

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-043
(File No. 94-062)

WATER RECYCLING REQUIREMENTS
FOR
WEST BASIN MUNICIPAL WATER DISTRICT
(West Basin Water Recycling Facility)
(Title 22 Recycled Water)

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), finds:

1. West Basin Municipal Water District (West Basin or Producer) owns and operates the West Basin Water Recycling Facility (Recycling Facility) at 1935 Hughes Way, El Sengundo, California. The Recycling Facility provides tertiary treatment to a portion of the secondary treated wastewater (Hyperion effluent) from the City of Los Angeles Hyperion Treatment Plant (Hyperion) and produces a disinfected tertiary recycled water, that meets Title 22 California Code of Regulations standards for industrial uses and landscape irrigation. The production and use of the recycled Title 22 water are regulated under Water Recycling Requirements contained in Order No. 94-113, adopted by this Regional Board on October 31, 1994, as amended by Order No. 97-070 and Order No. 98-084, adopted by this Regional Board on May 12, 1997, and November 2, 1998, respectively.
2. California Water Code Section 13263(e) provides that all waste discharge requirements shall be reviewed periodically, and, upon such review, may be revised by the Regional Board. Following a review of the requirements in Order No. 94-113, its amendments, and inspections of the Recycling Facility, this Order updates Order No. 94-113 and includes additional finding, effluent limitations, updated standard provisions, and an updated monitoring and reporting program.
3. West Basin is a public agency providing wholesale recycled water to public and private purveyors. The purveyors then sell and deliver on retail the recycled water to the end-users. The purveyor is responsible to process the user's application, inspection of the point-of-use facility, and determine that the end-user has complied with all conditions of use. The actual delivery of recycled water to end-users is subject to approval of State Department of Health Services (hereinafter State DOHS) and/or its delegated local health agency.
4. The Recycling Facility is currently designed to produce up to 37.5 million gallons per day (mgd) of recycled water. The Recycling Facility consists of two separate treatment plants: One train that produces recycled water for landscape and agricultural irrigation, and for industrial application is referred to as the Title 22 Plant. The other that produces recycled water for barrier injection along the coastal reaches of aquifers to mitigate sea water intrusion is referred to as the Barrier Plant.

Revised March 29, 2001
March 12, 2001

5. Currently, the Title 22 Plant provides tertiary treatment to a portion of Hyperion effluent and can produce up to 30 mgd of disinfected tertiary recycled water that meets Title 22 California Code of Regulations standards (hereinafter Title 22 recycled water). The Title 22 Plant treatment process consists of coagulation, flocculation, monomedia anthracite coal filtration, and chlorine disinfection. In 1997 Phase II Expansion, the capacity of the Title 22 Plant was increased from 15 mgd to 30 mgd of recycled water. This Order prescribes requirements for use of the Title 22 recycled water in irrigation, and industrial application.
6. The Barrier Plant has a design capacity of up to 7.5 mgd of product water. The Barrier Plant provides advanced treatment to a portion of Hyperion effluent using two parallel treatment schemes with three reverse osmosis (RO) treatment trains. Each treatment train has a design capacity of 2.5 mgd. Treatment trains 1 and 2 use pre-decarbonation, lime clarification, recarbonation, multi-media filtration, chlorine addition, RO, post-decarbonation, and pH stabilization. Treatment train 3 uses microfiltration, RO, post-decarbonation, chlorine disinfection, and pH adjustment. The flows from all three treatment trains are combined prior to leaving the treatment plant. The recycled water produced by the Barrier Plant is blended with potable water; and the blend is then injected into the West Basin Barrier Project. Water Reclamation Requirements contained in Order No. 95-014 prescribes requirements for the recharge of recycled water into the barrier. The waste brine generated by the RO system is regulated under the National Pollutant Discharge Elimination System (NPDES) permit No. CA0063401 for its discharge into Santa Monica Bay through Hyperion five-mile outfall.
7. In 2000, a total of 5,724 million gallons (MG) of the Title 22 recycled water were produced. The recycled water produced was distributed to 148 users. The Mobil Oil Refinery, the Chevron El Segundo Refinery (Chevron Refinery), and the British Petroleum Refinery are three largest users using 2,156 MG, 1,055 and 1,032 MG, respectively.
8. Chevron Refinery will use up to another one (1) mgd of the Title 22 recycled water for injection into the Old Dune Sand aquifer in the West Coast Basin as part of Chevron's Liquid Hydrocarbon Recovery Program. Since the groundwater underlying the Chevron Refinery was de-designated for Municipal and Domestic Supply (MUN) beneficial use by this Regional Board in 2000, the condition set forth in the State DOHS approval letter dated June 15, 1998 has been met. However, the use of the nitrified Title 22 recycled water instead of potable water for injection requires the revision of the Chevron's existing waste discharge requirements contained in Order No. 97-113.
9. West Basin is constructing a third treatment system that will be known as the Boiler Feedwater treatment train in its Phase III Expansion. Up to 6 mgd of Hyperion effluent will be fed into the Boiler Feedwater treatment train, which will produce about 4.32 mgd of high purity (low- and high-pressure) boiler feedwater for use in the Chevron Refinery's boilers. The low-pressure stream will produce up to 1.73 mgd of recycled water using: microfiltration, RO, post-decarbonation, and softening. The high-pressure stream will produce up to 2.59 mgd of recycled water using: microfiltration, 1st pass RO, post-decarbonation, and 2nd pass RO. The low- and high-pressure boiler feedwater will be delivered to the Chevron Refinery using two newly constructed parallel pipelines. The boiler feedwater will be recirculating within the system without any significant discharge

to surface water. The blowdown from the Chevron boiler will be directed into the Chevron's inplant wastewater collection system and treated by its existing wastewater treatment facility before discharge to the ocean.

The Boiler Feedwater treatment train's RO process will produce approximately 0.81 mgd of waste brine that is also regulated under NPDES permit No. CA0063401. The Boiler Feedwater treatment system will be in operation in April 2001. The production and use of the boiler feedwater are also regulated under this Order.

Figure 1 is a flow schematic for the Recycling Facility that includes the existing Title 22 Plant and Barrier Plant as well as the proposed Boiler Feedwater treatment train.

10. Since the Recycling Facility is operating on a side stream (portion of secondary treated effluent) from the Hyperion Treatment Plant, redundancy in process units nor standby or emergency power during outages is not provided. The Recycling Facility layout allows off-specification recycled water to be pumped back and retreated in the Title 22 plant until the effluent meets the specifications. If retreatment of the recycled water would be impractical, the off-specification water would be discharged to the Hyperion five-mile outfall.
11. On June 13, 1994, this Regional Board adopted a revised *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coast Watersheds of Los Angeles and Ventura Counties (Basin Plan)*. The Basin Plan contains beneficial uses and water quality objectives for groundwater within the West Coast Basin hydrologic area.
12. The beneficial uses of groundwater in the West Coast Basin are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
13. Section 13523 of the California Water Code provides that a regional board, after consulting with and receiving the recommendations of the State DOHS or its delegated local health agency, and after any necessary hearing, shall, if it determines such action to be necessary to protect the public health, safety, or welfare, prescribe water reclamation requirements for water which is used or proposed to be used as recycled water. Section 13523 further provides that such requirements shall include, or be in conformance with, the statewide recycling criteria.
14. The use of recycled water for irrigation in parks, golf courses, freeway landscapes, school yards, cemeteries, and other landscaped or agricultural areas; and as cooling water in industrial cooling towers could affect public health, safety, or welfare; therefore requirements are necessary.
15. Pursuant to Section 60323, Title 22 of the California Code of Regulations, the Regional Board has consulted with the State DOHS regarding the proposed production, distribution, and use of recycled water; and has incorporated the department's recommendations in this Order.
16. The State DOHS adopted revised Water Recycling Criteria that became effective on December 2, 2000. The revisions expand the range of allowable uses of recycled water, established criteria for those new users, and clarify some of the ambiguity contained in the existing regulations.

17. The requirements contained in this Order, as they are met, will be in conformance with the goals and objectives of the Basin Plan and requirements of the Water Code.
18. Pursuant to Section 402(p) of the Clean Water Act and 40 CFR Parts 122, 123 and 124, the State Water Resources Control Board (State Board) adopted general NPDES permits to regulate storm water discharges associated with industrial activity (State Board Order No. 97-03-DWQ adopted on April 17, 1997) and construction activity (State Board Order No. 92-08-DWQ adopted in August 1992). Storm water discharge from the Recycling Facility is subject to requirements under this general permit. The Discharger has developed and implemented a Storm Water Pollution Prevention Plan since 1995.
19. West Basin had prepared an engineering report on its proposed production, distribution, and use of recycled water in irrigation and industrial cooling tower applications on April 14, 1994. The State DOHS approved the engineering report on October 19, 1994. Subsequently, West Basin submitted an amended Engineering Report on August 2, 1996, and an addendum to the Report on March 5, 1997, for the Phase II Expansion Project that increased design capacity from 15 mgd to 30 mgd. The State DOHS approved the amended Engineering Report on April 3, 1997. For the production, distribution, and use of boiler feedwater, West Basin filed another amended Engineering Report for the Phase III Expansion Project on September 12, 2000. This amended Engineering Report was approved by the State DOHS on October 23, 2000.
20. West Basin prepared and certified in May 1991 an Environmental Impact Report (EIR) on the water reclamation project. The EIR identified no significant adverse impact to water quality as a result of the discharge. The Discharger also prepared a Mitigated Negative Declaration for the Phase III expansion at the Recycling Facility. The West Basin Municipal Water District Board of Directors approved the Mitigated Negative Declaration and a Notice of Determination was filed with the Los Angeles County Clerk's Office on December 21, 1999. No comments were received during the review period. Therefore, the Mitigated Negative Declaration became final.
21. Pursuant to California Water Code Section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, 901 P Street, Sacramento, CA 95812, within 30 days of adoption.
22. This update and issuance of water recycling requirements for an existing facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 2100 et seq.) in accordance with California Code of Regulations, Title 14, Chapter 3, Section 15301.

The Regional Board has notified the Producer and interested agencies and persons of its intent to issue Water Recycling Requirements for the use of recycled water and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board, in a public meeting, heard and considered all comments pertaining to the use of recycled water and the tentative water recycling requirements.

IT IS HEREBY ORDERED that West Basin Municipal Water District shall comply with the following:

I. RECYCLED WATER LIMITATIONS

A. Conventionally Treated Title 22 Recycled Water

1. Recycled water used for irrigation and industrial application other than boiler feed shall be limited to disinfected tertiary recycled water only.

A disinfected tertiary recycled water is a filtered and subsequently disinfected wastewater that meets the following criteria:

a. The filtered wastewater has been disinfected by either:

- (1) A chlorine disinfection process following conventional treatment or its equivalent that provide a CT (the product of total chlorine residual and modal contact time* measured at the same period) value of not less than 450 milligram-minutes per liter at all times with a modal time of at least 90 minutes, based on peak dry weather design flow; or

* Modal contact time means the amount of time elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance to chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

- (2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

- b. The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

A filtered wastewater is an oxidized wastewater that has been coagulated and passed through natural undisturbed soil or a bed of filter media so that the turbidity of the filtered wastewater does not exceed any of the following:

- An average of 2 NTU within a 24-hour period;
- 5 NTU more than 5 percent of the time within a 24-hour period; and
- 10 NTU at any time.

An oxidized wastewater is wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen. The oxidized wastewater shall not exceed 20 milligrams per liter (mg/L) total organic carbon (TOC), 30 mg/L suspended solids (SS), and 30 mg/L biochemical oxygen demand (BOD).

2. The Title 22 recycled water shall not contain constituents with concentrations in excess of the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Maximum Limitations</u>
BOD ₅ 20°C	mg/L	20
Oil and grease	mg/L	10
Suspended solids	mg/L	20
Settleable solids	ml/L	0.2
Total organic carbon	mg/L	20
Total dissolved solids	mg/L	800
Chloride	mg/L	250
Sulfate	mg/L	250
Boron	mg/L	1.5
Nitrate + nitrite (sum as nitrogen)	mg/L	10

B. RO Treated Boiler Feed Recycled Water

1. Recycled water used for the boiler feed shall be at least disinfected secondary-23 recycled water.

A disinfected secondary-23 recycled water means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

- C. The recycled water used by Chevron for the injection into the Old Dune Sand aquifer for Chevron's Liquid Hydrocarbon Recovery Program shall not exceed one (1) million gallons per day.
- D. The pH of the Title 22 recycled water shall at all times be within the range of 6.5 to 8.5 pH units. This pH limitation is not applicable to the boiler feed recycled water since no discharge of the boiler feed recycled water occurs.
- E. The recycled water shall not contain trace, toxic and other constituents in concentrations exceeding the current applicable maximum contaminant or action levels for drinking water established by the State DOHS or at levels that adversely affect the beneficial uses of receiving groundwater.

- F. The radioactivity of the recycled water shall not exceed the limits specified in Sections 64441 and 64443, Article 5, Chapter 15, Title 22 of the California Code of Regulations, or subsequent revisions.
- G. The recycled water shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect the beneficial uses of the receiving groundwater.
- H. The recycled water shall not cause a measurable increase in organic chemical contaminants in the groundwater.

II. SPECIFICATIONS FOR USE OF RECYCLED WATER

- A. The boiler feed recycled water shall be used by the Chevron Refinery only.
- B. The disinfected tertiary recycled water may be used for the following:
 - 1. Surface irrigation in the following areas:
 - a. Parks and playgrounds;
 - b. School yards;
 - c. Residential landscaping;
 - d. Unrestricted access golf courses; and
 - e. Any other irrigation use not specified in this section and not prohibited by other sections of the California Code of Regulations.
 - 2. Industrial or commercial cooling tower; and
 - 3. Industrial boiler feed.
- C. The Title 22 recycled water shall not be used other than those specified in section II.B unless an engineering report has been submitted for such other uses and/or requirements for these uses have been prescribed by this Regional Board, in accordance with Section 13523 of the California Water Code.
- D. The delivery of recycled water to end-users shall be subject to approval of State DOHS and/or its delegated local agency.
- E. Whenever a cooling system using recycled water employs a cooling tower, the Producer shall submit a supplemental engineering report to the Regional Board and the State DOHS, and obtain approval from the State DOHS for use of recycled water in industrial or commercial cooling tower, on a case-by-case basis.
- F. Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following:
 - 1. A drift eliminator shall be used whenever the cooling system is in operation.

2. A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of *Legionella* and other microorganisms.
- G. Recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.
 - H. No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well or reservoir, or stream used as source of domestic water.
 - I. Use of recycled water shall comply with the following:
 1. Any irrigation runoff shall be confined to the recycled water use area.
 2. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities, and shall not contact any drinking water fountain.
 - J. All use areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: "RECYCLED WATER – DO NOT DRINK". Each sign shall display an international symbol similar to that shown in figure 2 to alert people who do not read English.
 - K. Recycled water used for irrigation shall be retained on the areas of use and shall not be allowed to escape as surface flow, except as provided for in a National Pollutant Discharge Elimination System (NPDES) permit.

For the purpose of this requirement, however, minor amounts of irrigation return water from peripheral areas shall not be considered a violation of this Order.
 - L. Recycled water shall be applied at such a rate and volume as not to exceed vegetative demand and soil moisture conditions. Special precautions must be taken to: prevent clogging of spray nozzles, to prevent over-watering, and minimize the production of run-off. Pipelines shall be maintained so as to prevent leakage.
 - M. Recycled water used for irrigation shall not be allowed to run off into recreational lakes unless it meets the criteria for such lakes.
 - N. No physical connection shall be made or allowed to exist between any recycled water piping and any piping conveying potable water, except as allowed under Section 7604 of Title 17, California Code of Regulations.
 - O. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

III. REQUIREMENTS FOR DUAL PLUMBED SYSTEM

- A. The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of Section 7602 (a) and 7603 (a) of Title 17, California Code of Regulations, and the State DOHS approval of the public water system has been obtained.
- B. The producer shall not deliver recycled water for any internal use to any individually-owned residential units including free-standing structure, mutiplexes, or condominiums.
- C. The producer shall not deliver recycled water for internal use except for fire suppression system, to any facility that produces or processes food products or beverages.
- D. The producer shall not deliver recycled water to a facility using a dual plumbed system unless the report required to Section 13522.5 of the Water Code, and which meets the requirements set forth in section III.E., has been submitted to, and approved by, the Regional Board and the State DOHS.
- E. The report that shall be submitted by the Producer to the State DOHS pursuant to Section 13522.5 of the Water Code shall contain the following information for dual plumbed systems, in addition to the information required by Section 60323 of Title 22 of the California Code of Regulations:
 1. A detailed description of the intended use site identifying the following:
 - a. The number, location, and type of facilities within the use area proposing to use dual plumbed systems;
 - b. The average number of persons estimated to be served by each facility on a daily basis;
 - c. The specific boundaries of the proposed use site including a map showing the location of each facility to be served;
 - d. The person or persons responsible for operation of the dual plumbed system at each facility; and
 - e. The specific use to be made of the recycled water at each facility.
 2. Plans and specifications describing the following:
 - a. Proposed piping system to be used;
 - b. Pipe locations of both the recycled and potable systems;
 - c. Type and location of the outlets and plumbing fixtures that will be accessible to the public; and
 - d. The methods and devices to be used to prevent backflow of recycled water into the public water system.

3. The methods to be used by the Producer to assure that the installation and operation of the dual plumbed system will not result in cross connections between the recycled water piping system and the potable water piping system. These shall include a description of pressure, dye or other test methods to be used to test the system every four years.
- F. Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the dual plumbed system within each facility and use site shall be inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in section III.E.3. above. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection and testing for the prior year shall be submitted to the State DOHS within 30 days following completion of the inspection or testing.
 - G. The Producer shall notify the State DOHS of any incidence of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of discovery the incident.
 - H. Any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with Section 7605 of Title 17, California Code of Regulations.

IV. GENERAL REQUIREMENTS

- A. Bypass, discharge, or delivery to the use area of inadequately treated wastewater, at any time, is prohibited.
- B. Recycled water shall not be used for irrigation during periods of extreme rainfall and/or run-off.
- C. Recycled water use shall not result in earth movement in geologically unstable areas.
- D. The recycling facility shall be adequately protected from inundation and damage by storm flows and run-off.
- E. Adequate freeboard and/or protection shall be maintained in the recycled water storage tanks and process tanks to ensure that direct rainfall will not cause overtopping.
- F. The wastewater treatment and use of recycled water shall not cause pollution or nuisance.
- G. The wastewater treatment and use of recycled water shall not result in problems caused by breeding of mosquitoes, gnats, midges, or other pests.

- H. The use of recycled water shall not impart tastes, odors, color, foaming, or other objectionable characteristics to the receiving groundwater.
- I. The use of recycled water, which could affect the receiving ground water, shall not contain any substance in concentration toxic to human, animal, or plant life.
- J. Odors of sewage origin shall not be perceivable beyond the limits of the property owned or controlled by the Producer and/or recycled water user.

V. PROVISIONS

- A. A copy of these requirements shall be maintained at the water reclamation facility so as to be available at all times to operating personnel.
- B. The Producer shall furnish each purveyor and user of recycled water a copy of these requirements and ensure that the requirements are maintained at the purveyor and user's facilities so as to be available at all times to operating personnel.
- C. The Producer shall be responsible to ensure that all users of recycled water comply with the specifications and requirements for such use.
- D. The Producer shall, at all times, properly operate and maintain all treatment facilities and control systems (and related appurtenances) which are installed or used by the Producer to achieve compliance with the conditions of this Order. Proper operation and maintenance includes: effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls (including appropriate quality assurance procedures).
- E. The Producer shall submit to the Regional Board, for approval of the Executive Officer, within 90 days of adoption of this Order an operating and maintenance management plan, including a preventive (fail-safe) procedure and contingency plan for controlling accidental discharge and/or delivery to users of inadequately treated wastewater.
- F. Supervisors and operators of the wastewater reclamation facility shall possess a certificate of appropriate grade as specified in Title 23, California Code of Regulations, Section 3680 or subsequent revisions.
- G. The Producer shall submit to the Regional Board, under penalty of perjury, technical self-monitoring reports according to the specifications contained in the Monitoring and Reporting Program as directed by the Executive Officer.
- H. The Producer shall notify this Regional Board and the State DOHS, by telephone within 24 hours, of any violations of recycled water use conditions or any adverse conditions as a result of the use of recycled water from this facility; written confirmation shall follow within one week.
- I. The Producer shall notify this Regional Board and the State DOHS, immediately by telephone, of any confirmed coliform counts that could cause a violation of the requirements, including the date(s) thereof. This information shall be confirmed in the

next monitoring report; in addition, for any actual coliform limit violation that occurred, the report shall also include the cause(s) of the high coliform counts, the corrective measures undertaken (including dates thereof), and the preventive measures undertaken to prevent a recurrence.

- J. In accordance with Section 13522.5 of the California Water Code, and Title 22, Division 4, Chapter 3, Article 7, Section 60323 of the California Code of Regulations, Producer shall file an engineering report, prepared by a properly qualified engineer registered in California, of any material change or proposed change in character, location or volume of the recycled water or its uses to the Regional Board and to the State DOHS.
- K. For any extension or expansion of the recycled water system or use areas, the Producer shall submit a report detailing the extension or expansion plan for approval of the State DOHS. Following construction, as-built drawings shall be submitted to the State DOHS for approval prior to delivery of recycled water. The Executive Officer shall be furnished with as-built drawings and a copy of the State DOHS approval.
- L. The Producer shall notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of ownership of the reclamation facility and responsibility for complying with this Order. The notice shall include a written agreement between the existing and new Producer indicating the specific date for the transfer of responsibility for compliance with this Order. The agreement shall include an acknowledgement that the existing Producer is liable for any violations that occurred up to the transfer date and the new Producer is liable from the transfer date on.
- M. The Producer shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:
 - 1. Enter upon the Producer's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
 - 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
 - 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - 4. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location.
- N. The Producer must comply with all conditions of these water recycling requirements. Violations may result in enforcement actions, including Regional Board orders or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these requirements.
- O. These requirements do not exempt the Producer from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize the reclamation and use facilities; and they leave unaffected any further constraint on the

use of recycled water at certain site/s which may be contained in other statutes or required by other agencies.

P. This Order does not alleviate the responsibility of the Producer to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency. Expansion of the reclamation facility shall be contingent upon issuance of all necessary requirements and permits, including a conditional use permit.

Q. After notice and opportunity for a hearing, this Order may be modified, revoked and reissued, or terminated for cause, which include but is not limited to: failure to comply with any condition of in this Order; endangerment of human health or environment resulting from the permitted activities in this Order; obtaining this Order by misrepresentation or failure to disclose all relevant facts; acquisition of new information which could have justified the application of different conditions if known at the time of Order adoption.

The filing of a request by the Producer for modification, revocation and reissuance, or termination of the Order; or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

R. The Producer shall furnish, within a reasonable time, any information the Regional Board or the State DOHS may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Producer shall also furnish the Regional Board, upon request, with copies of records required to be kept under this Order.

S. The provisions of these water recycling requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

T. In an enforcement action, it shall not be a defense for the Producer that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure the treatment facility, the Producer shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost.

U. This Order includes the attached "Standard Provisions ". If there is any conflict between provisions stated hereinbefore and said "Standard Provisions", those provisions stated hereinbefore prevail.

V. This Order includes the attached Monitoring and Reporting Program. If there is any conflict between provisions stated in the Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the Monitoring and Reporting Program prevail.

- W. This Order will be reopened to include definitions of "odors of sewage origin" with respect to IV (General Requirements) J. on page 11.

VI. RESCISSION

Except for enforcement purposes, Order No. 94-113, adopted by this Board on October 31, 1994, is hereby rescinded.

I, Dennis A. Dickerson, 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, Los Angeles Region on March 29, 2001.



Dennis A. Dickerson
Executive Officer

TITLE 22 TREATMENT PROCESS

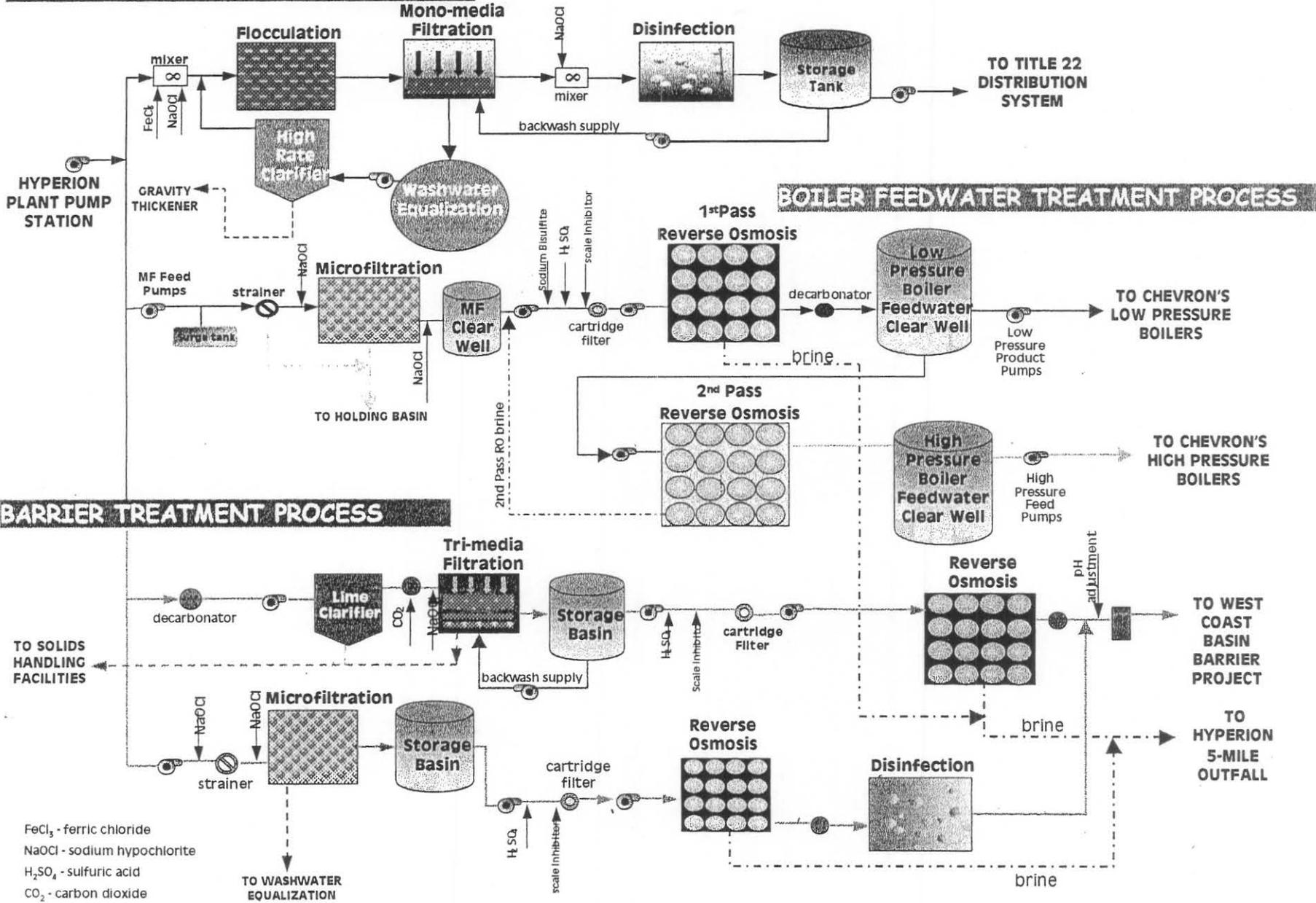


Figure 1. Schematic Presentation of West Basin Water Recycling Facility



Figure 2

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**MONITORING AND REPORTING PROGRAM NO. CI- 7453
FOR
WEST BASIN MUNICIPAL WATER DISTRICT
(West Basin Water Recycling Facility)
(Title 22 Recycled Water)**

I. MONITORING AND REPORTING REQUIREMENTS

- A. The Producer shall implement this monitoring program on the effective date of this Order. Monitoring reports shall be submitted quarterly, by the 15th day of the second month following the end of the quarterly monitoring period. The first monitoring report under this program shall be received at the Regional Board by August 15, 2001, covering the monitoring period from April 1 to June 30, 2001.
- B. Quarterly monitoring shall be performed during the months of February, May, August, and November. Annual monitoring shall be performed during the month of August. Results of monthly, quarterly, and annual analyses shall be reported in the appropriate quarterly monitoring report. Should there be instances when monitoring could not be done during these specified months, the Producer must notify the Regional Board stating the reason why and obtain approval for an alternate schedule.
- C. All chemical, and bacteriological analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer. A copy of the laboratory certification shall be submitted with the annual summary report.
- D. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136.3. All QA/QC items must be run on the same dates when samples were actually analyzed, and the results shall be reported in the Regional Board format and submitted with the laboratory reports. The Producer shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the report.
- E. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL) and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, analytical data shall be reported with one of the following methods, as the case may be:
 - a. An actual numerical value for sample results greater than or equal to the ML; or
 - b. "Detected, but Not Quantified (DNQ)" with an estimated chemical concentration of the sample if results are greater than or equal to the laboratory's MDL but less than the ML; or
 - c. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Revised March 29, 2001
March 12, 2001

The MLs are those published by the State Water Resources Control Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, March 2, 2000*.

- F. The ML employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Producer can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Executive Officer. At least once a year, the Producer shall submit a list of the analytical methods employed for each test and associated laboratory quality assurance/quality control procedures.
- G. The Producer shall inform the Regional Board well in advance of any proposed construction activity or modification to the treatment plant that could potentially affect compliance with applicable requirements.

II. SUBMITTAL OF MONITORING AND ANNUAL REPORTS

- A. All monitoring and annual summary reports must be addressed to the Regional Board, Attention: Information Technology Unit. Reference the reports to Compliance File No. CI-7453 to facilitate routing to the appropriate staff and file.
- B. By March 1 of each year, the Producer shall submit an annual report to the Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. The data shall be submitted to the Regional Board on hard copy and on 3 1/2" computer diskette. The submitted data must be IBM compatible, preferably using Microsoft Excel software. In addition, the Producer shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the recycled water into full compliance with water recycling requirements.

The annual report shall address operator certification and provide a list of current operating personnel and their grade of certification. The report shall also include the date of the facility's Operation and Maintenance Management Plan, the date the plan was last reviewed, and whether the plan is complete and valid for the current facilities. The report shall restate, for the record, the laboratories used by the Producer to monitor compliance with this Order, their status of certification, and provide a summary of performance.

- C. Database Management System: The Regional Board has developed a compliance monitoring database management system that may require the Producer to submit the monitoring and annual summary reports electronically when it becomes fully operational.

III. RECYCLED WATER MONITORING

A sampling station shall be established where representative samples of recycled water can be obtained. Recycled water samples may be obtained at a single station provided that station is representative of the quality of all recycled water delivered to the users. Each sampling station shall be identified and approved by the Executive Officer prior to its use.

A. Monitoring Program for the Conventionally Treated Title 22 Recycled Water

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u> ¹	<u>Minimum Frequency of Analysis</u>
Total waste flow	MGD	---	continuous
Turbidity ²	NTU	---	continuous
Chlorine residual ³	mg/L	---	continuous
pH	pH units	grab	daily
Coliform ⁴	MPN/100ml	grab	daily
Suspended solids	mg/L	24-hr composite	weekly
BOD ₅ 20°C	mg/L	24-hr composite	weekly
Settleable solids	ml/L	24-hr composite	weekly
Oil and grease	mg/L	grab	monthly
Total dissolved solids	mg/L	24-hr composite	monthly
Chloride	mg/L	24-hr composite	monthly
Boron	mg/L	24-hr composite	monthly
Sulfate	mg/L	24-hr composite	monthly
Nitrate nitrogen	mg/L	24-hr composite	quarterly
Nitrite nitrogen	mg/L	24-hr composite	quarterly
Ammonia nitrogen	mg/L	24-hr composite	quarterly
Total organic carbon	mg/L	24-hr composite	quarterly
Hexavalent chromium	mg/L	grab	quarterly
Priority pollutants ⁵	µg/L	grab and 24-hr composite	quarterly
Radioactivity	pCi/L	24-hr composite	annually

1. "Grab sample" is defined as any individual sample collected in a short period of time not exceeding 15 minutes. "Grab samples" shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with "daily maximum" limits and the "instantaneous maximum" limits.

"Composite sample" means, for flow measurements, the arithmetic mean of no fewer than eight individual measurements taken at equal intervals for 24 hours or for the duration of the treatment, whichever is shorter.

2. Turbidity shall be continuously monitored and recorded at a point after final filtration. The average value recorded each day, the amount of time that 5 NTU is exceeded, and the incident of exceeding 10 NTU, if any, shall be reported.

3. Chlorine residual shall be continuously monitored and recorded at a point after the final chlorine contact tank. The minimum and maximum values shall be reported.

4. Samples shall be obtained subsequent to the chlorination process.

5. Priority pollutants are listed on page T-6. Grab samples shall only be used for the analyses of volatile organics and cyanide. Monitoring for TCDD for the conventionally treated Title 22 recycled water shall be conducted quarterly during the first year after the effective date of this Order. If the results of all samples show TCDD to be not detected, TCDD monitoring for this Title 22 recycled water shall be reduced to annually and shall be performed during the month of August.

B. Monitoring Program for RO Treated Boiler Feedwater

Two sampling stations shall be established for the low-pressure and the high-pressure boiler feedwater, respectively. The following shall constitute the monitoring program for the boiler feedwater:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u> ¹	<u>Minimum Frequency of Analysis</u>
Total waste flow	MGD	---	continuous
Turbidity ⁶	NTU	---	continuous
pH	pH units	grab	weekly
Coliform	MPN/100ml	grab	weekly
Priority pollutants ^{5,7}	µg/L	grab and 24-hr composite	annually
Radioactivity ⁷	pCi/L	24-hr composite	annually

⁶ Turbidity shall be continuously monitored and recorded at a point after microfiltration. The average value recorded each day, the amount of time that 0.2 NTU is exceeded, and the incident of exceeding 0.5 NTU, if any, shall be reported.

⁷ These analyses shall be conducted for the low-pressure and the high-pressure boiler feedwater at the first year after the effective date of the Order. If the first analysis of the high-pressure boiler feedwater indicates complete compliance with the requirements, only the low-pressure boiler feedwater shall be analyzed thereafter.

IV. RECYCLED WATER USE MONITORING

The Producer shall submit a quarterly report, in a tabular form, the list of users serviced during the quarter, the amount of recycled water delivered to each user, and the use of the recycled water. A summary of these data shall be included in the annual report.

V. GENERAL MONITORING AND REPORTING REQUIREMENTS

A. The Producer shall summarize and arrange the monitoring data in tabular form to demonstrate compliance with requirements.

B. For every item where the requirements are not met, the Producer shall submit a statement of the actions undertaken or proposed which will bring the recycled water into full compliance with requirements at the earliest possible time, and submit a timetable for implementation of the corrective measures.

C. Monitoring reports shall be signed by either the principal Executive Officer or ranking elected official. A duly authorized representative of the aforementioned signatories may sign documents if:

- a. The authorization is made in writing by the signatory;
- b. The authorization specifies the representative as either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
- c. The written authorization is submitted to the Executive Officer of this Regional Board.

D. The monitoring report shall contain the following completed declaration:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments thereto; and that, based on my inquiry of the individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Executed on the __ day of _____ at _____

Signature

Title

E. The Producer shall retain records of all monitoring information, including all calibration and maintenance, monitoring instrumentation, and copies of all reports required by this Order, for a period of at least three(3) years from the date of sampling measurement, or report. This period may be extended by request of the Regional Board or State DOHS at any time and shall be extended during the course of any unresolved litigation regarding the regulated activity.

F. 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 or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analysis;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

G. The Producer shall submit to the Regional Board, together with the first monitoring report required by this Order, a list of all chemicals and proprietary additives which could affect the quality of the recycled water, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

An annual summary of the quantities of all chemicals, listed by both trade and chemical names, which are used in the treatment process shall be included in the annual report.

Ordered By:



Dennis A. Dickerson
Executive Officer

Date: March 29, 2001

PRIORITY POLLUTANTS

Metals

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Miscellaneous

Cyanide
Asbestos (only if
specifically
required)

Pesticides & PCBs

Aldrin
Chlordane
Dieldrin
4,4'-DDT
4,4'-DDE
4,4'-DDD
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
Toxaphene
PCB 1016
PCB 1221
PCB 1232
PCB 1242
PCB 1248
PCB 1254
PCB 1260

Base/Neutral Extractibles

Acenaphthene
Benzidine
1,2,4-trichlorobenzene
Hexachlorobenzene
Hexachloroethane
Bis(2-chloroethyl) ether
2-chloronaphthalene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3'-dichlorobenzidine
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl) ether
Bis(2-chloroethoxy) methane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
Benzo(a) anthracene
Benzo(a) pyrene
Benzo(b) fluoranthene
Benzo(k) fluoranthene
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene
Indeno (1,2,3-cd) pyrene
Pyrene
TCDD

Acid Extractibles

2,4,6-trichlorophenol
P-chloro-m-cresol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
Pentachlorophenol
Phenol

Volatile Organics

Acrolein
Acrylonitrile
Benzene
Carbon tetrachloride
Chlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Chloroform
1,1-dichloroethylene
1,2-trans-dichloroethylene
1,2-dichloropropane
1,3-dichloropropylene
Ethylbenzene
Methylene chloride
Methyl chloride
Methyl bromide
Bromoform
Dichlorobromomethane
Chlorodibromomethane
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride
2-chloroethyl vinyl ether
Xylene