first annual report, will include the monitoring locations and rationale for choosing those locations.

B. Re-enrollees must submit a new case study defining monitoring locations and rationale for these locations, if there are new types of discharges.

III. Influent Monitoring Requirements (Not Applicable)

IV. Effluent Monitoring Requirements

A. Dischargers who are enrolling for the first time under this WDR shall develop a representative sampling and analysis program based on the discharge anticipated from the extracted groundwater activity as compared to the Effluent Limitations and Discharge Specifications established in this Permit to ensure the discharge will not violate Regional Board Discharge Prohibitions.

B. The Regional Board may increase monitoring requirements on a case-by-case basis. Additional monitoring for individual discharges may be required, where necessary, to show that during the term of the discharge, applicable water quality objectives will be maintained.

C. For certain metals, the hardness of the receiving water is required to calculate the effluent limit, therefore the Discharger shall measure the hardness of the receiving water at the same frequency as metals analysis.

D. Treatment System Status

The daily status (e.g., onsite, in operation/on standby, etc.) of any treatment systems used to achieve compliance with this WDR or the Notice of Enrollment from the Regional Board shall be reported monthly.

~~1)~~E. ~~D.~~ GROUNDWATER DISCHARGE MONITORING

1. For discharges associated with gasoline or diesel underground or above ground storage tanks (Remediation Projects) (as determined by the Regional Board), the discharge monitoring shall be conducted as listed below. For remediation of groundwaters containing individual solvents (e.g. trichloroethylene, tetrachloroethane, etc.) not associated with fuel products, or other substances with effluent concentration limitations in Order No. R9-2008-0002 ~~2001-96~~, the monitoring requirements may be modified in the Notice of Enrollment to include a sampling frequency of once every two weeks for the individual compound(s) present in lieu of benzene, ethylbenzene, toluene, and xylene (collectively BTEX) monitoring requirements, provided that BTEX are not present, and the results reported monthly:

~~(b)~~(a) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Flowrate	gpd	NA	daily	monthly
Total Nitrogen[1]	mg/L	grab	quarterly	quarterly
	lb/d	"	"	"
Total Phosphorus[1]	mg/L	"	"	"
	lb/d	"	"	"
Settleable Solids	ml/L	"	"	"
	lb/d	"	"	"
Total Suspended Solids	mg/L	"	quarterly	quarterly
	lb/d	"	"	"

~~(c)~~(b) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Hydrogen Sulfide	µg/L	grab	semiannually	semiannually
	lb/d	"	"	"
Total Residual Chloride (TRC)[2]	µg/L	"	daily if	monthly
	lb/d	"	chlorinating	"
pH	Units	"	monthly	monthly
Benzene ~~CTR~~	µg/L	"	every 2	monthly
	lb/d	"	weeks	"
Ethylbenzene ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Toluene ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Xylene	µg/L	"	"	"
	lb/d	"	"	"
MTBE	µg/L	"	"	"
Total Petroleum	µg/L	"	monthly	monthly

Hydrocarbons[3]	lb/d	"	"	"
Tributyltin	µg/L	"	semiannually	semiannually
	lb/d	"	"	"
Arsenic CTR	µg/L	"	"	"
	lb/d	"	"	"
Cadmium CTR	µg/L	"	"	"
	lb/d	"	"	"
Chromium 4, CTR	µg/L	"	"	"
(hexavalent)	lb/d	"	"	"
Copper CTR	µg/L	"	"	"
	lb/d	"	"	"
Lead CTR	µg/L	"	quarterly	quarterly
	lb/d	"	"	"
Mercury CTR	µg/L	"	semiannually	semiannually
	lb/d	"	"	"
Nickel CTR	µg/L	"	"	"
	lb/d	"	"	"
Silver CTR	µg/L	"	"	"
	lb/d	"	"	"
Zinc CTR	µg/L	"	"	"
	lb/d	"	"	"
Cyanide CTR	µg/L	"	"	"
	lb/d	"	"	"
Phenolic Compounds	µg/L	"	"	"
(non-chlorinated)	lb/d	"	"	"

~~(d)~~(c) Constituent	**Units**	**Sample Type**	**Analysis Frequency**	**Reporting Frequency**
Chlorinated Phenolics	µg/L	grab	semiannually	semiannually
	lb/d	"	"	"
Acute Toxicity	TUa	"	quarterly	quarterly
Chronic Toxicity[5]	TUc	"	"	"
1,1,2,2-Tetrachloroethane (PCA)[6, CTR]	µg/L	"	semiannually	semiannually
1,1,1-Trichloroethane (TCA)[6, CTR]	mg/L	"	"	"
1,1,2-Trichloroethane (TCA)[6, CTR]	mg/L	"	"	"
1,2-Dichloroethane[6, CTR]	µg/L	"	"	"
Tetrachloroethylene (PCE)[6, CTR]	µg/L	"	"	"
Trichloroethylene CTR (TCE)[6]	µg/L	"	"	"
Vinyl Chloride[6, CTR]	µg/L	"	"	"

Carbon Tetrachloride[6, CTR]	µg/L	"	"	"
Base/Neutrals[7]	µg/L	"	"	"
	lb/d	"	"	"
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2. For discharges which are not associated with gasoline or diesel underground or above ground storage tanks (as determined by the Regional Board), discharge monitoring shall be conducted as follows[8]:

~~(e)~~(d) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Flowrate	gpd	na	daily	quarterly
Total Nitrogen[1]	mg/L	grab	quarterly	quarterly
Total Phosphorus[1]	mg/L	"	"	"
Settleable Solids	ml/L	"	"	"
	lb/d	"	"	"
Total Suspended	mg/L	"	"	"
Solids	lb/d	"	"	"
Hydrogen Sulfide	mg/L	"	semiannually	semiannually
	lb/d	"	"	"
Total Residual	µg/L	"	daily if	monthly
Chlorine (TRC)[2]	lb/d	"	chlorinating	"
pH	Units	"	monthly	quarterly

~~(f)~~(e) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Total Petroleum	µg/L	grab	quarterly	quarterly
Hydrocarbons[3]	lb/d	"	"	"
MTBE	µg/L	"	"	"
Tributyltin	µg/L	"	semiannually	semiannually
	lb/d	"	"	"
Arsenic ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Cadmium ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Chromium ~~4, CTR~~	µg/L	"	"	"
(hexavalent)	lb/d	"	"	"
Copper ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Lead ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Mercury ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"

Nickel ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Silver ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Zinc ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Cyanide ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Phenolic Compounds	µg/L	"	"	"
(non-chlorinated)	lb/d	"	"	"
Chlorinated Phenolics	µg/L	"	"	"
	lb/d	"	"	"
Acute Toxicity	TUa	"	quarterly	quarterly
Chronic Toxicity~~5~~	TUc	"	"	"
Base/Neutrals~~7~~	µg/L	"	semiannually	semiannually
	lb/d	"	"	"
126 Priority Pollutants – Attachment B2 ~~D~~ (Excluding Above Marked Pollutants)		"	"	"

3. For long term discharges (greater than 6 months) in RURAL AREAS (as determined by the Regional Board), discharge monitoring shall be conducted as follows[8]:

~~(g)~~(f)	Constituent	Units	Analysis Sample Type	Reporting Frequency
Flowrate	gpd	na	daily	monthly
Total Nitrogen[1]	mg/L	grab	quarterly	quarterly
Total Phosphorus[1]	mg/L	"	"	"
	lb/d	"	"	"
Settleable Solids	ml/L	"	"	"
	lb/d	"	"	"
Total Suspended Solids	mg/L	"	"	"
Hydrogen Sulfide	µg/L	"	"	"
Total Petroleum Hydrocarbons[3]	µg/L	"	"	"
Total Residual Chlorine (TRC)[2]	µg/L	"	daily if chlorinating	monthly
	lb/d	"		"
pH	Units	"	monthly	quarterly
MTBE	µg/L	"	quarterly	quarterly
Acute Toxicity	TUa	"	semiannually	semiannually
Chronic Toxicity[5]	TUc	"	"	"
Base/Neutrals[7]	µg/L	"	"	"
a. 126 Priority Pollutants – Attachment ~~D~~ B2			"	"

4. For short term (duration of 6 months or less at a particular groundwater extraction site) discharges in RURAL AREAS, monitoring shall be conducted as follows:

~~(h)~~(g) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Flowrate	gpd	na	daily	monthly
Total Nitrogen[1]	mg/L	grab	every two weeks	monthly
Total Phosphorus[1]	mg/L	"	"	"
	lb/d	"	"	"
Settleable Solids	ml/L	"	"	"
	lb/d	"	"	"
Total Suspended Solids	mg/L	"	"	"
Hydrogen Sulfide	µg/L	"	"	"
Total Petroleum Hydrocarbons[3]	µg/L	"	every two weeks	monthly
Total Residual Chlorine (TRC)[2]	µg/L	"	daily if	"
	lb/d	"	chlorinating	"
pH	Units	"	monthly	quarterly

MTBE	µg/L	"	quarterly	"

~~(i)~~(h) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Acute Toxicity	TUa	grab	semiannually	semiannually
Chronic Toxicity[5]	TUc	"	"	"
Base/Neutrals[7]	µg/L	"	"	"
a. 126 Priority Pollutants – Attachment B2 ~~D~~		"	"	"

5. For short term (duration of 6 months or less at a particular groundwater extraction site) discharges in URBAN AREAS, discharge monitoring shall be conducted as follows[8]:

~~(i)~~(i) Constituent	Units	Sample Type	Analysis Frequency	Reporting Frequency
Flowrate	gpd	NA	daily	monthly
Total Nitrogen[1]	mg/L	grab	every other week	"
Total Phosphorus[1]	mg/L	"	"	"
Settleable Solids	ml/L	"	"	"
	lb/d	"	"	"
Total Suspended	mg/L	"	"	"
Solids	lb/d	"	"	"
Hydrogen Sulfide	mg/L	"	"	"
	lb/d	"	"	"
Total Residual	µg/L	"	daily if	"
Chlorine (TRC)[2]	lb/d	"	chlorinating	"
pH	Units	"	every other week	"
Total Petroleum	µg/L	"	"	"
Hydrocarbons[3]	lb/d	"	"	"
MTBE	µg/L	"	"	"
Tributyltin	µg/L	"	semiannually	semiannually
	lb/d	"	"	"
Arsenic ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Cadmium ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Chromium ~~4, CTR~~	µg/L	"	"	"
(hexavalent)	lb/d	"	"	"
Copper ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Lead ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Mercury ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"

Nickel ~~CTR~~	µg/L	grab	"	"
	lb/d	"	"	"
~~(k)~~(j) Constituent	**Units**	**Sample Type**	**Analysis Frequency**	**Reporting Frequency**
Silver ~~CTR~~	µg/L	"	semiannually	semiannually
	lb/d	"	"	"
Zinc ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Cyanide ~~CTR~~	µg/L	"	"	"
	lb/d	"	"	"
Phenolic Compounds	µg/L	"	"	"
(non-chlorinated)	lb/d	"	"	"
Chlorinated Phenolics	µg/L	"	"	"
	lb/d	"	"	"
Chronic Toxicity~~5~~	TUc	"	quarterly	quarterly
Base/Neutrals~~7~~	µg/L	"	"	"
	lb/d	"	"	"
126 Priority Pollutants – Attachment B2 ~~D~~ (Excluding Above Marked Pollutants)	"		semiannually	semiannually

6. For discharges associated with Sewer System Replacement, or Wastewater Treatment Plant Construction or Expansion Projects, in addition to monitoring for those Constituents listed in Monitoring Provision E~~D.1, D.2, D.3, D.4, or D.5~~, discharge monitoring shall be conducted for the following~~8~~:

Constituent	Units	Sample Type	Minimum Frequency Of Analysis	Reporting Frequency
Total Coliform	MPN100/ml	grab	weekly	Monthly
Fecal Coliform	"	"	"	"
Dissolved Oxygen	mg/L	"	"	"
126 Priority Pollutants – Attachment B2 ~~D~~	---	"	semiannually	Semiannually

a)

E. RECEIVING WATER MONITORING

The discharger shall obtain a monthly upstream sample of the receiving water if the discharge is to a river or stream; or from an area unaffected by the discharge for other receiving waters, and analyze the sample for turbidity and report the results monthly. The turbidity of the receiving water is necessary to determine compliance of the effluent turbidity. The discharger shall also submit a monthly report discussing any turbidity plumes created by the discharge including a description (e.g., color, extent, duration, etc.) of any turbidity plumes.

~~———~~For discharges to surf zones, in lieu of obtaining turbidity samples in unaffected areas, the discharger shall submit a monthly report describing (e.g., color, extent, duration, etc.) any turbidity plumes caused by the discharge.

The Regional Board may increase receiving water monitoring requirements on a case-by-case basis. Additional receiving water monitoring for individual discharges may be required, where necessary, to show that during the term of the discharge, applicable surface water quality objectives will be maintained.

For certain metals, the hardness of the receiving water is required to calculate the effluent limit, therefore the discharger shall measure the hardness of the receiving water at the same frequency as metals analysis.

~~2)~~F. ANNUAL SUMMARY OF MONITORING DATA

A summary of monitoring data for the previous year shall be submitted to the Regional Board previous to March 1st of each year. The report shall contain both tabular and graphical summaries of the previous year's data. If the duration of the discharge is six months or less, an annual summary is not required.

~~3)~~G. REPORT OF DISCHARGE TERMINATION

Within thirty days of the termination of the discharge, the discharger shall submit a letter to the Regional Board specifying the date the groundwater extraction waste discharge was terminated.

~~4)~~H. REPORTING FREQUENCY

Monitoring reports shall be submitted to the Regional Board in accordance with the following schedule:

REPORTING FREQUENCY	REPORT PERIOD	REPORT DUE
Monthly	January, February March, April, May June, July, August September, October November, December	By the 30th day of the following month*.

* The monthly report for January is due no later than February 28th

Quarterly	January - March	April 30
	April - June	July 30
	July - September	October 30
	October - December	January 30
Semiannually	January - June	July 30
	July - December	January 30
Annual	January - December	March 1

Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code Section 13176, and must include quality assurance/quality control data with their reports.

The results of such analysis shall be reported in the annual report. Grab samples shall be collected at the applicable point of discharge (either at the storm drain or the receiving water). If a Discharger monitors the above constituents more frequently than required by this WDR, then the results of such monitoring shall be included in the calculation and reporting of the data submitted in the annual report. Separate annual reports are required for each region.

~~E.~~I. 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 WDR, and records of all data used to complete the application for this WDR, for a period of at least five years from the date of the sample, measurement, report, or application. This period may be extended by request of this Regional Board. These records shall include:

1. The date, place, and time of site inspections, sampling, visual observation, and/or measurement;
2. The individual(s) who performed the site inspections, sampling, visual observations, and/or measurements;
3. The dimension, size and/or volume of vault;
4. Flow measurements (if required) and duration of discharge;
5. The estimated volume of discharge;
6. The date and time of analyses;
7. The laboratory, staff, or wholesaler who performed the analyses; and
8. Analytical results.

~~F.~~J. Toxicity Reduction Evaluation (TRE)

The enrollee shall develop a Toxicity Reduction Evaluation (TRE) workplan. The workplan shall be subject to the approval of the Regional Board and shall be modified as directed by the Regional Board. Enrollees shall submit the TRE workplan to the Regional Board upon request of the Regional Board. The TRE workplan shall be developed no later than six months after adoption of this WDR in accordance with the following manuals:

1. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070).

2. Toxicity Identification Evaluation (TIE), Phase I (EPA/600/6-91/005F).

3. Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080).

4. Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081).

~~G.~~K. If toxicity-testing results show a violation of any acute toxicity limitation identified in Discharge Specifications of this WDR, the enrollee shall:

1. Take all reasonable measures necessary to immediately minimize toxicity; and

2. Increase the frequency of the toxicity test(s), which showed a violation, to at least two times per month until the results of at least two consecutive toxicity tests do not show violations.

~~H.~~L. If the Regional Board determines that toxicity testing shows consistent violation of any acute toxicity limitation identified in Discharge Specifications of this WDR, the enrollee shall conduct a TRE that includes all reasonable steps to identify the source of toxicity. Once the source of toxicity is identified, the enrollee shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations identified in Discharge Specifications of this WDR.

~~I.~~M. Within 14 days of completion of the TRE, the enrollee shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations of this WDR and to prevent recurrence of violations of those limitations, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Regional Board.

V. Whole Effluent Toxicity Testing Requirements ~~(Not Applicable)~~

Whole effluent toxicity (WET) tests measure the aggregate toxic effect of a mixture of pollutants that may be present in a waste stream and provides information on potential toxic impacts to receiving waters from the discharge of wastes. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach provides a means of assessing compliance with the narrative toxicity water quality objective for aquatic life protection of the Basin Plan while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and development.

This order requires that a Toxicity Reduction Evaluation (TRE) be conducted if a discharge causes or contributes to chronic toxicity in a receiving water body. This WDR requires the Discharger to periodically monitor the toxicity of its

discharge and to develop a TRE Workplan if the toxicity effluent limitations are exceeded.

VI. Land Discharge Monitoring Requirements (Not Applicable)

VII. Reclamation Monitoring Requirements (Not Applicable)

VIII. Receiving Water Monitoring Requirements – SURFACE WATER AND GROUNDWATER (Not Applicable)

IX. Other Monitoring Requirements (Not Applicable)

X. Reporting Requirements

A. General Monitoring and Reporting Requirements

All reports submitted in response to this WDR shall comply with signatory requirements set forth in the Standard Provisions.

B. Self Monitoring Reports (SMRs) to State and Regional Board

1. At any time during the term of this permit, the State or Regional Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State 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. The Discharger shall submit annual monitoring results to the Regional Board by the 20th day of March for the preceding calendar year. The Discharger shall report in the SMR the results for all monitoring specified in this MRP. The Discharger shall submit annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this WDR. If the Discharger monitors any pollutant more frequently than required by this WDR, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

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

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

c. SMRs must be submitted to the appropriate Regional Board, signed and certified as required by the Standard Provisions (Attachment D).

C. Discharge Monitoring Reports (DMRs) to EPA

When requested by USEPA, the Discharger shall also complete and submit Discharge Monitoring Reports to USEPA. The submittal date shall be specified in the request.

D. OTHER REPORTS (NOT APPLICABLE)

Attachment F – Fact Sheet

As described in section III of this WDR, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this WDR.

I. Permit Information

A. INTRODUCTION

This Order establishes a WDR regulating the discharge of groundwater extraction waste discharges to surface waters in the San Diego Region except San Diego Bay from all construction groundwater extraction, and similar waste discharges.

B. BACKGROUND

In 1972, the Federal Water Pollution Control Act, currently referred to as the Federal Clean Water Act (CWA), was amended to provide that the discharge of pollutants to waters of the United States from any point source is prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The federal regulations allow authorized states to issue either general permits or individual permits to regulate discharges of pollutants to waters of the United States. On January 28, 1991, the California Regional Water Quality Control Board, San Diego Region (Regional Board) issued a General Waste Discharge Requirement for Groundwater Remediation and Dewatering Wastes Discharges to Surface Waters within the San Diego Region except for San Diego Bay (Order No. 91-10~~7~~). The permit was reissued two more times on June 13, 1996 (Order No. 96-41) and October 10, 2001 (Order No. 2001-96).

In accordance with Title 40, Code of Federal Regulations (CFR), the Regional Board must meet general program requirements prior to the re-issuance and adoption of a general NPDES permit. General program requirements include preparing a draft WDR, public noticing, allowing a public comment period, and conducting a public hearing. To meet these requirements, the Regional Board prepared a draft WDR. The tentative WDR was made available to interested parties and posted on the Regional Board's website on February 5, 2008 for comments. A public hearing to receive testimony from interested parties was scheduled for March 12, 2008. A public hearing notice was posted in the San Diego Union-Tribune, The Riverside Press-Enterprise, and The Orange County Register, ~~a~~ major newspapers in the San Diego Region, on February 8, 2008. The public written comment period ended March 5, 2008 and the public oral comment period ended March 12, 2008 at the Regional Board meeting.

C. GENERAL CRITERIA

Extracted groundwater may contain pollutants which may be found in groundwaters as a result of decomposition of organic materials (e.g., hydrogen

sulfide), leaking underground storage tanks and fuel lines, surface spills, sewage, past use of liquid waste impoundments, or the potential presence of nutrients (phosphorus and nitrogen compounds).

The San Diego Regional Water Quality Control Board (hereinafter Regional Board) is aware that petroleum pollutant plumes exist in groundwaters in areas subject to construction groundwater extraction. In addition to construction groundwater extraction discharges, groundwater remediation projects required by cleanup and abatement orders issued by the Regional Board may require the discharge of treated groundwater. In addition to petroleum products and solvents, groundwaters may contain elevated concentrations of other pollutants that could degrade surface waters. These other pollutants may include metals, nutrients (nitrogen and phosphorus), hydrogen sulfide, solids, and other inorganic and organic compounds.

Existing and proposed discharges of groundwater extraction waste from construction groundwater extraction, foundation groundwater extraction, and groundwater cleanup projects:

a) Result from similar operations (all involve extraction and discharge of groundwater);

b) Are the same type of waste (all are groundwater);

c) Require similar effluent limitations for the protection of the beneficial uses of the receiving waters;

d) Require similar monitoring; and

e) Are more appropriately regulated under a general permit rather than individual permits.

Order No. 2001-96, applied to all groundwater extraction waste discharges of greater than 100,000 gpd. For purposes of renewing NPDES permit No. 2001-96 (Tentative Order No. R9-2008-0002), historical monitoring data has been reviewed. Based on the data review results, lack of complaints of adverse impacts to water quality and/or beneficial uses of the receiving waters, and lack of documentation of adverse impacts to water quality and/or beneficial uses of the receiving waters, discharges of groundwater to all receiving waters within the region except discharges to San Diego Bay less than 100,000 gallons per day and where no known contamination exists, probably will not have an adverse effect on the receiving water/environment.

This WDR does <u>not</u> cover:

STORM WATER - Storm water runoff due to construction activities. These activities may be covered under the statewide general NPDES permit for storm water discharges associated with construction activities (CAS000002), the

statewide general NPDES permit for Storm Water Runoff Associated With Small Linear Underground/Overhead Construction Projects (CAS000005), and/or Clean Water Act (CWA) Section 401 Water Quality Certifications.

SANITARY SEWER - Discharges to a sanitary sewer. These discharges do not need coverage under the NPDES Program, although the agency controlling the sanitary sewer must approve discharges to its conveyance system.

UTILITY VAULTS - Discharges from utility vaults and underground structures. These activities may be covered under the statewide general NPDES permit for discharges from utility vaults and underground structures to surface water Order No. 2006-0008-DWQ (CAG990002).

HYDROSTATIC/ POTABLE WATER – Discharges from drinking water well development. These discharges are covered in Order No. R9-2002-0020 (CAG679001).

Notification Requirements

The purpose of this WDR is to facilitate regulation of discharges from groundwater extraction activities. To obtain coverage under this WDR, the Discharger must submit a Notice of Intent (NOI), a project map(s), an initial Monitoring Report, and first annual fee. Signing the certification on the NOI signifies that the Discharger intends to comply with the provisions and requirements of this WDR. AN NOI must be signed to be valid.

D. DISCHARGE TO A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

Prior to discharging into an MS4, the Discharger shall demonstrate alternatives to discharging extracted groundwater waste into an MS4 and why it is technically or economically infeasible to implement these alternatives.

Without prior approval from the appropriate local agency with jurisdiction over the MS4, the discharger shall not discharge extracted groundwater waste under this WDR into an MS4.

Local agencies responsible for operating the MS4s may not passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the MS4 operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

Therefore, at least 30 days prior to initiating an extracted groundwater discharge to an MS4, the Discharger shall notify and receive authorization from the appropriate local agency with jurisdiction over the MS4. This requirement encourages communication between Dischargers enrolled under this WDR and

local agencies responsible for MS4s in an effort to reduce misunderstandings and concerns over the types of discharges covered by this WDR.

E. DISCHARGE DESCRIPTION

Groundwaters in some urban areas are known to be contaminated with petroleum products and solvents due to underground storage tank leaks and pipeline leaks. Discharges of groundwater to receiving waters within the region will be required to comply with the effluent limitations contained in this Order and protect the beneficial uses of the receiving waters.

Regional Board staff expects that a number of the groundwater project proponents will propose discharges to surface waters which will require National Pollutant Discharge Elimination System (NPDES) permits.

Any discharge of untreated groundwater to a surface water may cause or contribute to excursions above narrative water quality objectives contained in the Ocean Plan and/or Basin Plan as a result of the potential discharge of petroleum related compounds, solvents, and metals.

~~20.~~ Enrollees under this WDR that are in close proximity of the ocean, a bay, harbor, lagoon or estuary, may encounter saline groundwater, in which case the use of EPA Method 1638, and EPA Method 1640 (Clean Technologies) would be appropriate for the analysis of metals in saline samples.

FACILITY DESCRIPTIONS - TREATMENT FACILITIES AND OUTFALLS

This general NPDES permit contains effluent limitations which may require the application of 'best available treatment economically achievable' for the removal of petroleum products and organic compounds from each groundwater project proponent's discharge. The general NPDES permit will require each Enrollee to certify the adequacy of each component of treatment facilities or a contingency plan prior to initiating a discharge. Each Enrollee's certification report shall contain a requirement-by-requirement analysis, based on accepted engineering practice, of how the contingency plan or process and physical design of the facilities will ensure compliance with this Order.

Groundwater may be discharged to a variety of receiving waters, storm drains, or other conveyance systems tributary to receiving waters within the region. Because outfalls are not designed to achieve maximum initial dilution and dispersion of discharges, initial dilution factors for discharges to inland surface waters, bays, estuaries, and lagoons are conservatively assumed to equal zero.

An initial dilution factor of three is assumed for discharges to the surf zone. The initial dilution factor is based on a preliminary dilution model submitted by Professor Gerhard H. Jirka, School of Civil and Environmental Engineering, Cornell University, for a dewatering project for the international treatment facility ocean outfall near Tijuana. This particular model assumes that:

a) Mixing of the dewatering discharge is primarily controlled by wave-induced turbulence and longshore conditions;

b) 0.55 meter wave height with a 15 second period occurring with a 95 percent exceedance probability;

c) A longshore velocity of 5 to 10 centimeters per second; and

d) A near-shore beach slope of 3 percent.

The model results in an initial dilution ratio of six. Since the model does not represent topographic and wave conditions throughout the region, the initial dilution factor for discharges to surf zones was halved.

F. DESCRIPTION OF WASTEWATER AND BIOSOLIDS TREATMENT OR CONTROLS (NOT APPLICABLE)

G. DISCHARGE POINTS AND RECEIVING WATERS

Under the WDR, there may be multiple discharge points. Additional information regarding the receiving waters can be found in the completed NOI which describes the discharge and identifies the points of discharge.

The Comprehensive Water Quality Control Plan Report, San Diego Basin (9), (Basin Plan) was adopted by this Regional Board on September 8, 1994, and subsequently approved by the State Water Resource Control Board (hereinafter SWRCB) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and approved by the SWRCB. The Basin Plan designates beneficial uses, narrative and numerical water quality objectives, and prohibitions which are applicable to the groundwater extraction waste discharges regulated under this Order.

The Basin Plan identifies the following beneficial uses of the surface waters in the San Diego Region to be protected (not all surface waters have all of the beneficial uses listed below):

- Municipal and domestic supply;
- Agricultural supply;
- Industrial service supply;
- Industrial process supply;
- Groundwater recharge;
- Freshwater replenishment;
- Navigation;
- Hydropower generation;

- Contact water recreation;
- Non-contact water recreation;
- Commercial and sport fishing;
- Warm freshwater habitat;
- Cold freshwater habitat;
- Preservation of Biological Habitats of Special Significance;
- Inland saline water habitat;
- Wildlife habitat;
- Rare, threatened, or endangered species;
- Marine habitat;
- Migration of aquatic organisms;
- Spawning, reproduction, and/or early development;
- Shellfish harvesting;
- Estuarine habitat; and
- Aquaculture

In order to protect these beneficial uses, the Basin Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharge to the bays/harbors, quality requirements for waste discharges (effluent water quality requirements), discharge prohibitions, and general provisions.

The SWRCB adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on ~~July 23, 1997~~April 21, 2005. The Ocean Plan identifies the following beneficial uses of state ocean waters to be protected:

- Industrial water supply;
- Navigation;
- Aesthetic enjoyment;
- Water contact recreation;
- Non-contact water recreation;
- Fish migration;
- Mariculture;
- Marine habitat;
- Preservation and enhancement of areas of special biological significance;
- Preservation and enhancement of rare and endangered species;
- Fish spawning;
- Shellfish harvesting
- Ocean commercial and sport fishing;

The Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharge to the ocean, quality requirements for waste discharges (effluent water quality requirements), discharge prohibitions, and general provisions.

Beneficial uses of the bays and estuaries in the San Diego Region are similar to those of the Ocean Waters of the State. In order to protect the beneficial uses of the bays and estuaries, discharge specifications and receiving water quality limitations for some parameters, derived from the Ocean Plan, have been included in this Order for discharges to bays and estuaries (when open to the ocean and consisting of marine waters). If a lagoon or estuary is not open to the Pacific Ocean and consists of fresh water, discharges shall comply with the requirements established in this Order for discharges to inland surface waters.

This region has continuous and ephemeral rivers and streams, bays, estuaries, lagoons, and approximately 85 miles of coastline. No receiving waters covered under the terms and conditions of this Order have been designated an outstanding national resource water by the SWRCB. However, Heisler Park Ecological Reserve, located in coastal waters near the City of Laguna Beach, the San Diego-La Jolla Ecological Reserve, and the San Diego Marine Life Refuge, located in coastal waters near La Jolla, a community of the City of San Diego, have been designated an Area of Special Biological Significance (ASBS) by the SWRCB. The Water Quality Control Plan for Ocean Waters of California (Ocean Plan) contains the following prohibitions applicable to ASBSs:

"Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas."

Tentative Order No. R9-2008-0002 prohibits the discharge of extraction waste to the above ASBSs

H. SUMMARY OF EXISTING REQUIREMENTS AND SELF-MONITORING REPORT DATA

Order No. 2001-96, which this WDR replaces, requires the Discharger not to exceed the Effluent Limitations for a number of constituents, and to monitor and report ~~these~~ the concentration and mass of the constituents in their discharge. Significant changes occurred in the Effluent Limitation requirements for some constituents. Effluent Limitations under Order No. 2001-96 were developed using the CTR, while the SIP was used for this WDR.

I. Compliance Summary (Not Applicable)

J. Planned Changes (Not Applicable)

II. Applicable Plans, Policies, and Regulations

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

A. Legal Authorities

This WDR is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as an NPDES permit for point source discharges from groundwater extraction waste discharges to surface waters. This WDR also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

States may request authority to issue general NPDES permits pursuant to 40 CFR section 122.28. On June 8, 1989, the State Board submitted an application to the USEPA requesting revisions to its NPDES Program in accordance with 40 CFR 122.28, 123.62, and 403.10. The application included a request to add general permit authority to its approved NPDES Program. On September 22, 1989, the USEPA, Region 9, approved the State Board's request and granted authorization for the State to issue general NPDES permits.

B. California Environmental Quality Act (CEQA)

This action to adopt a NPDES permit is exempt from the provisions of CEQA (Public Resources Code section 21100, et seq.) in accordance with CWC section 13389 for the following reasons: 1) A Discharger cannot obtain coverage under this WDR if pollutants in the discharge, cause, contribute, or have the reasonable potential to cause or contribute to a water quality standards violation; 2) The permit requires Dischargers to monitor and report the discharge to ensure the Dischargers will not cause a violation; and 3) The Regional Board's granting of the exceptions does not have the potential for causing significant adverse environmental effects. See California Code of Regulations, Title 14, section 15061(b)(3).

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan**
   On September 8, 1994, the Regional Board adopted a Water Quality Control Plan for the San Diego Region (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. In addition, State Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Board assigns the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plans.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR)**
   USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995, and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

3. **State Implementation Policy (SIP)**

On March 2, 2000, the State Board adopted the SIP, which became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating Water Quality-Based Effluent Limitations (WQBELs), and requires Dischargers to submit data sufficient to do so. The State Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this WDR implement the SIP.

4. **Antidegradation Policy**

Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California's antidegradation policy in State Board Resolution No. 68-16, which incorporates the requirements of the federal antidegradation policy where applicable. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge shall be consistent with the antidegradation provision of 40 CFR section 131.12 and State Board Resolution No. 68-16.

5. **Anti-Backsliding Requirements**

Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the WDR are at least as stringent as the effluent limitations in the previous Order unless specified.

6. **Monitoring and Reporting Requirements**

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Boards to require technical and monitoring reports. The MRP establishes monitoring and reporting requirements to implement Federal and State requirements. This MRP is provided in Attachment E.

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

The federal Clean Water Act requires States to identify and make a list of surface water bodies that are polluted. These water bodies, referred to in law as "water quality limited segments," do not meet water quality standards even after discharges of wastes from point sources have been treated by the minimum required levels of pollution control technology. Wastewater treatment plants, a city's storm drain system, or a boat yard, are a few examples of point sources that discharge wastes to surface waters. States are required to compile the water bodies into a list, referred to as the "Clean Water Act Section 303(d) List of Water Quality Limited Segments" (303(d) List). States must also prioritize the water bodies on the list and develop action plans, called total maximum daily loads (TMDLs) to improve the water quality.

The State Board updated the 2004-2006 303(d) List for California on October 25, 2006, and EPA approved it on November 30, 2006.

There are approximately 100 impaired water bodies on the 303(d) List in the San Diego Region. Most TMDLs for water bodies within the San Diego Region are under development or have not been started. However, four TMDLs for the San Diego Region need only State Board approval to be complete, and three are already complete. Of the three completed TMDLs, two impact the water quality of San Diego Bay and the third impacts the water quality of Rainbow Creek.

E. Other Plans, Polices and Regulations

Ocean Plan
The State Board adopted the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005, it was approved by USEPA, and became effective on February 14, 2006. The Ocean Plan identifies the following beneficial uses of state ocean waters to be protected:

a. Industrial water supply;
b. Navigation;
c. Aesthetic enjoyment;
d. Water contact recreation;
e. Non-contact water recreation;
f. Ocean commercial and sport fishing;
g. Mariculture;
h. Preservation and enhancement of Areas of Special Biological Significance;
i. Preservation and enhancement of rare and endangered species;
j. Marine habitat;
k. Fish migration;
l. Fish spawning; and
m. Shellfish harvesting.

In order to protect the above beneficial uses, the Ocean Plan establishes water quality objectives (for bacteriological, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

Limits derived from the Ocean Plan have been included in this WDR to protect beneficial uses of enclosed bays and estuaries because their beneficial uses are similar to those of the ocean waters of the State.

F. ~~VII.~~ BASIS FOR WASTE DISCHARGE REQUIREMENTS

Section 402 of the federal Clean Water Act (CWA) gives the U.S. EPA the authority to issue NPDES permits for discharges into navigable waters and to prescribe conditions for such permits necessary to carry out the provisions of the CWA. In California, EPA has delegated this authority to the State of California.

The discharge of extracted groundwater threatens to cause or contribute to excursions above narrative water quality objectives as a result of the discharge of petroleum related compounds, metals, and organics. On May 26, 1989, the U.S. EPA enacted revisions to 40 CFR 122 (NPDES regulations). When a proposed discharged of a compound or chemical threatens to cause or contribute to an excursion above a State narrative water quality standard and a numeric water quality standard for the specific chemical has not been established, the NPDES revisions require the Regional Board to:

a) Establish an effluent limitation using a proposed State water quality objective or standard or an explicit State policy or regulation interpreting its narrative water quality objective which will protect and maintain water quality and designated beneficial uses of the receiving water;

b) Establish effluent limitations on a case-by-case basis, using EPA's water quality criteria published under 307(a) of the Federal Clean Water Act; or

c) Establish effluent limitations on an indicator parameter for the pollutants of concern (State Board memorandum dated November 3, 1989).

Groundwater pollutant plumes are often complex mixtures of hundreds of petroleum related compounds (e.g. gasoline contains over 200 chemical compounds) which makes complete chemical analyses very expensive and sometimes impracticable or impossible due to sample matrix interferences, constituent masking, or the lack of standard analytical techniques. Since water quality criteria for many of the petroleum hydrocarbon compounds have not been proposed or established by the State or EPA, the permit will require monitoring groundwater discharged using "indicator constituents" for the detection and evaluation of complex mixtures of petroleum related compounds such as gasoline and solvents. The indicator constituents used for evaluating compliance with the narrative water quality criteria in the permit for discharges of gasoline related

products are benzene, ethylbenzene, toluene, xylene, and total petroleum hydrocarbons, since it is believed that fuels have been adequately studied to justify limiting the analysis to these compounds.

On June 8, 1989, the SWRCB submitted an application to the U.S. EPA requesting revisions to its NPDES program in accordance with 40 CFR 123.62 and 403.10. The application included a request to add general permit authority to its approved NPDES program. States may request authority to issue general permits pursuant to 40 CFR 122.28. On September 22, 1989, the EPA, Region IX, approved the SWRCB's request and granted authorization for the State's issuance of general NPDES permits.

40 CFR 122.28 provides for the issuance of general permits to regulate discharges of waste which result from similar operations, are the same type of waste, require the same effluent limitations, require similar monitoring, and are more appropriately regulated under a general permit rather than individual permits.

In order to protect the beneficial uses of groundwaters and receiving waters in the region as a result of escalating numbers of groundwater extraction waste discharges, new permanent groundwater extraction waste discharges will be considered for enrollment on a case-by-case basis. The regulation of discharges from new permanent groundwater extraction operations to receiving waters will reduce the waste of groundwater as intended by Article X of the California Constitution and Section 275 of the California Water Code, and may reduce the potential number of new permanent discharges as intended by the federal Clean Water Act (Section 101(a)(1)) and the Water Quality Control Policy for Enclosed Bays and Estuaries of California.

The practice of permanent groundwater extraction for the purpose of protecting underground parking or other structures and the subsequent discharge of the groundwaters, without using the groundwaters to the "fullest extent to which they are capable, "as required by the California Constitution, is an unreasonable use of such waters, if the waters have designated beneficial uses. Article X, Section 2, of the California Constitution requires that "water resources of the State be put to beneficial use to the fullest extent of which they are capable and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare." Water Code Section 275 states, "The department and board shall take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state."

On March 2, 2000, the SWRCB, in Resolution No. 2000-15, adopted a Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Policy). The Policy implements the provisions promulgated by the U.S. Environmental Protection Agency (U.S. EPA) in the California Toxics Rule (CTR). Criteria for 126 priority pollutants are established by the CTR.

U.S. EPA promulgated this rule to fill a gap in California water quality standards that was created in 1994 when a State court overturned the State's water quality control plans containing water quality criteria for priority toxic pollutants. The Federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the Clean Water Act.

The Policy was effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the National Toxics Rule (NTR) and to the priority pollutant objectives established by Regional Boards in their water quality control plans (basin plans).

The U.S. EPA promulgated the final California Toxic Rule (CTR) on May 18, 2000, as required by Section 303(c)(2)(B) of the federal Clean Water Act. The CTR regulations, codified in 40 CFR 131.38, establish numeric criteria for water quality standards for priority toxic pollutants for the State of California.

The Policy establishes:

a) implementation provisions for priority pollutant criteria promulgated by the U.S. EPA through the National Toxic Rule (NTR) and the CTR, and for priority pollutant objectives established in the Basin Plan;

b) monitoring requirements for 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin) equivalents; and

c) Chronic toxicity control provisions.

Pursuant to Section 5.3 of the Policy, the Regional Board may, after compliance with the California Environmental Quality Act (CEQA), allow short-term or seasonal exceptions from meeting the priority pollutant criteria/objectives if determined to be necessary to implement control measures either:

a) For resource or pest management (i.e., vector or weed control, pest eradication, or fishery management) conducted by public entities to fulfill statutory requirements, including, but not limited for, those in the California Fish and Game, Food and Agriculture, Health and Safety, and Harbors and Navigation codes; or

b) Regarding drinking water conducted to fulfill statutory requirements under the federal Safe Drinking Water Act or the California Health and Safety Code. Such categorical exceptions may also be granted for draining municipal storm water conveyances for cleaning or maintenance, or for draining water treatment facilities for cleaning or maintenance.

Section 5.3 of the Policy states that, where site-specific conditions in individual water bodies or watersheds differ sufficiently from statewide conditions and those differences cannot be addressed through other provisions of this policy the SWRCB

may, in compliance with the California Environmental Quality Act (CEQA), subsequent to a public hearing, and with the concurrence of the U.S. Environmental Protection Agency, grant an exception to meeting a priority pollutant criterion/objective or any other provision of this Policy where the State Board determines:

a) The exception will not compromise protection of enclosed bay, estuarine, and inland surface waters for beneficial uses; and

b) The public interest will be served.

Section 402(a)(1) of the Clean Water Act authorizes the issuance of best available technology effluent limitations in NPDES permits using best professional judgement. Using best professional judgement, best available technology economically achievable for the removal of volatile and semi-volatile organic compounds, and analytical practical quantitation levels is the basis for effluent limitations, for these compounds, in the Discharge Specifications of the Order. Thus, best available technology economically achievable for the removal of organic compounds is the basis for effluent limitations for xylene and other volatile hydrocarbons, and base/neutral compounds (not included in 40 CFR 131.38).

Water Quality Based Effluent Discharge Specifications (limits) were established for this groundwater extraction waste discharge permit, using 40 CFR 131.38 (Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California), and the State's Implementation Policy. Water Quality Based Effluent Discharge Limits do not apply to discharges of extracted groundwater to the surf zone.

In general, there are two accepted technologies in use for the removal of synthetic organic compounds from water: aeration and adsorption. Removal efficiencies of volatile organic compounds through aeration processes can be estimated based on each compound's Henry's Law Coefficient (increasing coefficients indicate increasing volatility). Benzene is relatively soluble in water when compared to other fuel constituents and solvents. Any compound which has a Henry's Law coefficient greater than that of benzene will theoretically volatilize faster than benzene (assuming molecular or chemical interactions are nonexistent or minimized). Most of the compounds associated with fuel products and solvents commonly found in contaminated groundwater have Henry's Law Coefficients greater than that of benzene and will be efficiently removed through aeration if benzene is removed. The general consensus in the literature is that a 99 percent removal efficiency of volatile compounds with similar concentrations may be achieved through aeration processes. Based on best professional judgement, if benzene is removed from groundwater to levels approaching detection limits (practical quantitation level), other volatile organic compounds of concern (e.g., tetrachloroethylene, trichloroethylene, carbon tetrachloride, etc.) will be removed from the discharged groundwater as well.

Organic compounds which are not removed from groundwaters through aeration processes may be removed through adsorption processes (e.g., granular activated carbon). When properly designed and operated, most granular activated carbon systems can lower the concentration of synthetic organic contaminants to below detection limits.

In general, most synthetic organic contaminants can be removed from groundwaters using the aeration of adsorption processes or a combination thereof. Establishing effluent limitations in the practical quantitation limit range (1 to 5 □g/L) and monitoring requirements for BTEX as indicators of fuels, 40 CFR 136 listed volatile compounds as indicators of solvents, and base/neutral compounds as indicators of diesel product, will, based on best professional judgement, ensure that compounds of concern are not discharged in levels which will cause excursions from narrative water quality criteria or objectives.

On January 1, 1998, Senate Bill (SB) 521 was passed. SB521 adds language, applicable to leaking underground storage tanks, to the Health & Safety Code as follows: "Section 25299.37.1. No closure letter pursuant to this chapter shall be issued unless the soil or groundwater, or both, where applicable, at the site have been tested for Methyl Tertiary Butyl Ether (MTBE) and the results of that testing are known to the Regional Board." Subsequently, on February 20, 1998, the San Diego Regional Board, Site Mitigation & Cleanup Unit, issued written notification to interested parties of Mandatory MTBE Sampling For Underground Storage Tank (UST) Site Closures-Senate Bill (SB) 521. The February 20, 1998, notification specifies that "For ground water impacted sites or soil sites that may threaten ground water, both soil and ground water sampling and analysis for MTBE will be required."

The Porter-Cologne Water Quality Control Act (January 1, 2000), Section 13272.1 and Section 13285, address discharges of MTBE. The California Department of Health Services (DHS) last update (March 9, 2000) of California's Maximum Contaminant Levels (MCLs) for MTBE states the following:

As established by the DHS, the primary MCL is 13 µg/L for MTBE and the secondary MCL is 5 µg/L.

The Order requires that groundwater discharged to bays and estuaries must not contain pollutants in excess of applicable receiving water quality objectives contained in 40 CFR 131.38 (Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California), or effluent limitations based on achievable concentrations using best available technology (BAT), whichever results in a lower effluent concentration. Effluent limitations based on BAT are equal to or less than the practical quantitation level. Since the assumed initial dilution factor for the discharge is zero, a discharge could not cause an excursion from numeric receiving water quality objectives for Tables 1 and 2 (Groundwater Extraction Discharges to Bays and Harbors, and Groundwater Extraction Waste Discharges to Lagoons/Estuaries), if the discharge is in compliance with the effluent limitations contained in the Order. Likewise,

discharges to the surf zone cannot cause excursions from water quality objectives based on the preceding, and assuming that the dilution factor will always be greater than three.

For discharges to inland surface waters, effluent limitations are based on the EPA water quality criteria for the protection of aquatic species, the EPA water quality criteria for the protection of human health, effluent concentrations achievable using best available technology, 40 CFR 131.38 (Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California), or, in the cases where the receiving water is designated potable or municipal supply waters, maximum contaminant levels for municipal waters established by the California Department of Health Services. Since the assumed initial dilution factor for the discharge is zero and a mixing zone is not allowed, a discharge could not cause an excursion from numeric receiving water quality objectives if the discharge is in compliance with the effluent limitations contained in the Order.

No evidence that groundwaters in the region contain biocides, dioxins, or radiation has been found to date. However, discharges of pesticides in detectable concentrations to inland surface waters are prohibited by the Comprehensive Water Quality Control Plan Report, San Diego Basin (9) (Basin Plan), and by the Order.

In the adoption of waste discharge requirements and effluent limitations to protect the beneficial uses of waters of the State, Section 1300 et seq., of the California Water Code, authorizes the use of relevant water quality objectives or other criteria in the absence of numerical effluent concentration limitations in the Bays and Estuaries Policy.

Compliance with effluent limitations shall be determined as follows (pursuant to 40 CFR – 131.38):

a) Dischargers shall be deemed out of compliance with an effluent limitation if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

b) Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) when there is evidence (e.g., sample results reported as “Detected, but Not Quantified” (DNQ) when the effluent limitation is less than the Method Detection Limit (MDL), sample results from analytical methods more sensitive than those methods included in the permit, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that the priority pollutant is present in the effluent above an effluent limitation and either:

1) A sample result is reported as DNQ and the effluent limitation is less than the reported ML; or

2) A sample result is reported as Non-Detect (ND) and the effluent limitation is less than the MDL.

When determining compliance with an Average Monthly Effluent Limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reported ML, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP, the discharger shall not be deemed out of compliance.

III. Rationale For Effluent Limitations and Discharge Specifications

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. Effluent limitations are based on the following principles:

A. 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards;
B. 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality criteria have not been established, three options exist to protect water quality: 1) 40 CFR section 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed state criteria or a state policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established;
C. Any discharge of untreated groundwater to surface water in the San Diego Reigon threatens to cause or contribute to excursions above narrative

water quality objectives contained in the Basin Plan as a result of the potential discharge of petroleum related compounds, solvents, and metals.

On May 26, 1989, USEPA enacted revisions to NPDES program regulations (40 CFR 122). When a proposed discharge of a compound or chemical threatens to cause or contribute to an excursion above a State narrative water quality standard and a numeric water quality standard for the specific chemical has not been established, the NPDES program regulations require the Regional Board to do the following: 1) Establish effluent limitations using a proposed State water quality objective or standard, or an explicit State policy or regulation interpreting its narrative water quality objective which will protect and maintain water quality and designated beneficial uses of the receiving water; 2) Establish effluent limitations on a case-by-case basis, using USEPA's water quality criteria published under CWA section 307(a); or 3) Establish effluent limitations on an indicator parameter for the pollutants of concern; and

D. 40 CFR section 122.44(l) requires that when a permit is renewed or reissued, effluent limitations must be at least as stringent as the effluent limitations in the previous permit. Since this permit is a renewal of a previous permit, anti-backsliding is applicable and the following pollutants are included:

Settleable Solids
Total Suspended Solids
Hydrogen Sulfide
Total Residual Chlorine
pH
Benzene
Ethylbenzene
Toluene
Xylene
Total Petroleum Hydrocarbons
Arsenic
Cadmium
Chromium (hexavalent)
Copper
Lead
Mercury
Nickel
Silver
Zinc
Cyanide
Phenolic Compounds (non-chlorinated)
Chlorinated Phenolics
1,1,2,2-tetrachlorethane (PCA)
1,1,1-trichloroethane (TCA)
1,1,2-trichloroethane (TCA)
1,2-dichloroethane
Tetrachloroethylene (PCE)
Trichloroethylene (TCE)
Vinyl chloride
Carbon tetrachloride
Base/Neutral Organic Compounds
Acute Toxicity
Chronic Toxicity
Tributyltin (TBT)
Total Coliform
Fecal Coliform
Dissolved Oxygen (DO)

E. Methyl Tertiary-Butyl Ether (MTBE), is a chemical compound that is manufactured by the chemical reaction of methanol and isobutylene. MTBE is produced in very large quantities (over 200,000 barrels per day in the U.S. in 1999) and is almost exclusively used as a fuel additive in motor gasoline. It is one of a group of chemicals commonly known as "oxygenates" because they raise the oxygen content of gasoline. At room

temperature, MTBE is a volatile, flammable and colorless liquid that dissolves rather easily in water.

Because MTBE dissolves easily in water and does not "cling" to soil very well, it migrates faster and farther in the ground than other gasoline components, thus making it more likely to migrate to groundwater extraction wells. MTBE does not degrade (breakdown) easily and is difficult and costly to remove from groundwater.

On January 1, 1998, Senate Bill (SB) 521 was passed. SB521 adds language to the Health & Safety Code which is applicable to leaking underground storage tanks as follows: "Section 25299.37.1. No closure letter pursuant to this chapter shall be issued unless the soil or groundwater, or both, where applicable, at the site have been tested for Methyl Tertiary Butyl Ether (MTBE) and the results of that testing are known to the Regional Board." Subsequently, on February 20, 1998, the Regional Board, Site Mitigation & Cleanup Unit, issued written notification to interested parties of Mandatory MTBE Sampling For Underground Storage Tank (UST) Site Closures-Senate Bill (SB) 521. The February 20, 1998, notification specifies that "For ground water impacted sites or soil sites that may threaten ground water, both soil and ground water sampling and analysis for MTBE will be required."

Sections 13272.1 and Section 13285 of the CWC address discharges of MTBE. The California Department of Health Services (DHS) adopted limits for Maximum Contaminant Levels for MTBE. The Primary MCL of 13 µg/L was adopted by DHS on May 17, 2000. The Secondary MCL (for taste and odor not health affects) of 5 µg/L was adopted on January 7, 1999. The UST program uses the more conservative secondary MCL of 5 µg/L.

F. Discharge Prohibitions

Discharges under this WDR are required to be nontoxic. Toxicity is the adverse response of organisms to chemicals or physical agents. This prohibition is based on the Basin Plan, which require that all waters be maintained free of toxic substances in concentrations that are lethal or produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. The Basin Plan~~s~~ also require<u>s</u> waters to be free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, or animal life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

Mass emission rate limitations will be determined using the discharge flowrate and effluent concentration limitations specified in this WDR;

therefore, the daily maximum discharge flowrate limitation for each discharge will be specified in the discharge Notice of Enrollment from the Regional Board. The discharge flowrate will be designated as the maximum discharge flowrate and the Discharger shall be prohibited from discharging in excess of the maximum discharge flowrate.

1. The discharge of groundwater to surface waters is prohibited unless authorized, exempted, or issued an individual NPDES permit by the Regional Board.

2. The discharge of wastes to areas designated by the SWRCB, and recommended by the Regional Board, as areas of special biological significance is prohibited. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

~~4.~~3. The discharge of groundwater extraction waste to surface waters from permanent groundwater extraction operations in basins with designated beneficial uses of industrial, agricultural, or municipal and domestic supply are prohibited unless such extracted groundwater (not used beneficially) is used beneficially (Application Requirements, Section F.17, and F.18). If the Enrollee of such extracted groundwater wishes to discharge to surface waters, it shall be the responsibility of the Enrollee to obtain an individual NPDES Permit for the discharge.

4. The discharge of groundwater extraction waste to enclosed bays, harbors, lagoons, and estuaries, or tributaries thereto, is prohibited unless the Enrollee demonstrates to the satisfaction of the Regional Board that alternative disposal sites (e.g., surf zone) are not practicable as required in Application Requirements, Sections F.17, and F.18.

~~6~~5. The discharge of groundwater extraction waste to any surface water from a groundwater extraction project after the date of completion of construction of structures requiring groundwater extraction, or from a groundwater remediation operation after the date the groundwater has been remediated to the satisfaction of the Regional Board, is prohibited.

~~7~~6. The discharge of groundwater in excess of the flowrate specified in each Enrollee's Notice of Enrollment is prohibited unless the Enrollee obtains a revised discharge Notice of Enrollment authorizing an increased flowrate.

~~8~~7. No individual pesticide or combination of pesticides shall be present in the water column, sediments, or biota at concentration(s) that adversely affect beneficial uses. Pesticides shall not be present at

levels which will bioaccumulate in aquatic organisms to levels which are harmful to human health, wildlife or aquatic organisms.

Water designated for use as domestic or municipal supply (MUN) (drinking water) shall not contain concentrations of pesticides in excess of the maximum contaminant levels specified in California Code of Regulations, Title 22, Table 64444-A of Section 64444 (Organic Chemicals). (See Basin Plan Chapter 3-13).

~~9~~8. Compliance with the waste discharge prohibitions contained in the Basin Plan is a condition of this Order.

~~11~~9. The discharge of groundwater extraction waste to a storm water conveyance system without notifying and receiving authorization from the agency having jurisdiction over the storm water conveyance system is prohibited.

~~12~~10. The discharge of wastes tributary or directly to areas designated as being of special biological significance by the SWRCB is prohibited. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

G. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

The CWA requires that TBELs be established based on several levels of controls:

Best Practicable Treatment Control Technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. The BPT standards apply to toxic, conventional, and nonconventional pollutants.

Best Available Technology Economically Achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. The BAT standards apply to toxic and nonconventional pollutants.

Best Conventional Pollutant Control Technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

New Source Performance Standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop Effluent Limitations, Guidelines and Standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 of the NPDES regulations authorize the use of Best Professional Judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs 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 section 125.3.

2. Applicable Technology-Based Effluent Limitations

The USEPA has not developed numeric Technology-Based effluent limitations for pollutants in discharges from groundwater extraction.

H. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR section 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 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, achieve applicable water quality objectives and criteria contained in state plans and policies, and meet water quality criteria in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The designated beneficial uses of surface waters throughout the State may include municipal, domestic, industrial, and agricultural supply; water contact and non-contact recreation; navigation; groundwater recharge and freshwater replenishment; hydropower generation; wildlife habitat; cold freshwater and warm freshwater habitat; fish migration and fish spawning; marine habitat; estuarine habitat; shellfish harvesting; ocean commercial and sport fishing; areas of special biological significance; and preservation of rare and endangered species. To the extent that the Basin Plan designates additional or different beneficial uses, the Basin Plan shall ~~control~~apply.

3. Determining the Need for WQBELs

All applicable provisions of sections 301 and 402 of the CWA must be met for NPDES permits for discharges to surface waters. These provisions require controls of pollutant discharges that utilize BAT and BCT to reduce pollutant and any more stringent controls necessary to meet water quality standards.

As specified in the SIP, the Regional Board shall conduct an analysis for each priority pollutant with applicable criterion or objective to determine if a water quality-based effluent limitation is required.

Data are unavailable to conduct an analysis because a WDR as a General Permit, does not require a Report of Waste Discharge. Therefore, the discharger shall conduct an initial sample based on flow to determine the requirements.

Reasonable Potential Analysis (RPA)

In order to determine what to sample for and what frequency, an initial set of data is required.

If the discharger proposes to discharge less than 100,000 gallons per day, then the discharger shall initially conduct Monitoring Program A (sample for the entire constituents listed in III.D. and MTBE).

However it the discharger proposes to discharge 100,000 gallons per day or more, then the discharger shall initially conduct Monitoring Program B (sample the entire constituents listed in III.D., MTBE, and all 126 priority pollutants).

Based on the initial monitoring program if the discharge ~~will~~ does not require ~~no~~ treatment to meet the discharge specifications of this WDR, then the discharger will only need to conduct Monitoring Program A (if discharging less than 100,000 gallons per day) or Monitoring Program B (if discharging 100,000 gallons per day or more) once per year. This will provide data to identify reasonable potential for future effluent limits.

If the discharge will require treatment prior to discharge, then in addition to the once per year monitoring required listed above, the discharger will also monitor for all the constituents listed in the discharge specification with effluent limits at the frequency required in the Monitoring and Reporting Program stated in Attachment E because of the reasonable potential of exceeding the effluent limits in the discharge specifications of this WDR.

If there are any contaminated sites within the radius of influence of the groundwater extraction activities, then the constituent of concern will be monitored at the frequency required in the Monitoring and Reporting

Program stated in Attachment E because of the reasonable potential of exceeding the effluent limits in the discharge specifications of this WDR. If the constituent of concern is not listed in the Monitoring and Reporting Program stated in Attachment E then a monitoring and reporting frequency will be stated in the Notice of Enrollment.

Table summarizing effluent limits and monitoring

DISCHARGE	EFFLUENT LIMITS	MONITORING PROGRAM
< 100,000		• Program A Annual
>= 100,000		• Program B Annual
Treatment	Yes	• Monitoring and Reporting Program in Attachment E
Contaminated Site in Radius of Influence		• Monitor and Report constituent(s) of concern as stated in the Notice of Enrollment

4. WQBEL Calculations

The Average Monthly Effluent and Maximum Daily Effluent WQBELs were calculated using a statistical approach with the following considerations and assumptions:

No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge.

The WQBEL based on the CTR were implemented using the procedure list in the SIP. The procedure is listed below with copper as the example.

CTR/SIP calculations - Copper Example:

Criteria for Priority Toxic Pollutant in the State of California is described in the CTR table listed in 40 CFR 131.38.

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A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. [d] B1	Criterion Continuous Conc. [d] B2	Criterion Maximum Conc. [d] C1	Criterion Continuous Conc. [d] C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
1. Antimony	7440360					14 a,s	4300 a,t
2. Arsenic [b]	7440382	340 i,m,w	150 i,m,w	69 i,m	36 i,m		
3. Beryllium	7440417					n	n
4. Cadmium [b]	7440439	4.3 e,i,m,w,x	2.2 e,i,m,w	42 i,m	9.3 i,m	n	n
5a. Chromium (III)	16065831	550 e,i,m,o	180 e,i,m,o			n	n
5b. Chromium (VI) [b]	18540299	16 i,m,w	11 i,m,w	1100 i,m	50 i,m	n	n
6. Copper [b]	7440508	13 e,i,m,w,x	9.0 e,i,m,w	4.8 i,m	3.1 i,m	1300	

Saltwater criterion maximum concentration (CMC) = 4.8 µg/L
Saltwater criterion continuous concentration (CCC) = 3.1 µg/L

These criteria are expressed in terms of the dissolved fraction of the metal in the water column. [See footnote “m” to Table in paragraph (b)(1) of 40 CFR 131.38]

40 CFR 122.45(c) requires that this WDR include effluent limitations as a total recoverable concentration.

The SIP requires that if it is necessary to express a dissolved metal or selenium value as total recoverable and a site-specific translator has not yet been developed, the Regional Board shall use the applicable conversion factor from 40 CFR 131.38.

The term “Conversion Factor” (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column [See note to Table 2 of Paragraph (b)(2) to 40 CFR 131.38]

Total recoverable concentration * CF = Dissolved concentration criterion

or

Total recoverable concentration = Dissolved concentration criterion / CF

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(iv) Table 2 to paragraph (b)(2) of this section:

Metal	Conversion factor (CF) for freshwater acute criteria	CF for freshwater chronic criteria	CF for saltwater acute criteria	CF for saltwater chronic criteria
Antimony	[d]	[d]	[d]	[d]
Arsenic	1.000	1.000	1.000	1.000
Beryllium	[d]	[d]	[d]	[d]
Cadmium	[b] 0.944	[b] 0.909	0.994	0.994
Chromium (III)	0.316	0.860	[d]	[d]
Chromium (VI)	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83

CF for copper = 0.83

Total recoverable concentrations for copper:
4.8 µg/L dissolved (CMC) / 0.83 (CF) = 5.8 µg/L total recoveralbe for CMC
3.1 µg/L dissolved (CCC) / 0.83 (CF) = 3.7 µg/L total recoveralbe for CCC

Effluent variability multiplier and Coefficient of Variation (CV)
For each concentration based on an aquatic life criterion, the long-term average (LTA) is calculated by multiplying the concentration with a factor that adjusts for effluent variability. The multiplier can be found in Table 1 of the SIP. Since this is a WDR without existing data points, the number of effluent data points is less than ten; the CV shall be set equal to 0.6 per the SIP.

Table 1. Effluent Concentration Allowance (ECA) Multipliers for Calculating Long-Term Averages (LTAs)

Coefficient Of Variation (CV)	Acute Multiplier	Chronic Multiplier
	99^{th} Percentile Occurrence Probability	99^{th} Percentile Occurrence Probability
0.1	0.797	0.891
0.2	0.643	0.797
0.3	0.527	0.715
0.4	0.440	0.643
0.5	0.373	0.581
0.6	0.321	0.527

Therefore, from Table 1 of the SIP, the effluent variability multiplier will be as follows:
Acute Multiplier = 0.321
Chronic Multiplier = 0.527

The long-term average (LTA) is calculated by multiplying the total recoverable concentrations for copper with the acute and chronic multipliers:

LTA acute = 5.8 µg/L * 0.321 = 1.9 µg/L
LTA chronic = 3.7 µg/L * 0.527 = 2.0 µg/L

The MDEL and AMEL will be based on the most limiting of the acute and chronic LTA, in the case for copper it will be LTA acute of 1.9 µg/L.

Water quality-based effluent limits are calculated by multiplying the most limiting LTA with a factor (multiplier) that adjusts for the averaging periods and exceedance frequencies of the criteria and the effluent limitations. The multiplier can be found in Table 2 of the SIP. Since this is a WDR without existing data points, the CV will be set equal to 0.6 and since sampling frequency is four times a month or less, n shall be set equal to 4 per SIP (n=4).

Table 2. Long-Term Average (LTA) Multipliers for Calculating Effluent Limitations

Coefficient of Variation	MDEL Multiplier	AMEL Multiplier			MDEL/AMEL Multiplier		
	99th Percentile Occurrence Probability	95th Percentile Occurrence Probability			MDEL = 99th Percentile AMEL = 95th Percentile Occurrence Probability		
(CV)		n = 4	n = 8	n = 30	n = 4	n = 8	n = 30
0.1	1.25	1.08	1.06	1.03	1.16	1.18	1.22
0.2	1.55	1.17	1.12	1.06	1.33	1.39	1.46
0.3	1.90	1.26	1.18	1.09	1.50	1.60	1.74
0.4	2.27	1.36	1.25	1.12	1.67	1.82	2.02
0.5	2.68	1.45	1.31	1.16	1.84	2.04	2.32
0.6	3.11	1.55	1.38	1.19	2.01	2.25	2.62

Therefore, from Table 2 of the SIP, the LTA multipliers will be as follows:
MDEL Multiplier = 3.11
AMEL Multiplier = 1.55

The MDEL and AMEL limits are calculated by multiplying the LTA with an LTA multiplier for each limit:
Maximum Daily Effluent Limit (MDEL) = 1.9 µg/L * 3.11 = 5.8 µg/L
Average Monthly Effluent Limit (AMEL) = 1.9 µg/L * 1.55 = 2.9 µg/L

I. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) tests measure the aggregate toxic effect of a mixture of pollutants that may be present in a waste stream and provides

information on potential toxic impacts to receiving waters from the discharge of wastes. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach provides a means of assessing compliance with the narrative toxicity water quality objective for aquatic life protection of the Basin Plan while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and development.

The SIP requires that a Toxicity Reduction Evaluation (TRE) be conducted if a discharge causes or contributes to chronic toxicity in a receiving water body. This WDR requires the Discharger to periodically monitor the toxicity of its discharge and to develop a TRE Workplan if the toxicity effluent limitations are exceeded.

J. Anti-Backsliding Effluent Limitations

Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. The following limits designated with AB in the Final Effluent Limitations table below have the same limit as the previous permit.

K. Final Effluent Limitations

Summary of Water Quality-Based Effluent Limitations
Discharge Point
Summary of Water Quality-based Effluent Limitations Table

Mass Limits
All permit limitations, standards or prohibitions shall be expressed in terms of mass except for pH, or other pollutants which cannot appropriately be expressed by mass or under certain circumstances including "when applicable standards and limitations are expressed in terms of other units of measurement." (40 CFR § 122.45(f)(1)). Therefore, all concentration limits stated above except for Settleable Solids, Acute Toxicity, Chronic Toxicity, Total Coliform, Fecal Coliform, pH, and Dissolved Oxygen shall also have a mass limit based on its concentration limit times the discharge flow limit in the Notice of Enrollment expressed in pounds per day (lbs/d) as shown in the equations below:

Concentration Limit * Flow Limit * Conversion Factor = Mass Limit
(mg/l) * (MGD) * 8.34 (lb*L/(Million Gallons*mg)) = lbs/day
(µg/l) * (MGD) * 0.00834 (lb*L/(Million Gallons*µg)) = lbs/day
(mg/l) * (gpd) * 0.00000834 (lb*L/(Gallons*mg)) = lbs/day
(µg/l) * (gpd) * 0.00000000834 (lb*L/(Million Gallons*µg)) = lbs/day

B. DISCHARGE SPECIFICATIONS

1. DISCHARGES TO BAYS AND HARBORS

The discharge of groundwater extraction waste to Mission Bay, Oceanside Harbor, Del Mar Boat Basin, or Dana Point Harbor shall not contain pollutants in excess of the following effluent limitations:

General / Inorganic / Biological

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Maximum	6-Month Median
Settleable Solids	ml/L	1.0 [OP]	1.5 [OP]	-	3.0 [OP]	-
Total Suspended Solids	mg/L	30 [AB]	-	-	50 [AB]	-
Hydrogen Sulfide	µg/L	2 [AB]	-	4 [AB]	10 [AB]	-
Total Residual Chlorine	µg/L	-	-	8 [OP]	60 [OP]	2 [OP]
Acute Toxicity	Tua			0.3 [OP]		
Chronic Toxicity	Tuc			1.0 [OP]		
Total Coliform	MPN/ 100 ml				1000.0 [AB]	
Fecal Coliform	MPN/ 100 ml				200.0 [AB]	
pH	Units	Within limit of 6.0 to 9.0 at all times [OP]				

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Minimum	6-Month Median
Dissolved Oxygen (DO)	mg/L				> 5.0 [AB]	

Petroleum

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Maximum	6-Month Median
MTBE	µg/L				5 [DHS]	
Benzene	µg/L	-	-	-	5 [AB]	-
Ethylbenzene	µg/L	-	-	-	5 [AB]	-
Toluene	µg/L	-	-	-	5 [AB]	-

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Maximum	6-Month Median
Xylene	µg/L	-	-	-	5 [AB]	-
Total Petroleum Hydrocarbons	mg/L	-	-	-	0.5 [AB]	-

Metals

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Tributyltin (TBT)	µg/L	0.0014 [OP]			

Organics

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Phenolic Compounds (non-chlorinated)	µg/L	-	120 [OP]	300 [OP]	30 [OP]
Chlorinated Phenolics	µg/L	0.025 [CTR]	0.049 [CTR]	10 [OP]	1 [OP]
1,1,2,2-tetrachlorethane (PCA)	µg/L	2.3 [OP]	-	-	-
1,1,1-trichloroethane (TCA)	µg/L	5.4E5 [OP]	-	-	-
1,1,2-trichloroethane (TCA)	µg/L	9.4 [OP]	-	-	-
1,2-dichloroethane	µg/L	28 [OP]	-	-	-
Tetrachloroethylene (PCE)	µg/L	2.0 [OP]	-	-	-
Trichloroethylene (TCE)	µg/L	27 [OP]	-	-	-
Vinyl chloride	µg/L	36 [OP]	-	-	-
Carbon tetrachloride	µg/L	0.90 [OP]	-	-	-
Base/Neutral Organic Compounds	µg/L			10 [AB]	

Parameter	Units	Effluent Limitations

		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Ammonia (as N)	µg/L		2400 [OP]	6000 [OP]	600 [OP]
Endosulfan	ng/L	-	18 [OP]	27 [OP]	9 [OP]
HCH	ng/L	-	8 [OP]	12 [OP]	4 [OP]
Dichloromethane	µg/L	450 [OP]	-	5 [AB? OP 00-90]	-
Halomethanes	µg/L	-	-	5 [AB]	-
PAHs	ng/L	8.8 [OP]	-	-	-
TCDD Equivalents	pg/L	0.0039 [OP]	-	-	-
Turbidity	µg/L	75 [OP]	2.2 [CTR]	225	-

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Minimum	6-Month Median
Turbidity	NTU	75 [OP]	100 [OP]	225 [OP]	-
Turbidity	NTU	Shall not exceed the turbidity of the receiving water. [AB]			
126 Priority Pollutants from "Inland Surface Waters"					

2. DISCHARGES TO LAGOONS/ESTUARIES

The discharge of groundwater extraction waste discharges to saline lagoons (only Buena Vista Lagoon is fresh water) and estuaries of the region shall not contain pollutants in excess of the following effluent limitations:

Includes limits to the Bays and Harbors Limitations

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Total Nitrogen	mg/L	-	-	2.0 [AB]	1.0 [AB]
Total Phosphorus	mg/L	-	-	.0.2 [AB]	0.1 [AB]
pH	Units	Within limit of 7.0 to 8.5 at all times [AB]			
All Parameters and Effluent Limitations from "Bays and Harbors"					

3. DISCHARGES TO THE SURF ZONE[20]

The discharge of groundwater extraction waste to the surf zone (3:1 dilution factor) shall not contain pollutants in excess of the following effluent limitations:

Discharges to the Surf Zone Calculation

The formula used to calculate effluent limits for consituents discharged to the surf zone is from Table B in the Ocean Plan except for Toxicity and Radioactivity.

Ce=Co+Dm(Co-Cs)

Ce = the effluent concentration limit, ug/L
Co = the concentration (water quality objective) to be met at the completion of initial dilution, ug/L
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater Dm = 3 from findings from the 2001-96 Order.
Cs = background seawater concentration (see Table C), ug/L

Table C
BACKGROUND SEAWATER CONCENTRATIONS (Cs)

Waste Consitituent	Cs (ug/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8
For all other Table B parameters	0

DISCHARGES TO THE SURF ZONE
(3:1 DILUTION FACTOR) [AB]

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
TCR	µg/L		32 [OP]	240 [OP]	8 [OP]
Ammonia (as Nitrogen)	µg/L		9600 [OP]	24,000 [OP]	2400 [OP]
Arsenic	µg/L		119 [OP]	311 [OP]	23 [OP]
Cadmium	µg/L		16 [OP]	40 [OP]	4 [OP]
Chromium (hexavalent)	µg/L		32 [OP]	80 [OP]	8 [OP]
Copper	µg/L		42 [OP]	114 [OP]	6 [OP]
Lead	µg/L		32 [OP]	80 [OP]	8 [OP]

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Mercury	µg/L		0.64 [OP]	1.60 [OP]	0.16 [OP]
Nickel	µg/L		80 [OP]	200 [OP]	20 [OP]
Silver	µg/L		10.7 [OP]	27.5 [OP]	2.32 [OP]
Zinc	µg/L		296 [OP]	776 [OP]	56 [OP]
Cyanide	µg/L		16 [OP]	40 [OP]	4 [OP]
Phenolic Compounds (Non-chlorinated)	µg/L		480 [OP]	1200 [OP]	120 [OP]
1,1,2,2-tetrachloroethane	µg/L		9.2 [OP]		
Tributyltin (TBT)	µg/L		0.0056 [OP]		
1,1,-trichoroethane	µg/L		2,160,000 [OP]		
1,1,2-trichloroethane	µg/L		37.6 [OP]		
Carbon tetrachloride	µg/L		3.6 [OP]		
PCBs	µg/L		0.000076 [OP]		
Tetrachloroethylene	µg/L		8 [OP]		
Trichloroethylene	µg/L		108 [OP]		
Vinyl chloride	µg/L		144 [OP]		
Selenium	µg/L		240 [OP]	600 [OP]	60 [OP]
Endosulfan	µg/L		0.072 [OP]	0.108 [OP]	0.036 [OP]
Endrin	µg/L		0.016 [OP]	0.024 [OP]	0.008 [OP]
HCH	µg/L		0.032 [OP]	0.048 [OP]	0.016 [OP]
Acrolein	µg/L	880 [OP]			
Antimony	µg/L	4800 [OP]			
bis(2-chloroethoxy) methane	µg/L	17.6 [OP]			
bis(2-chloroisopropyl) ether	µg/L	4800 [OP]			
Chlorobenzene	µg/L	2280 [OP]			
di-n-butyl phthalate	µg/L	14,000 [OP]			

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Dichlorobenzenes	µg/L	20,400 OP			
1,1-dichloroethylene	µg/L	3.6 OP			
Diethyl phthalate	µg/L	132,000 OP			
Dimethyl phthalate	µg/L	3,280,000 OP			
4,6-dinitro-2-methylphenol	µg/L	880 OP			
2,4-dinitrophenol	µg/L	16 OP			
Ethylbenzene	µg/L	16,400 OP			
Fluoranthene	µg/L	60 OP			
Hexachlorocyclopentadiene	µg/L	232 OP			
Nitrobenzene	µg/L	19.6 OP			
Thallium	µg/L	8 OP			
Acrylonitrile	µg/L	0.4 OP			
Aldrin	µg/L	0.000088 OP			
Benzene	µg/L	23.6 OP			
Benzidine	µg/L	0.000276 OP			
Beryllium	µg/L	0.132 OP			
Bis(2-chloroethyl) ether	µg/L	0.18 OP			
Bis(2-ethylhexyl) phthalate	µg/L	14 OP			
Chlordane	µg/L	0.000092 OP			
Chloroform	µg/L	520 OP			
DDT	µg/L	0.00068 OP			
3,3-dichlorobenzidine	µg/L	0.0324 OP			
1,2-dichloroethane	µg/L	112 OP			
Dichloromethane	µg/L	1,800 OP			
1,3-dichloropropene	µg/L	35.6 OP			

Parameter	Units	Effluent Limitations			
		AMEL	MDEL	Instantaneous Maximum	6-Month Median
Dieldrin	µg/L	0.00016 OP			
2,4-dinitrotoluene	µg/L	10.4 OP			
1,2-diphenylhydrazine	µg/L	0.64 OP			
Halomethanes	µg/L	520 OP			
Heptachlor	µg/L	0.0002 OP			
Hexachlorobenzene	µg/L	0.00084 OP			
Hexachlorobutadine	µg/L	56 OP			
Hexachloroethane	µg/L	10 OP			
N-nitrosodimethylamine	µg/L	29.2 OP			
N-nitrosodiphenylamine	µg/L	10 OP			
PAHs	µg/L	0.0352 OP			
TCDD equivalents	µg/L	1.56E-08 OP			
Toxaphene	µg/L	0.00084 OP			
2,4,6-trichlorophenol	µg/L	1.16 OP			

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Maximum	MDEL
Settleable Solids	ml/L	1 OP	1.5 OP	3 OP	
Suspended Solids		75% OP *			
		*Suspended Solids AMEL is 75% removal unless the average monthly influent is 80 mg/L or less, then the effluent limit shall be 60 mg/L. OP			
pH		Within limit of 6.0 and 9.0 at all times. OP			
Toluene		340,000 OP			
Xylene				5 AB	
Total Petroleum Hydrocarbons				500 AB	
Aute Toxicity	TUa				0.3 OP

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Maximum	MDEL
Chronic Toxicity	TUc				1 [OP]
Turbidity	NTU	75 [OP]	100 [OP]	225 [OP]	

Parameter	Units	Effluent Limitations			
		AMEL	AWEL	Instantaneous Maximum	Shellfish Harvesting
Total Coliform	MPN/100 mL	1,000 [OP]		10,000 [OP]	
Total Coliform	MPN/100 mL			1,000 [OP] *	
		*Total coliform density shall not exceed 1,000 per 100 mL when the ratio of fecal/total coliform exceeds 0.1 [OP]			
Total Coliform					70 [OP] **
Total Coliform					230 [OP] **
		**The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL. [OP]			
Fecal Coliform	MPN/100 mL	200 [OP]		400 [OP]	
Enterococcus	MPN/100 mL	35 [OP]		104 [OP]	

Parameter	Units	Effluent Limitations				
		AMEL	AWEL	MDEL	Instantaneous Minimum	6-Month Median
Dissolved Oxygen (DO)	mg/L				5.0 [AB]	

[OP] Basis – Ocean Plan 2005
[AB] Basis – Anti-Backsliding, values from the previous permit
[DHS] Basis – Department of Health Services
[CTR] Basis – California Toxics Rule/ State Implementation Plan 2005

4. DISCHARGES TO INLAND SURFACE WATERS

The discharge of groundwater extraction waste to inland surface waters (including Buena Vista Lagoon) shall not contain pollutants in excess of the following effluent limitations:

GENERAL CONSTITUENTS

Constituent	Unit	AMEL	Daily Maximum	Instantaneous Maximum	Basis
Settleable Solids	ml/L	0.1	---	0.2	AB
Total Suspended Solids	mg/L	30	---	50	
Percent Sodium	%	---	---	60	AB
Total Nitrogen	mg/L	1.0		2.0	"
Total Phosphorus	mg/L	0.1		0.2	"
Methylene Blue Active Substances	mg/L	---	---	0.5	"
Turbidity	NTU	Shall not exceed the ambient turbidity of the surface water at any time.			"
Fluoride	mg/L	---	---	1.0	"
Hydrogen Sulfide	µg/L	2	4	10	AB
Total Residual Chlorine (TRC)[12]	µg/L	2	8	10	AB
pH	Units	Within the limits of 6.5 and 8.5 at all times.			AB
Acute Toxicity	TUa	---	---	0.59	AB
Chronic Toxicity	TUc	---	1	---	AB
Dissolved Oxygen	mg/L	Shall not be less than 5.0 at any time in waters with designated warm fresh-water habitat beneficial uses or less than 6.0 in waters with cold fresh water habitat beneficial uses.			AB
Total Coliform	MPN/100mL	---	---	1000	"
Fecal Coliform	MPN/100mL	---	---	200	"

VOLATILES, METALS, PRIORITY POLLUTANTS:

Beneficial Use:	Municipal/Potable Supply			Non-municipal/Non-potable		
		Instantaneous			Instantaneous	
Constituent	Unit	Maximum	Basis	Unit	Maximum	Basis
Dibromochloropropane	µg/L	0.2	DOHS	µg/L	0.2	AB
Ethylene Dibromide	µg/L	0.02	DOHS	µg/L	0.02	AB
Xylene	µg/L	5	AB	µg/L	5	AB
Chlorinated Phenolics	µg/L	1	DOHS	µg/L	10	AB
Remaining Base/Neutral Compounds[16]	µg/L	10	AB	µg/L	10	AB
Total Petroleum Hydrocarbons	mg/L	0.5	"	mg/L	0.5	AB
Iron**	mg/L	0.3	"	mg/L	0.3	AB
Manganese**	mg/L	0.05	"	mg/L	0.05	AB
MTBE***,38	µg/L	5	DOHS			
126 Priority Pollutants (Including metals)*	40 CFR 131.38 - Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California.					See Below

126 Priority Pollutants - 40 CFR 131.38 - Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California.

The effluent limits for eight priority pollutants will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data.

Seven metals are dependent on water hardness, Cadmium, Copper, Chromium (III), Lead, Nickel, Silver, and Zinc [See Table 1 to 40 CFR 131.38(b)(2)], and the "Conversion Factors" for Cadmium and Lead are also water hardness dependent. [See Table 3 of 40 CFR 131.38(b)(2)]

In order to calculate the effluent limits for these seven metals the following equations from 40 CFR 131.38(b2) will be needed:

~~Ca~~ Cd CFa=1.136672-((LN(hardness))*0.041838)
~~Ca~~ Cd CFc = 1.101672-((LN(hardness))*0.041838)
Pb CFa&c = 1.46203-((LN(hardness))*0.145712)
Criterion=WER*CFx*(exp(mA*LN(hardness)+bA

Pentachlorophenol is dependent on the pH value. [See Footnote "f" to Table in 40 CFR 131.38(b)(1)]

To calculate the effluent limit for Pentachlorophenol use this equation:
CMC = exp(1.005(pH)–4.869). CCC = exp(1.005(pH)–5.134)

The remainder of the criteria is not water quality dependent and the effluent limits can be calculated. However, not all the effluent limits will apply to all sites because of the Beneficial use designation for "Municipal" may not apply to all sites.

These priority pollutant effluent limits were calculated the same way as the effluent limits for the bays and harbors.

Effluent Limitations calculated from CTR and SIP

Effluent Limits for Human Health Municipal and Non-Municipal

		Human Health			
		MUN		NON-MUN	
		AMEL	MDEL	AMEL	MDEL
		(µg/L)	(µg/L)	(µg/L)	(µg/L)
A					
1	Antimony	14	28	4300	8600
2	Arsenic				
3	Beryllium				
4	Cadmium				
5a	Chromium (III)				
5b	Chromium (IV)				
6	Copper	1300	2600		
7	Lead				
8	Mercury	0.05	0.1	0.051	0.1
9	Nickel				
10	Selenium				
11	Silver				
12	Thallium				
13	Zinc	700	1400	220000	440000
14	Cyanide	7000000	14000000		
15	Asbestos	1.3E-08	2.6E-08	1.4E-08	2.8E-08
16	2,3,7,8-TCDD (Dioxin)	320	640	780	1600
17	Acrolein	0.059	0.12	0.66	1.3
18	Acrylonitrile	1.2	2.4	71	140
19	Benzene	4.3	8.6	360	720
20	Bromoform	0.25	0.5	4.4	8.8
21	Carbon Tetrachloride	680	1400	21000	42000
22	Chlorobenzene	0.41	0.82	34	68
23	Chlorodibromomethane				
24	Chloroethane				
25	2-Chloroethylvinyl Ether				
26	Chloroform				
27	Dichlorobromomethane	0.56	1.1	46	92
28	1,1-Dichloroethane				

		Human Health			
		MUN		NON-MUN	
		AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
29	1,2-Dichloroethane	0.38	0.76	99	200
30	1,1-Dichloroethylene	0.057	0.11	3.2	6.4
31	1,2-Dichloropropane	0.52	1	39	78
32	1,3-Dichloropropylene	10	20	1700	3400
33	Ethylbenzene	3100	6200	29000	58000
34	Methyl Bromide	48	96	4000	8000
35	Methyl Chloride				
36	Methylene Chloride	4.7	9.4	1600	3200
37	1,1,2,2-Tetrachloroethane	0.17	0.34	11	22
38	Tetrachloroethylene	0.8	1.6	8.9	18
39	Toluene	6800	14000	200000	400000
40	1,2-Trans-Dichloroethylene	700	1400	140000	280000
41	1,1,1-Trichloroethane				
42	1,1,2-Trichloroethane	0.6	1.2	40	80
43	Trichloroethylene	2.7	5.4	81	160
44	Vinyl Chloride	2	4	530	1100
45	2-Chlorophenol	120	240	400	800
46	2,4-Dichlorophenol	93	190	790	1600
47	2,4-Dimethylphenol	540	1100	2300	4600
48	2-Methyl-4,6-Dinitrophenol	13	27	770	1500
49	2,4-Dinitrophenol	70	140	14000	28000
50	2-Nitrophenol				
51	4-Nitrophenol				
52	3-Methyl-4-Chlorophenol				
53	Pentachlorophenol	0.28	0.56	8.2	16
54	Phenol	21000	42000	4500000	9000000
55	2,4,6-Trichlorophenol	2.1	4.2	6.5	13
56	Acenaphthene	1200	2400	2700	5400
57	Acenaphthylene				
58	Anthracene	9600	19000	110000	220000
59	Benzidine	0.00012	0.00024	0.00054	0.0011
60	Benzo(a)Anthracene	0.0044	0.0088	0.049	0.098
61	Benzo(a)Pyrene	0.0044	0.0088	0.049	0.098

		Human Health			
		MUN		NON-MUN	
		AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)
62	Benzo(b)Fluoranthene	0.0044	0.0088	0.049	0.098
63	Benzo(ghi)Perylene				
64	Benzo(k)Fluoranthene	0.0044	0.0088	0.049	0.098
65	Bis(2-Chloroethoxy)Methane				
66	Bis(2-Chloroethyl)Ether	0.031	0.062	1.4	2.8
67	Bis(2-Chloroisopropyl)Ether	1400	2800	170000	340000
68	Bis(2-Ethylhexyl)Phthalate	1.8	3.6	5.9	12
69	4-Bromophenyl Phenyl Ether				
70	Butylbenzyl Phthalate	3000	6000	5200	10000
71	2-Chloronaphthalene	1700	3400	4300	8600
72	4-Chlorophenyl Phenyl Ether				
73	Chrysene	0.0044	0.0088	0.049	0.098
74	Dibenzo(a,h)Anthracene	0.0044	0.0088	0.049	0.098
75	1,2 Dichlorobenzene	2700	5400	17000	34000
76	1,3 Dichlorobenzene	400	800	2600	5200
77	1,4 Dichlorobenzene	400	800	2600	5200
78	3,3'-Dichlorobenzidine	0.04	0.08	0.077	0.15
79	Diethyl Phthalate	23000	46000	120000	240000
80	Dimethyl Phthalate	310000	630000	2900000	5800000
81	Di-n-Butyl Phthalate	2700	5400	12000	24000
82	2,4-Dinitrotoluene	0.11	0.22	9.1	18
83	2,6-Dinitrotoluene				
84	Di-nOctyl Phthalate				
85	1,2-Diphenylhydrazine	0.04	0.08	0.54	1.1
86	Fluoranthene	300	600	370	740
87	Fluorene	1300	2600	14000	28000
88	Hexachlorobenzene	0.00075	0.0015	0.00077	0.0015
89	Hexachlorobutadiene	0.44	0.88	50	100
90	Hexachlorocyclopentadiene	240	480	17000	34000
91	Hexachloroethane	1.9	3.8	8.9	18
92	Inden(1,2,3-cd) Pyrene	0.0044	0.0088	0.049	0.098
93	Isophorone	8.4	17	600	1200
94	Naphthalene				

		Human Health			
		MUN		NON-MUN	
		AMEL	MDEL	AMEL	MDEL
		(µg/L)	(µg/L)	(µg/L)	(µg/L)
95	Nitrobenzene	17	34	1900	3800
96	N-Nitrosodimethylamine	0.00059	0.0012	8.1	16
97	N-Nitrosodi-n-Propylamine	0.005	0.01	1.4	2.8
98	N-Nitrosodiphenylamine	5	10	16	32
99	Phenanthrene				
100	Pyrene	960	1900	11000	22000
101	1,2,4-Trichlorobenzene				
102	Aldrin	0.00013	0.00026	0.00014	0.00028
103	alpha-BHC	0.0039	0.0078	0.013	0.026
104	beta-BHC	0.014	0.028	0.046	0.092
105	gamma-BHC	0.019	0.038	0.063	0.13
106	delta-BHC				
107	Chlordane	0.00057	0.0011	0.00059	0.0012
108	4,4'-DDT	0.00059	0.0012	0.00059	0.0012
109	4,4'-DDE	0.00059	0.0012	0.00059	0.0012
110	4,4'-DDD	0.00083	0.0017	0.00084	0.0017
111	Dieldrin	0.00014	0.00028	0.00014	0.00028
112	alpha-Endosulfan	110	220	240	480
113	beta-Endosulfan	110	220	240	480
114	Endosulfan Sulfate	110	220	240	480
115	Endrin	0.76	1.5	0.81	1.6
116	Endrin Aldehyde	0.76	1.5	0.81	1.6
117	Heptachlor	0.00021	0.00042	0.00021	0.00042
118	Heptachlor Epoxide	0.0001	0.0002	0.00011	0.00022
119	Polychlorinated biphenyls (PCBs)	0.00017	0.00034	0.00017	0.00034
120	"				
121	"				
122	"				
123	"				
124	"				
125	"				
126	Toxaphene	0.00073	0.0015	0.00075	0.0015

Effluent Limits for Freshwater and Saltwater

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
A					
1	Antimony				
2	Arsenic	250	120	59	29
3	Beryllium				
4	Cadmium			16	8
5a	Chromium (III)				
5b	Chromium (IV)	16	8.1	83	41
6	Copper			5.8	2.9
7	Lead			14	7
8	Mercury				
9	Nickel			14	6.8
10	Selenium	8.2	4.1	120	58
11	Silver			2.2	1.1
12	Thallium				
13	Zinc			95	47
14	Cyanide	8.5	4.2	1	0.5
15	Asbestos				
16	2,3,7,8-TCDD (Dioxin)				
17	Acrolein				
18	Acrylonitrile				
19	Benzene				
20	Bromoform				
21	Carbon Tetrachloride				
22	Chlorobenzene				
23	Chlorodibromomethane				
24	Chloroethane				
25	2-Chloroethylvinyl Ether				
26	Chloroform				
27	Dichlorobromomethane				
28	1,1-Dichloroethane				
29	1,2-Dichloroethane				
30	1,1-Dichloroethylene				

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
31	1,2-Dichloropropane				
32	1,3-Dichloropropylene				
33	Ethylbenzene				
34	Methyl Bromide				
35	Methyl Chloride				
36	Methylene Chloride				
37	1,1,2,2-Tetrachloroethane				
38	Tetrachloroethylene				
39	Toluene				
40	1,2-Trans-Dichloroethylene				
41	1,1,1-Trichloroethane				
42	1,1,2-Trichloroethane				
43	Trichloroethylene				
44	Vinyl Chloride				
45	2-Chlorophenol				
46	2,4-Dichlorophenol				
47	2,4-Dimethylphenol				
48	2-Methyl-4,6-Dinitrophenol				
49	2,4-Dinitrophenol				
50	2-Nitrophenol				
51	4-Nitrophenol				
52	3-Methyl-4-Chlorophenol				
53	Pentachlorophenol	[redacted]		13	6.5
54	Phenol				
55	2,4,6-Trichlorophenol				
56	Acenaphthene				
57	Acenaphthylene				
58	Anthracene				
59	Benzidine				
60	Benzo(a)Anthracene				
61	Benzo(a)Pyrene				
62	Benzo(b)Fluoranthene				
63	Benzo(ghi)Perylene				
64	Benzo(k)Fluoranthene				

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
65	Bis(2-Chloroethoxy)Methane				
66	Bis(2-Chloroethyl)Ether				
67	Bis(2-Chloroisopropyl)Ether				
68	Bis(2-Ethylhexyl)Phthalate				
69	4-Bromophenyl Phenyl Ether				
70	Butylbenzyl Phthalate				
71	2-Chloronaphthalene				
72	4-Chlorophenyl Phenyl Ether				
73	Chrysene				
74	Dibenzo(a,h)Anthracene				
75	1,2 Dichlorobenzene				
76	1,3 Dichlorobenzene				
77	1,4 Dichlorobenzene				
78	3,3'-Dichlorobenzidine				
79	Diethyl Phthalate				
80	Dimethyl Phthalate				
81	Di-n-Butyl Phthalate				
82	2,4-Dinitrotoluene				
83	2,6-Dinitrotoluene				
84	Di-nOctyl Phthalate				
85	1,2-Diphenylhydrazine				
86	Fluoranthene				
87	Fluorene				
88	Hexachlorobenzene				
89	Hexachlorobutadiene				
90	Hexachlorocyclopentadiene				
91	Hexachloroethane				
92	Inden(1,2,3-cd) Pyrene				
93	Isophorone				
94	Naphthalene				
95	Nitrobenzene				
96	N-Nitrosodimethylamine				
97	N-Nitrosodi-n-Propylamine				
98	N-Nitrosodiphenylamine				

		Freshwater		Saltwater	
		MDEL (µg/L)	AMEL (µg/L)	MDEL (µg/L)	AMEL (µg/L)
99	Phenanthrene				
100	Pyrene				
101	1,2,4-Trichlorobenzene				
102	Aldrin	3	1.5	1.3	0.65
103	alpha-BHC				
104	beta-BHC				
105	gamma-BHC	0.95	0.47	0.16	0.08
106	delta-BHC				
107	Chlordane	0.007	0.0035	0.0066	0.0033
108	4,4'-DDT	0.0016	0.00082	0.0016	0.00082
109	4,4'-DDE				
110	4,4'-DDD				
111	Dieldrin	0.092	0.046	0.0031	0.0016
112	alpha-Endosulfan	0.092	0.046	0.014	0.0071
113	beta-Endosulfan	0.092	0.046	0.014	0.0071
114	Endosulfan Sulfate				
115	Endrin	0.059	0.029	0.0038	0.0019
116	Endrin Aldehyde				
117	Heptachlor	0.0062	0.0031	0.0059	0.0029
118	Heptachlor Epoxide	0.0062	0.0031	0.0059	0.0029
119	Polychlorinated biphenyls (PCBs)	0.023	0.011	0.049	0.025
120	"				
121	"				
122	"				
123	"				
124	"				
125	"				
126	Toxaphene	0.00033	0.00016	0.00033	0.00016

5. Groundwater extraction waste discharged to surface waters must be essentially free of:

   a. Material that is floatable or will become floatable upon discharge.

   b. Settleable material or substances that form sediments which degrade[23] benthic communities or other aquatic life.

   c. Substances which will accumulate to toxic levels in aquatic sediments or biota.

   d. Substances that significantly[24] decrease the natural light to benthic communities and other aquatic life.

   e. Materials that result in aesthetically undesirable discoloration of surface waters.

~~3.~~6. Groundwater extraction waste discharged to surface waters shall not cause natural water quality conditions to be altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.

~~4.~~7. Groundwater extraction waste discharged to surface waters shall be discharged in such a manner as to provide maximum protection to aquatic environments.

~~5.~~8. Groundwater extraction waste that contains pathogenic organisms or viruses shall be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard shall be used.

~~6.~~9. The Enrollee shall comply with all items of the " 40 CFR Standard Provisions References" that are part of this Order (Attachment B).

~~L. Interim Effluent Limitations (Not Applicable)~~

~~M. Land Discharge Specifications (Not Applicable)~~

~~N. Reclamation Specifications (Not Applicable)~~

IV. Rationale for Receiving Water Limitations

A. Surface Water

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. The discharge of groundwater extraction waste from any site shall not, separately or jointly with any other discharge, cause violations of the following water quality objectives in the surface waters of the San Diego Region.

1. Bacterial Characteristics

a. Water-Contact Standards

Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water-contact sports, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

(1) Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

(2) The fecal coliform density based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

1) The median total coliform density shall not exceed 70 per 100 ml; and

2) Not more than 10 percent of the samples shall exceed 230 per 100 ml.

2. Physical Characteristics

a. Floating particulates and grease and oil shall not be visible.

b. The discharge of waste shall not cause aesthetically undesirable discoloration of the surface waters.

c. Natural light shall not be significantly reduced.

d. The rate of deposition of solids and the characteristics of inert solids in the sediments shall not be changed such that benthic communities are degraded.

3. Chemical Characteristics

a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as a result of the discharge of oxygen demanding waste materials.

b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
d. The concentration of substances set forth in the Discharge Specifications in marine sediments shall not be increased to levels which would degrade indigenous biota.
e. The concentration of organic materials in the sediments shall not be increased to levels which would degrade marine life.
f. Nutrient materials shall not cause objectionable aquatic growth or degrade indigenous biota.

4. Biological Characteristics

a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.
b. The natural taste, odor, and color of fish, shellfish, or other aquatic resources used for human consumption shall not be altered.
c. The concentration of organic materials in fish, shellfish or other aquatic resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

5. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

6. Toxic Materials Limitations

Since there is no dilution, toxic materials limits are the same as the effluent limits.

V. Rationale for Monitoring and Reporting Requirements

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

A. Influent Monitoring (Not applicable)

B. Effluent Monitoring

In reviewing the monitoring reports, the State Board found that although Dischargers were reporting Total Petroleum Hydorcarbons (TPH), a distinction between diesel and gasoline was not always made. Results for TPH should be

reported as total TPH, TPH diesel (TPH-d), and TPH gasoline (TPH-g). Also, for detections of TPH-g, the amount of benzene, ethylbenzene, toluene, and xylene should be reported. Benzene, ethylbenzene, and toluene are priority pollutants. (40 CFR § 131).

C. Whole Effluent Toxicity (WET) Testing Requirements

A WET Limit is required if a discharge causes, has a reasonable potential to cause, or contributes to an exceedance of applicable water quality standards, including numeric and narrative. Since these types of discharges are prohibited under this WDR, WET limits are not applicable.

D. Receiving Water Monitoring

States are required to adopt numeric criteria where they are necessary to protect designated uses. (CWA §§ 303(a) – 303(c)). The Regional Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the State and Federal requirements for water quality control. (40 CFR 131.20). State Board Resolution 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; "The numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses." This WDR contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.

Section 13267 of the California Water Code states, in part,

> (a) A regional board, in establishing … waste discharge requirements … may investigate the quality of any waters of the state within its region" and "(b) (1) In conducting an investigation … the regional board may require that any person who … discharges … waste … that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

The attached Monitoring and Reporting Program is issued pursuant to CWC section 13267. The groundwater extraction waste discharge monitoring and reporting program required by this WDR and the attached Monitoring and Reporting Program are necessary to determine compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this WDR.

E. Other Monitoring Requirements (Not Applicable)

VI. Rationale for Provisions

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR sections 122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D.

B. Special Provisions

1. Reopener Provisions (Not Applicable)

2. Special Studies and Additional Monitoring Requirements (Not Applicable)

3. Best Management Practices and Pollution Prevention Plan (Not Applicable)

4. Compliance Schedules (Not Applicable)

5. Construction, Operation, and Maintenance Specifications (Not Applicable)

6. Special Provisions for Municipal Facilities (POTWs Only) (Not Applicable)

7. Other Special Provisions

The Dischargers shall dispose of solids removed from liquid wastes in a manner that is consistent with Title 27 of the CCR and approved by the Regional Board.

VII. Public Participation

In considering the re-issuance and adoption of this WDR the Regional Board has developed a draft WDR. The Regional Board encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Board notified interested agencies and persons of its intent to prescribe waste discharge requirements in this WDR and provided them with an opportunity to submit their written comments and recommendations. Notification was posted on the Regional Board's webpage on ~~May 21, 2007~~February 5, 2008, and published in the San Diego Union Tribune, The Riverside Press-Enterprise, and The Orange County Register newspapers on ~~November 8, 2007~~February 8, 2008. On ~~November 28, 2007~~March 12, 2008, the Regional Board sent out notification through the Regional Board Agenda by an electronic mail list.

B. Written Comments

Interested persons were invited to submit written comments concerning this tentative WDR. Comments were to be submitted in person, by fax, email, or mail to the Executive Officer at the Regional Board at the address on the cover page of this Permit.

To be fully addressed and considered by the Regional Board, written comments must have been received at the Regional Board office by 5 p.m. on March 5, 2008.

C. Public Hearing

The Regional Board held a public hearing on the tentative WDR during its regular meeting on the following date and at the following location:

Date: **March 12, 2008**
Location: **California Regional Water Quality Control Board**
San Diego Region
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, California 92123

Interested persons were invited to attend. At the public hearing, the Regional Board heard testimony pertinent to the discharge and WDR.

D. Information and Copying

WDR-related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. A partial list of these items are on the Regional Board's web site at: www.waterboards.ca.gov/sandiego

Copying of documents may be arranged through the Regional Board by calling (858) 467-2952.

E. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR was invited to contact the Regional Board, reference this WDR, and provide a name, address, and telephone number.

F. Additional Information

Requests for additional information or questions regarding this WDR may be directed to Vicente Rodriguez at (858) 627-3940 or at: VRodriguez@waterboards.ca.gov

This WDR will expire on March 12, 2012. Enrollees covered under this WDR at the time of expiration will be required to re-enroll under the reissued permit.