California Regional Water Quality Control Board
Santa Ana Region

Winston H. Hickox
Secretary for Environmental Protection

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May 23, 2003

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Terry Oda
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service - Carlsbad
State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Maughan
State Department of Water Resources - Glendale
State Department of Fish and Game - Long Beach
State Department of Health Services, San Diego – Steve Williams
Western Municipal Water District – Steve Mains
Eastern Municipal Water District – Anthony Pack
Riverside County Environmental Health Department - Sandy Bonchek
Riverside County Flood Control and Water Conservation District
South Coast Air Quality Management District - James Lents
City of Moreno Valley – City Manager
City of Perris - City Manager
Orange County Coastkeeper – Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper

RENEWAL OF WASTE DISCHARGE REQUIREMENTS FOR UNITED STATES AIR FORCE RESERVE, GROUNDWATER CLEANUP PROJECT, MARCH AIR RESERVE BASE, RIVERSIDE COUNTY, ORDER NO. R8-2003-0055, NPDES NO. CA8000400

Ladies and Gentlemen:

Enclosed is a copy of tentative Order No. R8-2002-0055, NPDES No CA8000400, for your review and comment. This Order includes updated requirements for the discharge of treated groundwater from groundwater cleanup sites to storm water channels that are tributary to Reach 3 of the San Jacinto River. These waste discharge requirements are scheduled for consideration by the Regional Board on July 1, 2003. Please provide your comments by June 9, 2003 so that they can be used in the formulation of the final draft requirements that will be presented to the Board. The final draft requirements may contain changes resulting from public comments. To view or download a copy of the final draft requirements that the Board will consider at its meeting, please access our website at www.swrcb.ca.gov/rwqcb8 on or after June 16, 2003.

If you have questions, please contact Jun Martirez at (909) 782-3258 or Susan Beeson at (909) 782-4902.

Sincerely,

Joanne E. Schneider
Environmental Program Manager

Enclosures: Tentative Order No. R8-2003-0055 and Staff Report

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

NOTICE OF PUBLIC HEARING

For
WASTE DISCHARGE REQUIREMENTS
(National Pollutant Discharge Elimination System Permit)
Order No. R8-2003-0055 (NPDES No. CA8000400)
For
United States Air Force Reserve
March Air Reserve Base, Riverside County

On the basis of preliminary staff review and application of lawful standards and regulations, the California Regional Water Quality Control Board, Santa Ana Region, proposes to revise waste discharge requirements for the United States Air Force Reserve for the discharge of treated groundwater from groundwater cleanup sites to storm water channels that are tributary to Reach 3 of the San Jacinto River.

The Board is seeking comments concerning the potential effects of this action on the water quality and beneficial uses of the affected receiving waters in the Santa Ana Region.

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

DATE:	July 1, 2003
TIME:	9:00 a.m.
PLACE:	City Council Chambers of Loma Linda 25541 Barton Road Loma Linda, California

Interested persons are invited to submit written comments on the proposed Order No. R8-2003-0055. Interested persons are also invited to attend the public hearing and express their views on issues relating to the proposed Order. Oral statements will be heard, but should be brief to allow all interested persons time to be heard. For the accuracy of the record, all testimony (oral statements) should be submitted in writing.

Although all comments that are provided up to and during the public hearing on this matter will be considered, receipt of comments by June 9, 2003 would be appreciated so that they can be used in the formulation of the final draft order that will be transmitted to the Board two weeks prior to the hearing. The final draft Order may contain changes resulting from comments received from the public. To view on/or download a copy of the final draft Order, please access our website at *www.swrcb.ca.gov/rwqcb8* on or after correct June 16, 2003.

The Board's proposed Order, related documents, and all comments and petitions received may be inspected and copied at the Regional Board office, 3737 Main Street, Suite 500, Riverside, CA 92501-3348 (phone 909-782-4130) by appointment scheduled between the hours of 9:00 a.m. and 3:00 p.m., Monday through Friday. Copies of the proposed Order will be mailed to interested persons upon request to Jun Martirez (909) 782-3258).

Any person who is physically handicapped and requires special accommodation to participate in this Regional Board Meeting should contact Barbara Laffoon at (909) 782-3285 no later than June 16, 2003.

California Regional Water Quality Control Board
Santa Ana Region

July 1, 2003

STAFF REPORT

ITEM: 6

SUBJECT: Waste discharge requirements for the discharge to surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by petroleum hydrocarbons, solvents and/or solvents mixed with petroleum hydrocarbons at March Air Reserve Base, Riverside County, Order No. R8-2003-0055, (NPDES No. CA8000400

DISCUSSION:

The United States Air Force started investigations under the Department of Defense Installation Restoration Program (IRP) at March Air Force Base (AFB), Riverside County in September 1983. The Installation Restoration Program is the investigation and cleanup of contaminant releases resulting from past military practices that occurred prior to 1988. The investigations and cleanup are conducted in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and Executive Orders 12088 and 12580.

Thirty areas of concern were identified in the initial investigations at March AFB. In September 1990, a Federal Facility Agreement (FFA) was signed by the Air Force, U.S. Environmental Protection Agency (EPA), and the State of California (both the Department of Toxic Substances Control and Regional Board) to establish procedures for involving federal and state regulatory agencies and the public in the March AFB environmental restoration process.

On November 21, 1990, shortly after the signing of the FFA, March AFB was listed on the EPA's National Priorities List (Superfund site) primarily due to the presence of contamination in groundwater beneath the Base.

In 1993, the Base Closure and Realignment Commission designated March AFB for realignment, resulting in the transfer of most of the active duty Air Force personnel and aircraft in April 1996. The Air Force Reserve and California Air National Guard units remained, and a portion of the Base was re-designated as March Air Reserve Base (MARB). Due to realignment, substantial areas of the Base (particularly the western portion) are being transferred to civilian and other agencies, decreasing the 1993 area of the March AFB by about two-thirds. It should be noted that the groundwater cleanup project is defined by the pre-1993 Base boundary that includes the groundwater plume emanating from the Base and beneath the property along the eastern Base boundary.

The strategy for groundwater cleanup at the current March Air Reserve Base (MARB) and the former Air Force Reserve property (an area of over 7,000 acres) has been to contain contaminant plumes along the eastern Base boundary utilizing groundwater pump and treat systems, to monitor dispersion of the off-base plume east of the Base boundary, and to conduct

soil and groundwater cleanups at identified groundwater plume source sites.

Generally, there are four types of groundwater source area contamination at the site: solvent releases, landfills, fuel and other petroleum product releases, and a combination of solvent and fuel releases. The primary groundwater contaminants of concern are: fuels (gasoline, JP-4 jet fuel, benzene, toluene, ethylbenzene, xylenes (BTEX compounds)), and solvents (trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dicloroethane (1,1 DCA), carbon tetrachloride (CCL), cis and trans 1,2-dichloroethene (1,2 DCE), chloroform, and 1,2-dichloropropane).

Forty-three contamination sites were identified and grouped into three Operable Units (OU), OU-1, OU-2, and OU-3. OU-1 includes sites along the eastern boundary of the Base. Also included in OU-1 is Groundwater Plume Site 4, a landfill solvent release site. Groundwater extracted from OU-1 sites is treated by the expanded groundwater treatment system (EGETS) and discharged to surface waters re-injected, and/or discharged to the Base wastewater treatment plant. OU-2 includes all other sites except one flight-line site. OU-2 has three groundwater source sites in operation, with two to three systems planned. Currently, product water from all OU-2 groundwater treatments systems is discharged into the Base wastewater treatment plant. OU-1 & 2 have multiple spill or landfill groundwater plume source sites. OU-3 includes the large flight-line jet fuel release site. Presently, no groundwater is treated at the OU-3 site.

The groundwater extraction and treatment system (GETS) interim groundwater remedial action was constructed in 1991 and began operation in 1992. It was comprised of eight extraction wells spaced 400 feet apart along the eastern base boundary of March AFB. Groundwater treatment utilized granular activated carbon (GAC) filtration for volatile organic compounds (VOCs). The GETS system was expanded in 1996 as part of the remediation at OU-1 Groundwater Plume along with groundwater remedial actions at Site 31, a solvent release site, and Site 18, a jet fuel release site. A new treatment plant was constructed as part of this effort (the expanded groundwater treatment system, or EGETS).

The EGETS is located along the eastern boundary of MARB and extends north and south at the eastern boundary of the former March AFB, outside the current base boundary. The extraction well network is comprised of 17 extraction wells constructed at depths ranging from 75 to 200 feet deep. Each well is equipped with electric submersible impeller pumps. The extraction rate is less than 300 gallons per minute. The system includes five injection wells with flow rates of 3 to 4 gallons per minute. The overall system includes piping, transfer pumps, and treatment plant. In addition to groundwater injection, treated groundwater is discharged to the Heacock storm channel or to the base wastewater treatment plant for subsequent recycling.

The base treatment system to remove VOCs is a liquid-phase granular activated carbon (LGAC) treatment system. The LGAC is the water treatment employed in the EGETs. The LGAC treatment system consists of four vessels, two containing 60,000 pounds and two containing 5,200 pounds of coconut shell or similar carbon source and operating in series. The contaminants adsorb onto the carbon, which is periodically removed and replaced.

Site 4 – This site is a closed landfill along the eastern boundary of March AFB. The site is a source of solvent groundwater contamination, principally PCE. Groundwater is currently being extracted from two extraction wells and one monitoring well. These wells are connected as part of the EGETS system and are 3 of the 17 extraction wells making up that system.

Site 18 – This site is a fuel release site located in the airfield, which has groundwater contamination by petroleum hydrocarbons and BETX. Past remedial activities have included dual-phase vapor extraction in which the groundwater was pumped to the EGETS southern transfer station for treatment. This remedial action has been suspended and no groundwater has been extracted for treatment for more than two years.

Site 31 – This site is comprised of two areas (A and B) that are 300 feet apart. Both are OU-1 groundwater contamination source areas. Surface releases of solvents, principally TCE to soil and groundwater, occurred at both sites. To remedy solvent soil and groundwater contamination at both sites, dual-phased vapor extraction was implemented. Remedial action at Site 31A has been completed. Remedial action for soil at Site 31B is completed. Three groundwater extraction wells are currently operating at Site 31B.

A portion of treated groundwater from OU 1 cleanup sites is discharged into the Heacock Storm Channel, which is tributary to the Perris Valley storm drain and ultimately (approximately 9 miles downstream), to the San Jacinto River, Reach 3. Typically, the Heacock Channel is dry, except during storms, and the treated groundwater infiltrates into the unlined channel bottom adjacent to the base. Treated groundwater is also injected for plume control on Base and discharged to the base wastewater treatment plant to increase the volume of water available to recycled-water users. Treated groundwater discharges from the GETS and EGETS to the Channel were initially authorized on March 14, 1995 under General Groundwater Cleanup Permit Order No. 91-63-151. Discharges ranging from 250,000 gallons to two million gallons per day were re-authorized on October 22, 1996 and on March 19, 1998 under General Groundwater Cleanup Permit Order No. 96-18-002, NPDES No. CAG918001. On January 23, 2002, Order No. 96-18 was replaced by general groundwater cleanup Order No. R8-2002-0007, NPDES No. CAG918001.

Wastewater discharges from the facility consist mainly of those from groundwater pump and treatment systems, groundwater sampling and well construction and maintenance activities, and site investigations.

In response to the adoption of Order No. R8-2002-0007, dischargers enrolled under Order No. 96-18 were required to submit a Notice of Intent to be covered under the new Order. Instead, the Air Force Reserve submitted a letter that asserted that since the groundwater cleanup project addresses a federal Superfund site, the Reserve is exempt from regulation under waste discharge requirements pursuant to CERCLA. However, the Air Force Reserve acknowledges that the substantive requirements of WDRs are appropriate and applicable under CERCLA, and has acted to assure compliance with the substantive requirements of Order Nos. 96-18 and R8-2002-0007, including the submittal of monitoring reports. March ARB has been in compliance with these waste discharge requirements.

The issuance of individual waste discharge requirements, rather than authorization to discharge under the general permit, is recommended because discharges from the site include not only discharges to surface waters but also discharges to on-site percolation trenches, re-injection wells, and to the facility wastewater treatment plant for subsequent use for landscape irrigation, etc. These non-surface water discharges are not covered in the general permit. Furthermore, this Order includes effluent limitations for pollutants of concern that are present onsite but that are not currently limited in the general permit.

The discharge overlies the Perris North Groundwater Subbasin, the beneficial uses of which include municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply.

The beneficial uses of the San Jacinto River Reach 3 (Canyon Lake to Nuevo Road), are intermittent and include agricultural supply, groundwater recharge, water contact recreation, non water contact recreation, warm freshwater habitat, and wildlife habitat. The beneficial uses of Canyon Lake are municipal and domestic supply, agricultural supply, groundwater recharge, water contact recreation, non water contact recreation, and warm freshwater habitat.

The proposed limitations for trichloroethene (TCE), tetrachloroethene (PCE), 1,1-dichloroethane (1,1 DCA), 1,2-dichloroethane (1,2 DCA), 1,1-dichloroethane (1,1 DCE), cis and trans 1,2-dichloroethene (1,2 DCE), 1,2-dicholropropane (1,2-DCP), total petroleum hydrocarbons, benzene, toluene, ethylbenzene, and total xylene (BTEX) reflect levels that are at or below the State Department of Health Services' Drinking Water Maximum Contaminant Levels and are technologically achievable. The discharge limitations should be adequate to protect the beneficial uses of the waters in the area.

Attachment "A" shows the Location Map
Attachment "B" shows the Site Plan EGETS Facilities and Discharge Facilities
Attachment "C" shows the Piping and Instrumentation Diagram, Site 31 Treatment System (EGETS Liquid Phase)

RECOMMENDATION:

Adopt Order No. R8-2003-0055

Comments were solicited from the following:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Terry Oda
U.S. Army District, Los Angeles, Corps of Engineers - Regulatory Branch
U.S. Fish and Wildlife Service - Carlsbad
State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State Water Resources Control Board, Division of Water Quality - James Maughan
State Department of Water Resources - Glendale
State Department of Fish and Game - Long Beach
State Department of Health Services, San Diego – Steve Williams
Riverside County Environmental Health Department - Sandy Bonchek
Riverside County Flood Control and Water Conservation District
City of Moreno Valley – City Manager
City of Perris – City Manager
Western Municipal Water District – District Manager
Eastern Municipal Water District
South Coast Air Quality Management District - James Lents
Orange County Coastkeeper – Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper

California Regional Water Quality Control Board
Santa Ana Region

ORDER NO. R8-2003-0055
NPDES No. CA8000400

Waste Discharge Requirements
For

The United States Air Force Reserve
March Air Reserve Base
Riverside County

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

1. The United States Air Force Reserve (hereinafter discharger) owns and operates March Air Reserve Base in Riverside County. The Reserve Base is a portion of the former March Air Force Base. Cleanup of polluted groundwater and soils resulting from past operations at the facility, including parts of the former Air Force Base, is ongoing under the Installation Restoration Program. The discharge of treated groundwater generated by the cleanup program has been regulated by Order No. 96-18-002, NPDES No. CAG918001, general waste discharge requirements for discharges to surface waters of extracted and treated groundwater resulting from the cleanup of groundwater polluted by solvents and/or petroleum hydrocarbons at spills, leaks, landfills, fueling stations and similar sites. On January 23, 2002, Order No. 96-18-002 was replaced by Order No. R8-2002-0007, NPDES No. CAG918001. The Air Force Reserve has complied with the terms and conditions of both Orders, despite its recent assertion that it is exempt from regulation under waste discharge requirements pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

2. The March Air Reserve Base is located at longitude 117°15’32.43”, latitude 33°52’54.89”.

3. Wastewater discharges from the facility consist of those from groundwater pump and treatment systems, groundwater sampling and well construction and maintenance activities, and site investigations.

4. Currently, all groundwater treatment systems in operation use granular activated carbon for treatment of the extracted groundwater.

5. This Order regulates the discharge into surface waters of treated groundwater that meets the requirements of this Order, as well as discharges to on-site percolation trenches, re-injection wells, and to the facility wastewater treatment plant for subsequent use for landscape irrigation. It does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste to storm drain systems or other watercourses subject to their jurisdiction.

6. A maximum of 400,000 gallons per day of treated groundwater is discharged to the Heacock storm water channel at Discharge Serial 001-OU-1/EGETS located at latitude 117°: 14': 37.9" and longitude 33°: 53': 11.9". The Heacock Channel is tributary to the Perris Valley storm drain and ultimately (approximately 9 miles downstream) the San Jacinto River, Reach 3. Discharges to the Heacock Channel typically infiltrate into the unlined bottom of the channel adjacent to the Reserve Base.

7. A Water Quality Control Plan (Basin Plan) became effective on January 24, 1995. The Basin Plan contains beneficial uses and water quality objectives for waters in the Santa Ana Region.

8. The existing and potential beneficial uses of San Jacinto River Reach 3 include:
   a. Intermittent Agricultural Supply,
   b. Intermittent Groundwater Recharge,
   c. Intermittent Water Contact Recreation,
   d. Intermittent Non-contact Water Recreation
   e. Intermittent Warm Freshwater Habitat, and
   f. Intermittent Wildlife Habitat,

9. The beneficial uses of the Perris North Groundwater Subbasin include:
   a. Municipal and Domestic Supply,
   b. Agricultural Supply,
   c. Industrial Process Supply, and
   d. Industrial Service Supply.

10. The requirements contained in this Order are necessary to implement the Basin Plan.

11. Effluent limitations and national standards of performance established pursuant to Section 301, 302, 303(d), 304, 306, and 307 of the Federal CWA and amendments thereto are applicable to this type of discharges.

12. On May 18, 2000, the U.S. Environmental Protection Agency issued a final rule for the establishment of Numeric Criteria for Priority Toxic Pollutants necessary to fulfill the requirements of Section 303(c)(2)(B) of the Clean Water Act for the State of California. This rule is commonly referred to as the California Toxics Rule.

13. Federal Regulations require permits to include limitations for all pollutants that are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion of a water quality standard. This Order includes effluent limitations for the identified contaminants of concern at March ARB. These limitations are based on best available technology economically achievable and Department of Health Services Maximum Contaminant Levels (MCLs).

14. The quality characteristics of the discharges and the impacts of the discharges on the affected receiving waters have been carefully considered. If conducted in accordance with the terms and conditions of this Order, the discharge will not result in adverse impacts to the beneficial uses of the affected receiving waters. Groundwater treatment systems may reduce pollutant concentrations to levels that are not detectable, or that are detectable but are less than the permit limits specified in this Order. Discharges from such systems may result in the lowering of water quality. However, any such lowering of water quality would not be significant. Moreover, it is to the maximum benefit of the people of the State to allow such lowering of water quality in order to facilitate groundwater cleanup activities and thereby restore and protect the beneficial uses of affected groundwaters. Therefore, these waste discharge requirements are consistent with federal and state antidegradation policies.

15. In accordance with California Water Code Section 13389, the issuance of waste discharge requirements for this discharge is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (Commencing with Section 21100), Division 13 of the Public Resources Code.

16. The Regional Board has notified interested agencies and persons of its intent to issue general waste discharge requirements for groundwater cleanup discharges resulting from the cleanup of groundwater, and has provided them with an opportunity to submit their written views and recommendations.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. DISCHARGE SPECIFICATIONS

1. The discharge of wastes shall not contain constituent concentrations in excess of the following limits:

EFFLUENT LIMITATIONS APPLICABLE TO DISCHARGES		
Constituent	Maximum Daily Concentration Limit (µg/l)	Average Monthly Concentration Limit (µg/l)
Total Petroleum Hydrocarbons	155	100
Benzene	1.6	1.0
Toluene	15.5	10.0
Xylene	15.5	10.0
Ethylbenzene	15.5	10.0

EFFLUENT LIMITATIONS APPLICABLE TO DISCHARGES		
Constituent	Maximum Daily Concentration Limit (µg/l)	Average Monthly Concentration Limit (µg/l)
Carbon Tetrachloride	0.39	0.25
Chloroform	8.8	5.7
Naphthalene	15.5	10.0
Tetrachloroethylene (PCE)	5	5
Trichloroethylene (TCE)	5	5
1,2-Dichloroethane (1,2-DCA)	0.5	0.5
1,1-Dichloroethylene (1,1-DCE)	6	6
cs-1,2-Dichloroethylene	6	6
trans-1,2-Dichloroethylene	10	10

2. The pH of the discharge shall be within 6.5 and 8.5 pH units (see also Receiving Water Limitations B.2.g.).

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

B. RECEIVING WATER LIMITATIONS:

1. The discharge of wastes shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Board or the State Board, as required by the Federal CWA and regulations adopted thereunder.

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

   a. The undesirable discoloration of the receiving waters.

   b. The presence of objectionable odor in the receiving water.

   c. The presence of visible oil, grease scum, floating or suspended material or foam in the receiving waters.

   d. The deposition of objectionable deposits along the banks or the bottom of the stream channel.

   e. The depletion of the dissolved oxygen concentration below 5.0 mg/l in the receiving water. If the ambient dissolved oxygen concentration is less than 5.0 mg/l, the discharge shall not cause a further depression.

   f. An increase in the temperature of the receiving waters above 90°F (32°C) which normally occurs during the period of June through October, nor above 78°F (26°C) during the rest of the year.

g. Change the ambient pH levels more than 0.5 pH units.

h. The presence of radionuclides in concentrations that exceed the maximum permissible concentrations for radionuclides in water set forth in Chapter 5, Title 17 of the California Code of Regulations.

i. The concentration of pollutants in the water column, sediments, or biota to adversely affect the beneficial uses of the receiving waters.

j. The bioaccumulation of chemicals in aquatic resources to levels which are harmful to human health.

3. The discharge shall not result in acute toxicity in ambient receiving waters. The effluent shall be deemed to cause acute toxicity when the toxicity test of 100% effluent as required in Monitoring and Reporting Program No. R8-2003-0055, results in failure of the test as determined using the pass or fail test protocol specified in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA-821-R-02-012, Fifth Edition, October 2002). The discharger shall immediately stop the discharge whenever the discharge fails the toxicity test(s). Prior to resuming the discharge, the discharger shall identify and correct the source of the toxicity to the satisfaction of the Executive Officer.

C. PROHIBITIONS:

1. The discharge of oil, trash, industrial waste sludge, or other solids directly to the surface waters in this region or in any manner that will ultimately affect surface waters in this region is prohibited.

2. The discharge of any substances in concentrations toxic to animal or plant life is prohibited.

3. The discharge of wastes to property not owned or controlled by the discharger is prohibited.

4. Odors, vectors, and other nuisances of waste origin are prohibited beyond the limits of each discharger's facility.

5. The addition of chemicals to the extracted groundwater, exclusive of chlorine to control biofouling (H_2S) in treatment systems, is prohibited except when approved by the Executive Officer.

D. COMPLIANCE DETERMINATION:

1. The "maximum daily" concentration is defined as the measurement made on any single grab sample or composite sample.

2. Compliance with average weekly and monthly discharge limitations specified under Discharge Specifications A.1. shall be determined from the average of the analytical results of all samples collected during a calendar week or month, respectively. Where a calendar week overlaps two different months, compliance shall be determined for the month in which the week ends.

3. Compliance with Discharge Specification A.1. shall be based on the minimum level[1] (ML) specified in Attachment "A" of the Monitoring and Reporting Program No. R8-2003-0055, unless an alternative minimum level or practical quantitation level[2] (PQL) is approved for the pollutant of concern by the Regional Board's Executive Officer. If the discharger develops a limit of quantitation (LOQ) specific to their matrix, the LOQ shall serve as the ML with the approval of the Executive Officer of the Regional Board. If no minimum level is specified for a constituent, the method detection limit (MDL) specified in 40 CFR 136 shall be used. If no MDL is available, the lowest practicable detection limit shall be used with the approval of the Executive Officer.

4. Compliance determinations shall be based on available analyses for the time interval associated with the effluent limitation. Where only one sample analysis is available in a specified time interval (e.g., weekly, monthly, quarterly), that sample shall serve to characterize the discharge for the entire interval.

5. When determining compliance, based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g., PCBs), concentrations of individual members of the group may be considered to be zero if the analytical response for individual chemicals falls below the MDL for that chemical.

6. Compliance with an effluent limitation based on multiple samples shall be determined through the application of appropriate statistical methods. Compliance based on a single sample analysis may be determined where appropriate, as described below.

    a. When the effluent limitation is greater than or equal to the ML or PQL, compliance shall be determined based on the effluent limitation and either single or multiple sample analyses.

    b. When the effluent limitation is less than the ML or PQL compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the ML or PQL.

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

2 *PQL is the lowest concentration of a substance that can be determined within ± 20 percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL is the method detection limit (MDL) x 5 for carcinogens and MDL x 10 for noncarcinogens.*

c. When the effluent limitation is less than the ML or PQL, and recurrent analytical responses between the ML or PQL and the effluent limitation occur, compliance shall be determined by statistical analysis of multiple samples.

d. For statistical analysis, the March 1991 Technical Support Document (EPA/505/2-90-001) methodology or other methods approved by the Executive Officer of the Regional Board shall be used.

7. For priority pollutants, when determining compliance with an average monthly limit and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or not detected (ND). In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, 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 pollutant minimization program (PMP)[3] (as described in Section E.6.), the discharger shall not be deemed out of compliance.

8. For non-priority pollutants, compliance based on a single sample analysis shall be determined where appropriate, as described below:

a. When the effluent limitation is greater than or equal to the PQL, compliance shall be determined based on the effluent limitation in either single or multiple sample analyses.

b. When the effluent limitation is less than the PQL, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL.

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[3] *The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation.*

9. For non-priority pollutants, the discharge shall be considered to be in compliance with an effluent limitation that is less than or equal to the PQL specified in Attachment "A" of M&RP No. R8-2003-0055 if the arithmetic mean of all test results for the monitoring period is less than the constituent effluent limitation. Analytical results that are less than the specified PQL shall be assigned a value of zero.

E. PROVISIONS

1. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the CWA, or amendments thereto, that shall become effective 10 days after the date of adoption, provided the Regional Administrator of the EPA has no objection. If the Regional Administrator objects to its issuance, this Order shall not serve as an NPDES permit until such objection is withdrawn.

2. Neither the treatment nor the discharge of waste shall create, or threaten to create, a nuisance or pollution as defined by Section 13050 of the California Water Code.

3. This Order expires on June 1, 2008. However, it shall continue in full force and effect until a new Order is issued.

4. The discharger shall comply with M&RP No. R8-2003-0055. Revision of this monitoring and reporting program by the Executive Officer may be necessary to confirm that the discharger is in compliance with the requirements and provisions contained in this Order. Revisions may be made by the Executive Officer at any time during the term of this Order, and may include a reduction or an increase in the number of constituents to be monitored, the frequency of monitoring or the number and size of samples collected. Reduction in the number of constituents being monitored and/or frequency of monitoring shall be considered only if the following conditions are satisfied:

    a. The discharger has not been convicted of any criminal convictions under any environmental statute and has no NPDES civil, judicial or administrative enforcement actions.

    b. The discharger has been covered under Order No. 96-18 or under an existing individual permit for the last consecutive two years and has had no effluent violations of monitored constituents during the last two years.

    c. Constituents with effluent limitations shall be monitored at least once per year.

    d. The following performance conditions shall be met:

        1) For a specific constituent, reduction of weekly monitoring to bi-monthly (every two weeks) monitoring can be considered with approval by the Executive Officer when the effluent monitoring data for the last 3 months show compliance with effluent limitations.

2) For a specific constituent, reduction of bi-monthly (every two weeks) monitoring to monthly monitoring can be considered with approval by the Executive Officer when the effluent monitoring data for the last 6 months show compliance with effluent limitations.

3) For specific constituent, reduction of monthly monitoring to quarterly monitoring can be considered with approval by the Executive Officer when the effluent monitoring data for the last 12 months show compliance with effluent limitations.

e. Should any of the weekly, bi-monthly, monthly, quarterly or annual monitoring for a specific constituent show effluent concentrations above the effluent limit, the frequency of monitoring for that constituent shall be increased to weekly or daily as directed by the Executive Officer.

f. Should groundwater treatment and discharge stop for more than one month, the frequency of monitoring shall be increased to weekly as directed by the Executive Officer.

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

6. The discharger shall conduct a Pollutant Minimization Program (PMP) when there is evidence that the priority pollutant is present in the effluent above an effluent limitation (e.g., sample results reported as detected but not quantified (DNQ) when the effluent limitation established in this Order is less than the MDL, sample results from analytical methods more sensitive than those methods included in this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) and either: (i) A sample result is reported as DNQ and the effluent limitation is less than the reported ML; or (ii) A sample result is reported as ND and the effluent limitation is less than the MDL. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Board:

a. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
b. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
c. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
d. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
e. An annual status report that shall be sent to the Regional Board including:
   1) All PMP monitoring results for the previous year;
   2) A list of potential sources of the reportable priority pollutant(s);
   3) A summary of all actions undertaken pursuant to the control strategy; and

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

7. The discharger shall comply with all requirements of this Order.

8. The discharge shall be limited to extracted and treated groundwater and added treatment chemicals approved by the Executive Officer.

9. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

10. The discharger shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations specified in this Order, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

11. The discharger shall, at all times, properly operate and maintain[4] all facilities and systems of treatment (and related appurtenances) and control which are installed or used by the discharger to achieve compliance with this Order. Proper operation and maintenance shall include the following:

    a. Effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls and appropriate quality assurance procedures.

    b. Regular maintenance and inspection of all systems.

    c. Maintenance of records of the inspection results that shall be made available to the Regional Board whenever required and demanded.

12. An Operation and Maintenance (O&M) Manual shall be updated as appropriate prior to the initiation of the discharge and shall be readily accessible to site operating personnel. The O&M Manual shall include the following:

    a. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

    b. Process and equipment inspection and maintenance schedules.

    c. Describe preventive (fail-safe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

    d. Identification and description of the possible sources of accidental loss, bypass of untreated or partially treated wastes, and polluted drainage including power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes and possible spills.

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[4] *Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls and appropriate quality assurance procedures.*

13. All treatment facility startup and operation instruction manuals shall be maintained and available to operating personnel at the site where groundwater remediation is being conducted.

14. The discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.

15. This Order does not convey any property rights of any sort, or any exclusive privilege.

16. This Order is not transferable to any person except after notice to and approval by the Regional Board.

17. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from his liabilities under federal, state, or local laws, nor guarantee the discharger a capacity right in the receiving waters.

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

19. Any violation of this Order constitutes a violation of the CWA, its regulations, and the California Water Code, and is grounds for enforcement action and/or termination of the authorization to discharge.

20. The Regional Board, EPA, and other authorized representatives shall be allowed:

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Access to copy any records that are kept under the conditions of the order;

    c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

    d. To photograph, sample and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA.

F. PERMIT REOPENING, REVISION, REVOCATION, AND RE-ISSUANCE:

1. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, or amendments thereto, the Board will revise and modify this Order in accordance with such standards.

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

3. Any permit noncompliance constitutes a violation of the CWA and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; the issuance of an individual permit; or for denial of a renewal application.

4. This Order may be modified by the Regional Board prior to the expiration date to include effluent or receiving water limitations for toxic constituents determined to be present in significant amounts in the discharge through the comprehensive monitoring program included as part of this Order.

5. This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by a discharger for modification, revocation and reissuance, or termination of this Order or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G. PENALTIES:

1. The CWA provides that any person who violates a provision implementing sections 301, 302, 306, 307, or 308 of the CWA is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates provisions implementing these sections of the CWA is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

2. 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 permit, 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 6 months per violation, or by both.

3. 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 per violation, or by imprisonment for not more than six months per violation, or by both.

4. The California Water Code provides that any person who violates a waste discharge requirement or a provision of the California Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day, or $20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

H. REQUIRED REPORTS AND NOTICES:

1. Reporting Provisions:

   a. All applications, reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22.

   b. The discharger shall furnish, within a reasonable time, any information the Regional Board or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

   c. Except for data determined to be confidential under Section 308 of the CWA, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Section 13387 of the California Water Code.

2. The discharger shall file with the Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location, volume, treatment or disposal methods of the discharge.

3. The discharger shall give advance notice to the Regional Board of any planned changes in the permitted facility or activity that may result in noncompliance with these waste discharge requirements.

4. The discharger shall submit to the Executive Officer, as part of the application for proposed discharge, a report certifying the adequacy of each component of the proposed treatment system and the associated Operation and Maintenance (O&M) Manual. This certification shall contain a requirement-by-requirement analysis, based on accepted engineering practice, of how the process and physical design of the treatment systems will ensure compliance with this Order. The design engineer[5] shall affix his/her signature, professional license number and seal to this certification.

5. In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which signed by the new owner accepting responsibility for complying with this Order shall be forwarded to the Executive Officer.

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[5] *A registered civil engineer, registered geologist, or certified engineering geologist licensed in the State of California (Sections 6735, 7835, and 7835.1 of the California Business and Profession's Code).*

6. The discharger shall furnish, within a reasonable time, any information the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on July 1, 2003.

_____

Gerard J. Thibeault
Executive Officer

California Regional Water Quality Control Board
Santa Ana Region

Monitoring and Reporting Program No. R8-2003-0055
NPDES No. CA8000400
for
Groundwater Cleanup
Installation Restoration Program
March Air Reserve Base
Riverside County

A. MONITORING GUIDELINES

Monitoring shall be in accordance with the following:

1. All sampling and sample preservation shall be in accordance with the current edition of "*Standard Methods for the Examination of Water and Wastewater*" (American Public Health Association).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of May 14, 1999) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this monitoring and reporting program (M&RP). In addition, the Regional Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136. Unless otherwise specified herein, organic pollutants shall be analyzed using EPA method 8260, as appropriate, and results shall be reported with ML or PQL and MDL.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services or EPA or at laboratories approved by the Executive Officer of the Regional Board.

4. In conformance with federal regulations (40 CFR 122.45(c)), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. However, in the event that individual concentration levels for lead show detectable amounts, the discharger shall also determine the individual dissolved metal concentration.

5. The discharger shall conduct acute toxicity testing as specified in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms (EPA-821-R-02-012, Fifth Edition, October 2002). Using a control and 100% effluent, static renewal survival (pass/fail) tests for 96 hours shall be conducted using Water flea (*Ceriodaphnia dubia*) for the required annual test under this permit. The effluent tests must be conducted concurrent with reference toxicant tests. The effluent and reference toxicant tests must meet all test acceptability criteria as specified in the acute manual[1]. If the test acceptability criteria are not achieved, then the discharger must re-sample and re-test within 14 days. The test results must be reported according to the acute manual chapter on Report Preparation, and shall be attached to the monitoring reports. The use of alternative methods for measuring acute toxicity may be considered by the Executive Officer on a case-by-case basis.

   In the event that the required annual toxicity test fails, the discharger shall stop any discharge of wastewater to waters of the U.S. and shall retest within 14 days of receiving the notice of failure and shall determine the cause of the failure. The discharger shall stop any discharge of wastewater to waters of the U.S. until such time that the cause of toxicity is determined and appropriately addressed. Commencement of any discharge shall be with prior approval by the Executive Officer.

6. All analytical data shall be reported with minimum levels (ML)[2], method detection limits (MDLs) and with identification of either practical quantitation levels (PQLs) or limits of quantitation (LOQs).

7. The discharger shall select and use the appropriate ML from Attachment "A' of this M&RP. For a specific constituent, when there is more than one ML value, the discharger shall select and use the ML value and its associated analytical method, listed in Attachment A of this M&RP which is lower than the effluent limitation. If no ML value is below the effluent limitation, then Regional Board will select the lowest ML value and its associated analytical method, listed in Attachment A.

8. For non-priority priority pollutants[3], laboratory data must quantify each constituent down to the Practical Quantitation Levels specified in Attachment "B". Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Board will reject the quantified laboratory data if quality control data is unavailable or unacceptable.

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1 *"Acute manual" refers to protocols described in "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" (EPA-821-R-02-012, Fifth Edition, October 2002).*

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

3 *Pollutants not listed in table shown in 40 CFR 131.38.*

9. The discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Board or EPA, the discharger shall participate in the NPDES discharge monitoring report QA performance study. The permittee must have a success rate equal to or greater than 80%.

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

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

12. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Influent samples shall be taken at each point of inflow to the treatment system and shall be representative of the influent to the treatment system. Effluent samples shall be taken downstream of the last addition of waste to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters.

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

14. The discharger may request a reduction in the constituents to be monitored and/or a reduction in monitoring frequency for a specific constituent(s) subject to the approval of the Executive Officer when the conditions stipulated in Provisions E.4. of this Order are met.

15. The discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Board at any time. Records of monitoring information shall include:

    a. The date, exact place, and time of sampling or measurements;

    b. The individual(s) who performed the sampling, and/or measurements;

    c. The date(s) analyses were performed;

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

    e. The analytical techniques or methods used, including any modification to those methods;

f. All sampling and analytical results, including

1) units of measurement used;
2) minimum reporting limit for the analysis (minimum level, practical quantitation level (PQL));
3) results less than the reporting limit but above the method detection limit (MDL);
4) data qualifiers and a description of the qualifiers;
5) quality control test results (and a written copy of the laboratory quality assurance plan);
6) dilution factors, if used; and
7) sample matrix type; and

g. All monitoring equipment calibration and maintenance records;

h. All original strip charts from continuous monitoring devices;

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

j. Copies of all reports required by this Order.

16. Discharge monitoring data shall be submitted in a format acceptable to the Regional Board. Specific reporting format may include preprinted forms and/or electronic media. Unless otherwise specified, discharge flows shall be reported in terms of daily average discharge flows. The results of all monitoring required by this Order shall be reported to the Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

17. The discharger shall deliver a copy of each monitoring report in the appropriate format to:

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

18. Weekly samples shall be collected on a representative day of each week.

19. Monthly samples shall be collected on a representative day of the month.

20. Quarterly samples shall be collected in January, April, July, and October.

21. Semi-Annual samples shall be collected once during dry weather (April to September) and once during wet weather (October to March) for the first year of the discharge. The discharger may terminate monitoring for the congeners when the required wet and dry weather monitoring is complied with.

22. Annual samples shall be collected on the month the discharge authorization letter was issued.

B. INFLUENT MONITORING

A grab[4] sample of the influent to the treatment system shall be monitored on a quarterly basis for total petroleum hydrocarbons, benzene, toluene, xylenes, ethylbenzene, tetrachlorethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethylene (1,1-DCE), 1,2-dichloroethylene (1,2-DCE), chloroform, and methyl tertiary butyl ether (MTBE).

C. EFFLUENT MONITORING

1. The following shall constitute the effluent monitoring program:

CONSTITUENT[5]	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
Flow	------	GPD	Daily for one week and weekly thereafter
Total Petroleum Hydrocarbons[6]	Grab	µg/l	Quarterly
Benzene	"	"	"
Toluene	"	"	"
Xylene	"	"	"
Ethylbenzene	"	"	"
Carbon Tetrachloride	"	"	"
Chloroform	"	"	"

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

5 *For testing organic volatile compounds use EPA Method 8260 and report entire suite of detected constituents at level of concern (see footnote 2, above).*

6 *Total Petroleum Hydrocarbons with gasoline distinction. TPH-G (Modified 8015) must include analysis for carbon range C4 through C12.*

CONSTITUENT[5]	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
Methyl Tertiary Butyl Ether (MTBE)	Grab	µg/l	Quarterly
Naphthalene	"	"	"
Tetratchloroethylene (PCE)	"	"	"
Trichloroethylene (TCE)	"	"	"
1,1-Dichloroethane (1,1-DCA)	"	"	"
1,2-Dichloroethane (1,2-DCA)	"	"	"
1,1-Dichloroethylene (1,1-DCE)	"	"	"
1,2-Dichloroethylene (1,2-DCE)	"	"	"
1,2-Dichloropropane (1,2-DCP)			
1,1,1-Trichloroethane (1,1,1-TCA)	"	"	"
Total Dissolved Solids	"	mg/l	"
Arsenic[7]	Grab	mg/l	Quarterly
Thallium[6]	"	"	"
Total Dissolved Solids	"	mg/l "	"
Total Inorganic Nitrogen (TIN)	Grab	mg/l "	Semi-Annual
2,3,7,8-TetraCDD	"	µg/l	One time sampling during first year (See A.6. & A.22.)
1,2,3,7,8-PentaCDD	"	"	"
1,2,3,4,7,8-HexaCDD	"	"	"
1,2,3,6,7,8-HexaCDD	"	"	"
1,2,3,7,8,9-HexaCDD	"	"	"
1,2,3,4,6,7,8-HeptaCDD	"	"	"
OctaCDD	"	"	"
2,3,7,8-TetraCDF	"	"	"
1,2,3,7,8-PentaCDF	"	"	"

[7] *Arsenic, thallium and selenium to be monitored quarterly for one year.*

CONSTITUENT[5]	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF SAMPLING & ANALYSIS
2,3,4,7,8-PentaCDF	Grab	µg/l	One time sampling during first year (See A.6. & A.22.)
1,2,3,4,7,8-HexaCDF	"	"	"
1,2,3,6,7,8-HexaCDF	"	"	"
1,2,3,7,8,9-HexaCDF	"	"	"
2,3,4,6,7,8-HexaCDF	"	"	"
1,2,3,4,6,7,8-HeptaCDF	"	"	"
1,2,3,4,7,8,9-HeptaCDF	"	"	"
OctaCDF	"	"	"
Toxicity Testing (see paragraph A.5., above.)	Grab	Pass/Fail	June 2006

2. The discharger may request a reduction in the monitoring frequency when appropriate in accordance with Section E.4 of the Order.

D. REPORTING:

Reporting shall be in accordance with the following:

1. All monitoring reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22 and shall be submitted under penalty of perjury.

2. All reports shall be arranged in a tabular format to clearly show compliance or noncompliance with each discharge limitation.

3. One week before groundwater extraction, treatment, and discharge is commenced, the discharger shall notify the Regional Board or its designated compliance officer by email and/or orally by telephone.

4. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report.

5. The discharger shall notify the Regional Board in writing when groundwater treatment and discharge is stopped for more than a week. The report shall include a discussion as to why groundwater remediation is stopped and when treatment will commence.

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

7. Noncompliance Reporting

   a. The discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided to the Executive Officer (909-782-4130) and the Office of Emergency Services (1-800-852-7550) orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within 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.

   b. Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Order shall be included as information that must be reported within 24 hours.

   c. The Regional Board may waive the above required written report on a case-by-case basis.

8. Except for data determined to be confidential under Section 308 of the Clean Water Act (CWA), all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential.

9. Monitoring reports shall be submitted by the 30th day of each month following the monitoring period and shall include:

   a. The results of all chemical analyses for the previous quarter, and annual samples whenever applicable,

   b. The daily flow data,

   c. A summary of the quarter's activities including a report detailing compliance or noncompliance with the task for the specific schedule date, and

d. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.

Ordered by _____

Gerard J. Thibeault
Executive Officer

July 1, 2003

MINIMUM LEVELS IN PPB (μg/l)

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

Selection and Use of Appropriate ML Value:

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

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

Note: chemical names in parenthesis and italicized is another name for the constituent.

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

MINIMUM LEVELS IN PPB (μg/l)

Table 2 – Semi-Volatile Substances[2]	GC	GCMS	LC
2-Chloroethyl vinyl ether	1	1	
2 Chlorophenol	2	5	
2,4 Dichlorophenol	1	5	
2,4 Dimethylphenol	1	2	
4,6 Dinitro-2-methylphenol	10	5	
2,4 Dinitrophenol	5	5	
2- Nitrophenol		10	
4- Nitrophenol	5	10	
4 Chloro-3-methylphenol	5	1	
2,4,6 Trichlorophenol	10	10	
Acenaphthene	1	1	0.5
Acenaphthylene		10	0.2
Anthracene		10	2
Benzidine		5	
Benzo (a) Anthracene (*1,2 Benzanthracene*)	10	5	
Benzo(a) pyrene (*3,4 Benzopyrene*)		10	2
Benzo (b) Flouranthene (*3,4 Benzofluoranthene*)		10	10
Benzo(g,h,i)perylene		5	0.1
Benzo(k)fluoranthene		10	2
bis 2-(1-Chloroethoxyl) methane		5	
bis(2-chloroethyl) ether	10	1	
bis(2-Chloroisopropyl) ether	10	2	
bis(2-Ethylhexyl) phthalate	10	5	
4-Bromophenyl phenyl ether	10	5	
Butyl benzyl phthalate	10	10	
2-Chloronaphthalene		10	
4-Chlorophenyl phenyl ether		5	
Chrysene		10	5
Dibenzo(a,h)-anthracene		10	0.1
1,2 Dichlorobenzene (semivolatile)	2	2	
1,3 Dichlorobenzene (semivolatile)	2	1	
1,4 Dichlorobenzene (semivolatile)	2	1	
3,3' Dichlorobenzidine		5	
Diethyl phthalate	10	2	
Dimethyl phthalate	10	2	
di-n-Butyl phthalate		10	
2,4 Dinitrotoluene	10	5	
2,6 Dinitrotoluene		5	
di-n-Octyl phthalate		10	
1,2 Diphenylhydrazine		1	
Fluoranthene	10	1	0.05
Fluorene		10	0.1
Hexachloro-cyclopentadiene	5	5	
1,2,4 Trichlorobenzene	1	5	

MINIMUM LEVELS IN PPB (μg/l)

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

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

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

3 *Phenol by colorimetric technique has a factor of 1*

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

MINIMUM LEVELS IN PPB (μg/l)

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

Techniques:
GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

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

PRACTICAL QUANTITATION LEVELS FOR COMPLIANCE DETERMINATION

	Constituent	RL µg/l	Analysis Method
1	Arsenic	7.5	GF/AA
2	Barium	20	ICP/GFAA
3	Cadmium	15	ICP
4	Chromium (VI)	15.0	ICP
5	Cobalt	10.0	GF/AA
6	Copper	19.0	GF/ICP
7	Cyanide	50.0	335.2/335.3
8	Iron	100.0	ICP
9	Lead	26.0	GF/AA
10	Manganese	20.0	ICP
11	Mercury	0.5	CV/AA
12	Nickel	50.0	ICP
13	Selenium	14.0	GF/HYDRIDE GENERATION
14	Silver	16.0	ICP
15	Zinc	20	ICP
16	1,2 - Dichlorobenzene	5.0	601/602/624
17	1,3 - Dichlorobenzene	5.0	601
18	1,4 - Dichlorobenzene	5.0	601
18	2,4 - Dichlorophenol	10.0	625/604
20	4 - Chloro -3-methylphenol	10.0	625/604
21	Aldrin	0.04	608
22	Benzene	1.0	602/624
23	Chlordane	0.30	608
24	Chloroform	5.0	601/624
25	DDT	0.10	608
26	Dichloromethane	5.0	601/624
27	Dieldrin	0.10	608
28	Fluorantene	10.0	625/610
29	Endosulfan	0.50	608
30	Endrin	0.10	608
31	Halomethanes	5.0	601/624
32	Heptachlor	0.03	608
33	Hepthachlor Epoxide	0.05	608
34	Hexachlorobenzene	10.0	625
35	Hexachlorocyclohexane		
	Alpha	0.03	608
	Beta	0.03	608
	Gamma	0.03	608
36	PAH's	10.0	625/610
37	PCB	1.0	608
38	Pentachlorophenol	10.0	625/604
39	Phenol	10.0	625/604
40	TCDD Equivalent	0.05	8280
41	Toluene	1.0	602/625
42	Toxaphene	2.0	608
43	Tributyltin	0.02	GC
44	2,4,6-Trichlorophenol	10.0	625/604